Mr Langworthy, Dr Haygarth and Perkins's Metallic Tractors

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Abstract

Charles Cunningham Langworthy was an English surgeon who led the use and sale of Elisha Perkins's wondrous Metallic Tractors in Bristol and Bath, while Elisha's son Benjamin worked in London. After initial success, reinforced by his publication on 'Perkinean Electricity', Mr Langworthy met the attention of Dr John Haygarth. In January 1799, Haygarth presented a short paper to the Literary and Philosophical Society of Bath, showing that wooden replicas of the Tractors were just as effective as the patented versions. Haygarth subsequently published his talk, including the confirmatory work of Richard Smith in Bristol. Haygarth's publication, his history and the incredible life of Perkins have been published in many places. This paper addresses Langworthy, his practice and how he dealt with Dr Haygarth's claims of quackery.

Key words

Charles Langworthy, John Haygarth, Elisha Perkins, Benjamin Perkins, Richard Smith, Metallic tractors

Introduction

Oppose no principle, because 'tis *new*, But first examine if the thing be TRUE: Up to its source each novel science trace, If false, reject it, but if true, *embrace*.¹

¹ Langworthy CC. A View of the Perkinean Electricity, Or, An Inquiry into the Influence of Metallic Tractors, Founded on a Newly-discovered Principle in Nature, and Employed as a Remedy in Many Painful Inflammatory Diseases ... Bristol: Printed for the author by W. Bulgin, etc; 1798. Title page.

At the end of the eighteenth century the popular spa town of Bath potentially provided a good income for medical practitioners. This was a time when medicine and quackery intertwined.² 'Taking the waters' may have been the traditional cure offered by Bath but its patients offered rich pickings for those who could offer novel 'modern' cures. This was a period when electricity was becoming the new means of cure. Luigi Galvani (1737-98) had published on animal electricity, and Franz Mesmer (1734-1815) talked of animal magnetism. It was in Bath that the quack James Graham (1745-94) first set up in England in 1774, and by 1776 was advertising his aethereal, magnetic and electric cures. Later, Dr Wilkingson came to Bath in 1811 and offered galvanic treatments at the baths.³

Bath saw the rise and fall of Perkins's Metallic Tractors in the four years around 1800. Elisha Perkins (1741-99) is famous for his Metallic Tractors patented in the USA in 1796 and his life has been extensively publicised.⁴ His son Benjamin moved to London to sell the Tractors but Charles Cunningham Langworthy (1774-1847) was the surgeon who led the provincial use and sale of the Metallic Tractors, working as Perkins's agent in Bristol and Bath. Langworthy arrived in Bath in September 1798 but unfortunately for him two local doctors, Dr John Haygarth (1740-1827) and Dr William Falconer (1744-1824) were cynical as to the cause of the cures and Haygarth presented the results of an experiment to the local philosophical society that showed the cures did not depend on the Tractors but on what the patient believed. The life of Haygarth and his publication on the Tractors has been well documented.⁵ This paper is an attempt to describe the relatively ignored role of Langworthy, the surgeon who triggered Haygarth's paper.

Dr Elisha Perkins

Elisha Perkins was born in 1741 in Norwich, Connecticut, the son of a physician. Elisha practiced in the neighbouring town as a 'harried business man, physician and boarding house keeper'. He patented his Tractors in 1796 and developed a fortune from them. He

² See for example, Porter R. *Health for Sale: Quackery in England 1660-1850*. Manchester: Manchester University Press; 1989.

³ Thornton JL. Charles Hunnings Wilkingson (1763/64-1850). *Annals of Science*. 1967; 23(4): 277-286.

⁴ The most extensive work is: Quen JM. *A Study of Dr. Elisha Perkins and Perkinism* (1954). Yale Medicine Thesis Digital Library. 3553. https://elischolar.library.yale.edu/ymtdl/3553 (accessed 1 Jan 2025). See also: Steiner WR. Dr. Elisha Perkins of Plainfield, Conn., and his metallic tractors. *Bulletin of the Society of Medical History of Chicago*. 1923: 3(1), 79-95; Miller WS. Elisha Perkins and His Metallic Tractors. *Yale Journal of Biology and Medicine*. 1935; 8(1): 41-57; Quen JM. Elisha Perkins, physician, nostrum-vendor, or charlatan? *Bulletin of the History of Medicine*. 1963; 37(2): 159-166; Lanska DJ. Perkins's patent metallic "Tractors": Development, adoption, and early dissemination of an eighteenth-century therapeutic fad. *Journal of the History of the Neurosciences*. 2019; 28(2): 122-146.

⁵ Booth C. *John Haygarth, FRS (1740-1827): A Physician of the Enlightenment.* Philadelphia PA: American Philosophical Society; 2005. https://archive.org/details/bub_gb_iXS07n2njQYC (accessed 1 Jan 2025).

⁶ Quen. A Study of Dr. Elisha Perkins, 1954 (Note 4). p.10.

died three years later of yellow fever when he went to New York to use his treatment for it on patients with the disease.

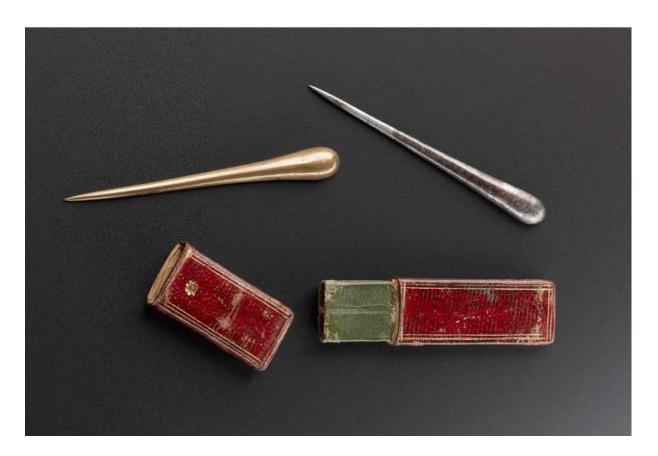


Figure 1. Perkins's Metallic Tractors (1795-1805). Science Museum Group Collection. https://collection.sciencemuseumgroup.org.uk/objects/co140928/two-perkins-tractors. Reproduced under CC BY-NC-SA 4.0 Licence.

He relates that during his medical work he became interested in the effect of metal on the body and developed his Tractors, which comprised two 3-inch tapered metal rods with one side flattened, one of brass and the other of steel (Figure 1) that he found cured a variety of painful conditions when the affected body part was stroked by them for up to twenty minutes. He later emphasised that the secret composition and shape of the Tractors was vital for their success. Elisha first presented his Tractors at the Connecticut Medical Society Convention in October 1795.⁷ He was quickly accused of quackery but he published pamphlets advertising their success,⁸ and proved an effective marketeer. His Tractors sold widely within America, gaining the attention and support of senators and judges, famously George Washington who bought a set. A woman took a set to Denