Josiah Wedgwood was born in 1730 into a long-established pottery-making family in Burslem, Staffordshire, which was then a small country town, but with a thriving earthenware industry, based in many small workshops. Nevertheless, despite the restricted opportunities of his origins, by the time of his death in 1795 he was one of the greatest and wealthiest manufacturers in Britain, a Fellow of the Society of Antiquaries, of the Society of Arts and Manufactures, and a Fellow of the Royal Society. In these respects he was an archetype, even if exceptional in the magnitude of his achievement, of that class which came to prominence during the eighteenth century: the middling-people. This paper examines the particular instance of Josiah Wedgwood and his family and their association with another important sector of this rising, usually radical and nonconformist middle class – the medical profession.

The period of Wedgwood’s lifetime, and the preceding half-century, accompanied the familiar story of a continuous process of transformation in the practice of medicine, involving a move towards learning from direct observation and experience. Coincidental with these developments was the example of medical instruction on the continent, notably at Leiden (founded 1575) and its flowering in three Scottish universities, granting degrees in medicine from 1703. These provided unique opportunities for a newly rising section of the population, and for the lesser gentry, who were barred from the older universities. It has been estimated, for example, that by the eighteenth century,
those practising science in Britain (which would include physicians) were, by social class, fifty-seven per cent from the middle classes, eighteen per cent from the upper class, and twenty-five per cent from the lower classes.\textsuperscript{4} No less than fifty-eight per cent of those practising science had studied overseas, and only twenty per cent at Oxford and Cambridge, whilst sixteen per cent had studied privately, many, presumably, at the Dissenting Academies, of which Warrington was the most outstanding.\textsuperscript{5} In this peculiarly British atmosphere of social fluidity it was inevitable that there should have been strivings for social status. It was in London that the College of Physicians first, in 1708, attained the distinction of the grant of a Royal Charter, and then the surgeons after failing to maintain their own livery company, who finally established a Royal College in 1800.

A transformation of social relationships had thus been effected, and the higher ranks of physicians, and some surgeons, like other successful professional men, aspired to the way of life of the landed gentry. Mrs Thrale, for example, pointed out in 1777, of Richard Jebb: ‘for the last fifty years, no Doctor dreamed of being seen in the streets without his Chariot, but now again my friend Jebb, though I think he has no less than three Equipages […] rides very often to look like the gay Fellows about Town’.\textsuperscript{6} Whilst it was reported of John Aikin Junior: ‘he never wished to become a fashionable physician. One of his medical colleagues told him that a carriage was indispensable for success in his profession, and that this cost him £200 out of a practice worth £500’.\textsuperscript{7}

It was into these circles that Josiah Wedgwood and his family entered. Although they had connections with the minor landed gentry of Staffordshire, in the main their forbears were of the yeoman class, combining coarseware pottery making with husbandry. The only connection they had with medicine was a distant ancestor, Dr Thomas Wedgwood senior (1655-1717) and his son, Dr Thomas Wedgwood junior (1695-1737), master-potters, farmers, publicans, and surgeon-barbers: hence the accolade ‘Doctor’.\textsuperscript{8} The history of the Wedgwood family reveals a complex pattern of relationships within an intricate network of like-minded individuals and families. The most outstanding of these was the

\textsuperscript{4} E. Mendelsohn and others, \textit{The Management of Scientists}, ed. by K. Hill (Boston: Beacon Press, 1964)

\textsuperscript{5} Watts, pp. 49, 56.


\textsuperscript{7} Betsy Rodgers [Betsy Akin-Sneath], \textit{Georgian Chronicle: Mrs Barbauld and Her Family} (London: Methuen, 1958), p. 120.

\textsuperscript{8} Josiah C. Wedgwood, \textit{A History of the Wedgwood Family} (London: St Catherine Press, 1908), pp. xi, xii, 94.
union of the Wedgwood and Darwin families. Josiah Wedgwood probably did not become acquainted with Erasmus Darwin until he was in his thirty-fourth year, in 1764.\(^9\)

At some point in Wedgwood’s late childhood he had suffered a severe attack of smallpox, resulting in a persistent weakness in his right knee. There are unsubstantiated accounts of inflammation and bruising of the knee occasioning bouts of illness during his early life.\(^10\) Whatever their veracity it was early in 1762, during one of his regular visits to Liverpool from Burslem, travelling on horseback, that he damaged his knee so severely that he was laid up in his room at the inn. There he was attended by Dr Matthew Turner, of John Street. Dr Turner appears in Wedgwood biographies as someone who introduced Wedgwood to Thomas Bentley, who was later to be immensely important in Wedgwood’s life.\(^11\) However, Turner may deserve more than a passing reference.

Josiah’s inquisitive mind and his entrepreneurial gifts flourished in the company of scientific men and any with whom he shared common interests. Turner was a radical, a freethinker, a philanthropist, a humanitarian, and, significantly, he was a gifted practical chemist.\(^12\) He was some twelve years Josiah’s senior. In 1757 he advocated, through the *Liverpool Chronicle* the establishment of a lying-in hospital in Liverpool and offered, gratis, to act as man-midwife to all married women in the town.\(^13\) He affirmed that he had studied under Dr Smellie, in London, and M. Levret in Paris. André Levret (1703-1800) promoted the cause of male midwifery in Paris, where William Smellie (1697-1763), in turn, had learnt obstetrics. By 1739 Smellie was in London, training midwives, and in 1752 he published a treatise on the subject. By 1762, the year of Wedgwood and Bentley’s encounter, Turner was living in John Street, Liverpool, where he insured his ‘House and Elabatory’ for the

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\(^12\) H. McLachlan, ‘Warrington Academy: its history and influence’, *Chetham Soc.*, 107(1943), 57.

substantial sum of eight hundred pounds. At his death in January 1790 he left a valuable library, a laboratory filled with drugs, oils, and varnishes, and collections of fossils, music, and prints.

After his recovery, and his return to Burslem, Wedgwood wrote to Bentley: ‘I have found time to make an experiment or two upon the Oether, the result of which I have ventured to trouble my good Doctor with, and can tell you that you, as well as myself, may be thankful if he permits me to write to him on these subjects’. By December Wedgwood was corresponding with Turner on the subject of the manufacture of crucibles. Some five years later Turner supplied Wedgwood with a varnish for bronzing vases: the first pair were presented in August 1768 to Miss Tarleton, of Liverpool. Wedgwood remarked: ‘Dr Turner’s varnish came safe to hand, and is too cheap […] One of the fumigations is of a most excellent Enamel Colour.’

In the interim, from 1763 to 1765, Dr Turner conducted a course of lectures at the Warrington Academy, on Practical and Commercial Chemistry, which first directed Joseph Priestley’s attention to the subject, the consequences of which were to prove far-reaching. He was one of the founders of the Liverpool Medical Library, and of his medical reputation it was claimed that, ‘he continued high in the estimation of persons of understanding’.

Wedgwood’s friendship with Turner was typical of his response when encountering gifted individuals, but Turner’s introduction of Bentley was to prove of inestimable value. Out of the close friendship and, later, partnership which ensued, came that immense and wonderful sequence of letters between

15 Williamson’s Liverpool Advertiser and Mercantile Register, 4 June 1790, p. 11.
17 Reilly, Josiah Wedgwood: 1730-1795, p.196.
19 Meteyard, Life of Josiah Wedgwood, II, 16.
21 Williamson’s Liverpool Advertiser, 4 January 1790, p. 11.
Wedgwood and Bentley, which gives us such a fascinating and detailed picture of the Wedgwood family life. All their ailments, doctors, and treatments proffered, are described. These passages have been drawn upon for the accounts, which follow.

In 1764, at the age of thirty-four, Josiah married a distant cousin, Sarah Wedgwood, aged thirty. They subsequently had eight children, seven of whom survived infancy. Of Josiah himself, it seems his only serious physical ailment appears to have been the result of smallpox in youth, on his right leg. Nevertheless, he led a life of unremitting activity and for much of his life he was occupied at full stretch, both mentally and physically: often burdened with worries about various family members, and with business responsibilities. We read of occasional bilious attacks, and what he termed ‘rheumatic headaches’. Thus, within two years of his marriage, and less than a year after the birth of his first child, Susannah, and whilst preoccupied with business and public affairs which required regular visits to London, it is no surprise that, in November 1765, he experienced two attacks of illness. It is at this point that the impressive figure of Erasmus Darwin entered into Wedgwood’s life. Darwin was to become celebrated as a polymath, poet, inventor, a founder of the Lunar Society, and one of the most eminent medical men of the day. Wedgwood had met Darwin, sometime around 1764. Darwin hastened to Burslem to treat Josiah, as the latter acknowledged: ‘I am got pretty well, but not perfectly recover’d. Dr Darwin who stopp’d all night with me at Burslem last week, hath prescribed something for me which he says will strengthen the machinery and set it all to rights again’.

Eighteen months later, while under severe stress, he again suffered a bout of what he termed his ‘bilious complaint’, but he recovered rapidly after resorting to ‘a course of Exercise which I intend to continue, and consists in riding on Horseback from 10 to 20 miles a day, and by way of food and Physick, I take Whey, and Yolks of Egg in abundance, with a mixture of Rhubarb and soap to keep my body open, and I find this regimen to agree with me very well’.

Childbirth

Mrs Wedgwood’s first three pregnancies and deliveries seemed to have passed without comment. They occurred between 1765 and 1767: in her thirty-

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23 Reilly, Josiah Wedgwood: 1730-1795, pp. 23, 50.
24 18 November 1765: Letters, I, 67-68.
first and thirty-third years. In August 1769, the birth of Josiah (‘the second’) elicited from Josiah only the observation: ‘Mrs Wedgwood you know has made an addition to my family of a fine Boy, and they are both very well.’26 But in May 1771 he announced: ‘We had a midwife attending here, but she is sent away without her errand, and all things remain as they were. My Wife is as pert as a maggot and talks of holding out another month!’27 But four days later he reported:28

Would you think, my dear friend (my Wife) could have served me so slippery a trick. After waiting here so long to receive a certain present, that she should bring it forth in my absence, when I had only turned my back of home for a few moments without thinking anything of the matter. I left her at near 8 last night, to go for an hour to our Club, quite well as usual. Came home before ten and just as I came into the house, little Tom […] came into the world, and a very fine lad they tell me he is […] And all are as well as can be expected.

This account of childbirth is not unusual, though perhaps rather height¬
ened. By the mid-eighteenth century control of birth delivery had advanced to a level of safety comparable to that of the early twentieth century. The fear of pregnancy and birth had been overtaken by what has been described as an almost ‘light-hearted’ attitude to the experience. Erasmus Darwin, in Zoonomia (1796), had noted: ‘As Parturition is a natural, not a morbid process; no medicine should be given, where there is no appearance of disease.’29 Despite later illness, Sarah Wedgwood was a woman of strong constitution, surviving until her eighty-first year.

Throughout the Wedgwood family correspondence concern for the care and upbringing of the children is strikingly evident. It is symptomatic of Josiah’s progressive views that he should have responded to the improved methods of inoculation against smallpox, at the time they were first advocated in 1767, and subjected his children to them within their first two years of life. The operation was performed by the family doctor, James Bent, a skilful apothecary-surgeon, of Newcastle-under-Lyme. In March 1767 Wedgwood reported of his two elder children:30

26 7 August 1769: Selected Letters, p.76.
30 2 Mary 1767: Letters, I, 120-121; Selected Letters, p. 48.
They both had Convulsions at the first appearance of the eruption, and have had a pretty smart pox as our Doctor terms it. I believe they have had no dangerous symptoms, but […] I confess I repented what we had done, and I much question whether we should have courage to repeat the experiment, if we had any more subjects for it, however I am very thankful that all is so well.

**Amputation**

The most dramatic medical event of Josiah Wedgwood’s life occurred in the following year, 1768. The osteomyelitis caused by smallpox in youth increased in intensity. In April he reported that he had, ‘over walk’d & over work’d’, his knee lately, ‘and must rest it’. The pain increased, and James Bent prescribed a vomit, which made matters worse, and by 18 May, with agreement by letter from Erasmus Darwin, it was decided to amputate above the knee. Heavily dosed with laudanum, it was performed on 28 May by Mr Bent. The bandages were first removed five days later, and by 13 June Josiah was well enough once again to write, and noted: ‘My Surgeon has given me an invitation to dine with him at Newcastle this day fortnight which I hope to be able to accept.’ A week later he had given up taking laudanum, and could boast:

> My leg is almost healed, the wound is not quite 2 inches by one & a ½, I measured it with the compasses this morning, when I dressed it, for I have turned my surgeon adrift and Sally and I are sole managers now, only we give him leave to peep at it now and then, when he lifts up his hands and eyes, and will scarcely believe it to be the wound he dressed before.

A year later he was able to complete a ten mile walk, before dinner, on his new wooden leg. For the remainder of his life he continued occasionally to suffer phantom pains in what he called his ‘no-leg’. Late the following year Josiah first mentioned symptoms affecting his vision, which were to trouble him at intervals, for at least the next nineteen years. During the same period he complained of headaches, which, at times, incapacitated him. He described the visual disturbances at some length, but a brief extract will suffice:

> The Atoms which appear when I look at the sky, the line or lines which, are pellucid,
and the little clouds continue still before my eyes when I look at the sky [...] These things do not always appear before my eyes [...] but I can always find them [...] by looking for them against a ceiling. The little Atoms are lucid, fill the whole compass which the eye takes in, and are ever twinkling and in motion.35

Understandably perhaps, Josiah became haunted by a fear of blindness. He turned first to James Bent, who treated it as a liver disease, and ordered him to take some pukes, which gave some relief.36

Josiah then made the first of a series of visits in London to leading physicians. In 1769, he first consulted Dr Elliott, who, in Wedgwood’s words, was: ‘the most famous in this branch of the healing Art of any man in England’.37 This must have been Sir John Elliott (died 1786) who, after a colourful career, established a fashionable London practice. In 1780 he published *Philosophical Observations on the Senses of Vision and Hearing*.38 Elliott told Wedgwood that there was ‘always some danger’ in cases like his: describing it as ‘Muscae Volitantes’, prescribing ‘collyrium consisting of Elderflower water, spt of Wine Champoratd – Sugf of Lead & something else which I have forgot’, which had little effect.39

Shortly after seeing Dr Elliott Josiah received some robust advice from Erasmus Darwin relayed by their scientific friend John Whitehurst who ‘had been affected in the same way, thought he was going blind immediately & apply’ d to Dr Darwin for advice. The Dr told him he was very safe – that everybody at one time of life or other had the same appearance before their eyes, but everybody did not look at them, that he wo’d be well again in a little time, which he soon was, & says he has no doubt I shall be so too’.40

Nevertheless, he again turned to James Bent, who disturbed him with a further prognosis: ‘He says a perpetual blister, or a caustick behind my neck he thinks is absolutely necessary, & he believes this wo’d cure, or relieve them, & prevent their growing worse, but this application he told me with great earnestness & several times over he believ’d to be absolutely necessary for my

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37 See footnote 34.
40 1 January 1770: *Letters*, I, 324.
Wedgwood, very sensibly, took a second opinion. A year later, in October 1772, he still complained of the same symptoms, but it is some indication of the strain he was under that he was troubled by pains in the chest and loss of weight, to which Darwin responded with good advice: ‘Showing Dr Darwin by one of my Waistcoats how much I was sunk in 9 or 10 months, he said it was wrong, & I must be very careful of my health […] he ordered me to live pretty well, to take moderate exercise & to keep free from care & anxiety.’

He acted upon this, and in November claimed: ‘I find the most advantage in an hour or two of real labour in the fields every day that time or the weather will permit.’ Still the visual disturbances and headaches continued. Early in 1788 Erasmus Darwin suggested root of wild valerian as an eye treatment, and in April he consulted William Heberden, the Elder (1710-1801), one of the most eminent London physicians of the day. He was, significantly, the first to describe nyctalopia. Wedgwood wrote back, telling Heberden that his headache had been relieved by the prescribed blister, and he would take the rest of the advice, a holiday, as soon as possible. He was then in his fifty-eighth year.

Sarah’s fever

Whilst Josiah was enduring his troubles, Sarah, then in her late thirties, and after the birth of her first five children, was seized with a serious attack of rheumatic fever. Whatever the reason, her illness was a lengthy and a worrying story, with a series of rallies and relapses. It was first mentioned by Wedgwood in March 1772:

Her wrists, Shoulders, Neck, Hips, Knees, Ankles, & feet are all violently affected, & she is complete a Cripple as you can easily imagine […] We had Dr Derwin with her yesterday. He says her disorder will be stubborn, they have bled her twice & are going to blister her […] Dr Derwin has order’d her to Buxton, to bathe there as soon as she is able.

Bathing, at spas and in the sea, from then on was a remedy the Wedgwood family regularly resorted to. Sarah rallied in April, riding on horseback for several days, but unable to dress herself. Having business in Bath in June,

44 Selected Letters, p.312.
Josiah took her with him. This was not a success; they arrived as the season was winding down: the city was sweltering in heat. Wedgwood reported on 13 June: ‘We take a mouthful of fresh air on the Downs in the morning, drink three or four glasses of scalding hot water from the Pump, & sweat it out in the least hot places we can find.’ But the following day he observed:

Mrs Wedgwood’s lameness continues so long in her knees and feet [...] that I cannot help being much concerned least it should fix in those parts, especially her knees, as they seem most affected, & make a crackling noise like dryd parchment whenever she bends them. I have some hopes of bathing.

However, by 24 June he admitted failure: ‘Mrs Wedgwood has left off bathing, it did not agree with her; she is now trying the pump, but thinks of leaving the Pump, and Bath, and Water, and the City behind her […] and I believe will wish to go the nearest way home’. From then on, there followed twenty-four months of alternating periods of anxiety and hope. Sarah may, or may not, have conceived just before her first rheumatic episode, in March 1772. In August her symptoms returned, accompanied by vomiting: Erasmus Darwin visited, and feared an inflammation of the liver. James Bent, however, was sure it was only a ‘Breeding case’, with no attendant danger. She then relapsed, and Darwin, again summoned, said she was very ill, and diagnosed a ‘schirrus’. On 7 September she miscarried, but Josiah later claimed it was a phantom pregnancy. James Bent’s opinion was: ‘her case is the most singular one has ever known & nothing but the greatest attention in nursing & keeping everything quiet about her can save her life’. For the rest of the month her condition fluctuated; Josiah related: ‘My dear Sally continues to recover [but] you never saw such a changling, nothing but skin and bone, pale as her cap, & does not seem to have a drop of blood in her body’. He added:

Doctor Derwin has left me to act as Physician in his absence but I believe I shall not gain much credit in my office amongst the female Nurses here, as I have prescribed what they durst not think of for my Patient. When nothing would stay upon her stomach I gave her fruit, ripe plumbs &c as often as she would eat them, & she has

46 13 June 1772: Meteyard, Life of Josiah Wedgwood, II, 258.
49 23 August 1772: Ibid., p. 131
50 7 September 1772: Letters, II, 92; Selected Letters, pp.133-34.
never vomited since. – For the wind, I have given her Cyder that blows the Cork up to the Ceiling. She relishes it vastly, & it does her good.

Erasmus Darwin in turn prescribed ‘a course of steel, in the form of ten grains of fresh iron filings mixed with quince marmalade taken twice a day (with four drops of laudanum added to each dose if necessary)’. He also advised a visit to Buxton or Matlock, to drink the waters.52

By October she was well enough for daily outings in a carriage, but with recurrent bouts of fever in the evenings.53 A serious relapse followed in November:54

An ugly fever hangs upon her, with a sort of Ague fits at uncertain periods which Mr Bent says are very bad symptoms & he thinks the only thing that can save her wo’d be going to Italy or the south of France. Pray does […] Dr Jebb go there this winter?

This appears to be the first mention of the Jebbs: in this case Richard (later Sir Richard) Jebb (1729-1787), Physician to St George’s Hospital. Richard Jebb was consulted by the Wedgwood circle on several occasions. When the Wedgwood children’s cousin, Sally Willet, was struck down with tuberculosis in 1780 she was put on Richard Jebb’s regimen for consumptive patients: ‘She lives altogether upon vegetables […] Buttermilk is her chief drink!’ Unfortunately, she died six months later.55 Josiah became close to Richard’s cousin, John Jebb, MD (1736-1786) in the 1780s, through his Unitarian and radical connections, and with both through their Fellowships of the Royal Society.56

Following Mrs Wedgwood’s relapse in November 1772, Erasmus Darwin invited her to stay with him under his care in Lichfield. Josiah reported that Darwin had ordered her to continue taking the bark (that is, cinchona bark) and that her ‘shivering fits’ had ceased.57 She returned home in late November, but

52 Darwin to Wedgwood, 30 September 1772: King-Hele, Erasmus Darwin, p. 110.
53 4 October 1772: Selected Letters, p. 137.
on Christmas Eve Darwin was summoned urgently and travelled from Lichfield to Etruria on Christmas Day, as Wedgwood explained:

A sudden sickness, & giddiness seized her, which was followed by faintings, attended with cold sweats, & her legs & arms & face as cold as clay. In this terrible situation she continued for many hours when we thought every moment would be her last. When she could be sensible of anything she complain’d of most severe cold, which baffled all our endeavours with hot flannels, hot bricks, chafing &c to remove ‘till about 3 in the afternoon, when her natural heat began to return.

Darwin, ‘her favourite Esculapius’ advised: ‘If we can preserve her thro’ the cold weather to April, she will do very well, & make a perfect recovery in the summer.’

A degree of recovery ensued in January 1773, but a further relapse occurred in March, possibly exacerbated by her having been bled several times. Josiah remarked in desperation: ‘She is reduced to the lowest degree imaginable, & how to treat her I do not know’. Following three weeks in Buxton in July, which had little effect on her rheumatism, a slow recovery started and by November she was restored to health.

Grand multiparity

A year later, at the age of forty, Sarah was delivered of her sixth child, Catherine. She went on to have two more daughters, and lived on until her eightieth year. Wedgwood’s accounts of these three final births throws a perhaps unexpected light on our ideas of childbed in the late-eighteenth century;

30 November 1774:

My dear Girl gave me, as usual, a very short notice of the approaching critical moment. At half past four this morning she gave me a gentle notice to quit her Bed, & call the Midwife; & a quarter before five, news was brought to me that I had another Daughter, & all was well. Mrs W continues in a good way, & I hope to see her below again in a few days; for it is becoming fashionable here for the ladies in the straw to become well, & leave it as soon as they are able.

25 September 1776:

When I was going to Bed, a little before 12 she talked of some pains which I thought

58 26 December 1772: Letters, II, 121-22; Selected Letters, p. 141.


60 30 November 1774: Letters, II, 207; Selected Letters, p. 168.

it would not be in my power to remove, so I immediately sent for better assistance, & amongst them they presented me with a fine Girl in her Cap & before two. Mrs W is as well as she can fashion herself to be, & I expect to have a Pool at Quadrille with her tomorrow.

18 August 1778.\textsuperscript{62}

She sent for the midwife whilst we were bowling (after making tea for us as usual in the afternoon) without so much as acquainting me with the matter – Slipped upstairs just before supper, & we had not risen from the table before the joyful tidings of a safe delivery, & all well was brought to us, & as soon as the young visitor was dress’d she join’d the company in the dining room. The mother eat her supper, went to sleep, & all are in a very fine way this morning, but from a sort of decorum establish’d amongst her sex, originally intended no doubt, to impose upon us poor men, & make us believe what sufferings they underwent for us & our bantlings, I believe she does not come down to dinner to-day, but I shall endeavour to persuade her that the farce will no longer pass upon us in this enlighten’d age, & as for the mere etiquette it is not worth preserving. Mrs Bent, our first surgeon, & man-midwife’s wife has made some bold strikes at the silly custom.

Mrs Wedgwood was aged forty-four at the time.

\textit{Susannah and sea-bathing}

In June 1773, prior to Sarah Wedgwood visiting Buxton for her health, Susannah Wedgwood, at school in Manchester with her cousins, was so run-down, apparently from lack of exercise, that Josiah took them to Liverpool for sea-bathing.\textsuperscript{63} Liverpool’s ‘North Pleasure and Salt Water Baths’, and a stretch of beach on the North Shore, were immensely popular resorts in the summer.\textsuperscript{64} Later, in the 1770s, Parkgate had established itself as a fashionable resort, and Susannah, then seventeen, accompanied by two of her brothers, bathed there in October 1782. She wrote to her father: ‘Spring tide begun the morning we came & that is so much better than the other tides I only drank the salt water one day before I ventured into the open sea which I did this morning & very courageously too […] The Ladies here set excellent examples as they dance in with the greatest composure imaginable.’\textsuperscript{65} Susannah’s constitution, despite a lively and energetic personality, was not strong and, like her mother, she suffered from rheumatism. In 1791 she took the waters at Bristol Hot Wells,

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\item \textit{Letters}, III, 4; Place, p. 246.
\end{enumerate}
and bathed for several weeks at Weymouth, and in February 1793 she travelled to Bath for the waters. She died, after twenty-one years of marriage to Robert Waring Darwin, Erasmus’s son, at the age of fifty-two. Her son Charles Darwin, then aged eight, had only the sketchiest memories of his mother.

**Into the Crucible**

Josiah’s intimacy with scientists and medical men led to one of his most enduring benefits to scientific practice. Most of his medical circle included leading practitioners of the time and at least six of his doctor friends were, like him, Fellows of the Royal Society. He met several in London at regular sessions under John Hunter’s chairmanship at Young Slaughter’s Coffee House. From his relations with scientists, Wedgwood applied his ceramic expertise to the cause. At the outset of his friendship with Matthew Turner he had opened a discussion with him on the subject of crucibles, the manufacture of which he was considering in 1762, but it was during the 1770s that he started on what was rapidly to be recognised as a valuable contribution to medicine and to scientific work. A range of equipment for the sickroom and druggists was put into production.

A further important contribution to science was occasioned by Josiah’s reading of his friend Joseph Priestley’s *Experiments and Observations on different Kinds of Air*, of 1774 to 1777. He noted in his commonplace book: ‘The Doctor seems much at a loss for a mortar, not metal, for pounding in. Make him a deep one or two.’ There followed some three years of experiment to produce a suitable hard, inert, stoneware body, obviating the deficiencies of bell metal and marble. By July 1779 he had succeeded, not only in the body, but also in the correct functional shape, and a sample was sent for proof to Apothecaries Hall. Wedgwood’s mortars and pestles were on the market in 1780, and immediately became highly successful and remained in production for the next hundred and fifty years. Like his other laboratory wares they were provided free to research scientists.

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Mary Anne and electricity

Two of Sarah and Josiah’s children suffered severe health problems. Their youngest child, Mary Anne, was born in August 1778, when Sarah was forty-four. Fourteen months later, in November 1779, when she had started teething, she was struck down by an illness with a severity which lasted for a further two months, and from which she never fully recovered. Josiah reported on her condition:

Our little girl, Mary Ann, breeds her teeth very hardly, & unfortunately several of them are pushing forward at the same time. This brought on convulsions which lasted thirteen hours without intermission the first attack […] & when this left her we found she had lost the use of her arm & leg on one side.

Erasmus Darwin was summoned, and ordered her to be: ‘Electrified two or three times a day on the side affected, & to be continued for some weeks.’

Darwin himself had been preoccupied with electricity from childhood, up to the year of his death, when he laid out a programme of fundamental research into the properties of electricity. When he was twenty-six he submitted a paper, published in the *Philosophical Transactions*, to the Royal Society, on the subject of atmospheric electricity. His final literary work, *The Temple of Nature* (1803), included an essay of no less than thirty-three pages, on the theory of electricity. Both Darwin and Joseph Priestley designed electric machines. Priestley’s was supplied in 1769 to Leeds Infirmary. Three years later Wesley was using a machine at Moorfields, London. Middlesex Hospital had acquired one in 1767, and Barts in 1777. Darwin’s design is dated to 1778, at the time of his first recorded medical use of electricity: to treat a case of jaundice.

Mary Anne’s treatment by electricity was in accord with Darwin’s conclusion, by observing the reaction of paralysed limbs, that nerve impulses are

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70 8 November 1779: *Letters*, II, 541; *Selected Letters*, pp. 243-44.


75 King-Hele, *Erasmus Darwin*, pp. 133-34.
electrical.\textsuperscript{76} For her problems with teething, the treatment given to the poor child was reported by Josiah.\textsuperscript{77}

We have lanced her gums & keep them open, as the teeth do not yet appear, by means of the sharp end of an ivory modelling tool. I am the electrician upon this occasion, which must confine me at home for some time.

Nine days later he recorded that she was recovering from the effects of her convulsions but:\textsuperscript{78}

She recovers very little of the use of her hand & leg, & is not quite clear of spasms in the diseased hand & foot. I have on this account discontinued the use of electricity, from which I do not know whether she receiv’d any benefit or not.

However, by mid-December she was again subject to severe convulsions which continued for some hours, followed by a period of insensibility. Josiah described the situation:\textsuperscript{79}

As she is quiet at present we do nothing to her, but keep a perpetual blister upon her neck, & in case of another attack Dr Darwin assures us that no drug whatever is to be rely’d upon but opium.

At the end of December her eyesight had been restored from a period of partial blindness and signs of recovery gave grounds for hope.\textsuperscript{80} Her condition seemed to have remained stable for some years, but at the age of six she had not acquired the gift of coherent speech.\textsuperscript{81} Two years later, at the age of eight, she died.\textsuperscript{82}

\textsuperscript{76} Ibid., p. 21.
\textsuperscript{77} 8 November 1779: Letters, II, 541; Selected Letters, pp. 243-44.
\textsuperscript{78} 17 November 1779: Letters, II, 543.
\textsuperscript{79} 12 December 1779: Selected Letters, p. 246.
\textsuperscript{80} 29 December 1779: Letters, II, 559.
\textsuperscript{81} 5 May 1784: Letters, III, 14.
\textsuperscript{82} Meteyard, Life of Josiah Wedgwood, II, 445; Reilly, Josiah Wedgwood: 1730-1795, pp. 170-71.
Thomas Wedgwood

Sarah and Josiah’s youngest son, Tom, also died young, after a long and mysterious illness. The promise of his early scientific achievements prematurely brought to an end, render his brief life even more tragic. He was in friendly association with many leading scientists of the day and, in 1791, aged twenty, he presented a paper to the Royal Society. However, within a year his health had become badly affected, and at the age of twenty-one he ‘resolved to give up experimenting’. Tom’s illness, which absorbed the remainder of his life, has always been unexplained. His only available biography is that written by R.B. Litchfield and published in 1903, in which Tom’s symptoms and their development are described.

Surviving letters from Tom from 1799 onward add much more information, and have led to a contemporary diagnosis. One modern author suggests that he was suffering endogenous depression. His most frequently mentioned symptoms included digestive and bowel problems, constant exhaustion and depression, counteracted by persistent restlessness, prompting a life of incessant travel. He also complained of headaches, visual disturbances, night fevers, skin complaints, and susceptibility to cold; and, as his illness progressed, increasing debility.

Tom’s first physician was his childhood doctor, Erasmus Darwin. Throughout his early twenties, from 1793 to 1797, he received a series of letters from Darwin, packed with advice. Darwin seemed to have regarded Tom’s problems as psychological in origin, and hypochondriac in nature. He recommended taking the waters at Harrogate, and a salinic purge, followed by advice for a healthy and plentiful diet. However, in August 1794 he offered, disastrously it proved, a further prescription: opium – ‘About five grains of rhubarb, and ¾ of a grain, or a grain, of opium, taken every night for many months, perhaps during the whole winter.’ The following March he reiterated the advice: ‘If your digestion is not good, half a grain of opium may be taken, or a second glass of wine.’ After 1799 there were no further letters from Darwin. He lost contact with Tom as a consequence of the latter’s constant travelling and change of location.

At this juncture an intriguing medical personality entered Tom’s life. Thomas Beddoes had met Erasmus Darwin in 1788 and they had entered into a

regular correspondence and, in 1792, he had become friendly with the Wedgwood family.\footnote{Sir Harold Hartley, *Humphry Davy* (London: Thomas Nelson & Sons, 1966; repr. Menston, Yorks: E.P. Publishing Ltd, 1972), pp. 20-21; King-Hele, *Doctor of Revolution*, pp. 207, 249; King-Hele, *Erasmus Darwin*, p. 220; H.W. Dickinson, *James Watt, Craftsman and Engineer* (Newton Abbot: David & Charles, 1967) p. 184.} Settling in Bristol in 1793, he set about planning what was to become the Pneumatic Institution, which was opened at Clifton in 1798, with generous subscriptions, including many from the Wedgwood circle. A contribution from Josiah Wedgwood was almost the last act of his life,\footnote{Meteyard (1865-66; repr. 1871), p. 61.} and Thomas Wedgwood made a gift of one thousand pounds.\footnote{Ibid., p. 81.} Tom had already, in 1796 or 1797, put himself under Beddoes care at Clifton, and for a year or so subjected himself to the regime of the Pneumatic Institution, but appears to have derived little, if any, benefit from his treatment.\footnote{3 April 1799: NMGM, Walker Art Gallery, Wedgwood correspondence transcripts; Meteyard (1871), p. 104, 124.}

Tom later spent much of his time in London, where he managed, despite his constant ill health, to resume his scientific speculations. He attempted a cure by means of ‘The Warm Room Plan’: shutting himself in a closed room at seventy degrees Fahrenheit for seventy-two hours.\footnote{Litchfield, p. 35; Liverpool Central Library, Bickerton’s Collection, 4, fols. 125-27 (Charles Blagden, ‘Experiments and observations in a heated room’, *Philosophical Transactions*, 65(1775), i, xii, 111-23; Matthew Dobson, ‘Experiments in a heated room: in a letter to John Fothergill, M.D.’, *Philosophical Transactions*, 65(1775), ii, xliv, 463-469; Charles Blagden, ‘Further Experiments and Observations in a heated Room’, *Philosophical Transactions*, 65(1775), ii, xlvii, 484-93).} In London, in April 1802, he turned to another doctor, Matthew Baillie (1761-1823). He was renowned for the manner in which he explained to each patient his diagnosis and prognosis.\footnote{Munk, pp. 402-07; Garrison, pp. 354-55.} Baillie’s letter of advice to Tom’s brother John survives:\footnote{NMGM, Walker Art Gallery, Wedgwood correspondence transcripts.}

He has a disrelish for the common amusements of Society, and takes little interest in those pursuits which formerly used to engage his mind. His attention is almost entirely absorbed in watching his health, and minutely scrutinising every feeling of the body. The Bowels are very torpid, the food he takes does not nourish the body, and he has in some measure lost the usual propensity towards the other sex. His pulse is slightly accelerated, and his tongue is covered with a thin white fur. When the left side of the belly is examined near the groin, there may be felt upon moderate pressure a firm round long substance in the direction of the Sigmoid Flexure of the Colon. I
am persuaded that this is nothing else than the Sigmoid Flexure of the Colon in a state of contraction. It is, I believe, generally in this state, and perhaps its coats may be a little thickened, but it is not, as far as I can judge, in that state which is called schirrus. There has been a suspicion of some of the absorbent Glands near the Sigmoid Flexure of the Colon being enlarged, but I was not sensible of this upon a very attentive examination of the part. Your brother’s complaint seems to me to be Hypochondriasis. It is very apt to last long and is but very little under the influence of Medicine. He should endeavour as much as he can to amuse his mind among objects which, are new and interesting, by travelling in foreign Countries, and should prevent as far as he can, his bowels from being costive.

Hypochondriasis even then seems to have been an emotive term in English medical usage. Medically it was associated with dysfunctions of the hypochondria, the region below the chest, including the liver, gall bladder, and the spleen. It came to be considered nervous in origin, and thus a disease of the mind, and difficult to cure.\textsuperscript{94} Significantly, Baillie specialised in diseases of the thorax, the abdomen, and the brain.

Tom was by now approaching the final crisis of his life and another factor began to play a fateful role. From 1794 he was a habitual user of opium. In September 1797 he met Samuel Taylor Coleridge, and they entered into a close relationship in which opium and other drugs played a damaging and sinister role.\textsuperscript{95} In 1801, in frustration at his debility, he turned to opium: ‘Medicine can do nothing […] In the course of ten days, or sooner, I should be glad of the English opium, a little parcel by coach’.\textsuperscript{96} By the end of the following year his feelings had turned to desperation.\textsuperscript{97}

I have for more than ten years made every possible effort to recover my health and spirits. In that time I have suffered more than I have ever told and more than can be easily conceived. I am not at all advanced […] and I am determined, after one or two more efforts, to relieve myself from all further effort, and to minister such stimuli as shall diminish the tediousness and misery of my life to a bearable degree, and take my chance for the consequences.

A few months later, in February 1803, Tom’s thoughts had turned to another narcotic which he believed might offer some relief: Bang, or Indian Hemp. He applied first to his friend Humphry Davy, at the Royal Institution, who attempted to obtain a supply for him, without success. Eventually Coleridge acquired some from the President of the Royal Society, Sir Joseph

\textsuperscript{94} Garrison, p. 326.
\textsuperscript{96} Meteyard (1865-66; repr. 1871), p. 128.
\textsuperscript{97} Litchfield, p. 128.
Banks. Coleridge wrote at once to Tom: ‘We will have a fair Trial of Bang – do bring down some Hyoscyamine Pills – & I will give a fair Trial of opium, Hensbane, & Nepenthe.’\(^98\) By the autumn Tom was again quite ill with a bowel complaint,\(^99\) and the following January he observed: ‘I find myself every day more and more unable to combat with my disorder, and I am convinced of the necessity of keeping my room if not my bed.’\(^100\) In April he admitted his dependence on opium.\(^101\)

Opium has somewhat restored the tone of my spirits, but it has, if either added to the uneasiness of my body and destroyed my sleep, so that I cannot feel sanguine about any lasting good effects from its use […] I am now a miserably feeble creature.

However, Tom survived only another six months. On Monday, 7 July he took to his bed, severely chilled and suffering internally, dying quietly in his sleep on the Wednesday evening. He was thirty-four years old.\(^102\)

These extracts, from a voluminous correspondence, reveal the attitudes to illness of one eighteenth-century family, and also cast light on their relationship to Erasmus Darwin.

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99  Meteyard (1865-66; repr. 1871), pp. 219-23. Opium causes constipation, loss of appetite and loss of weight.

100 23 January 1804: Litchfield, p. 161.


102  Litchfield, p. 172.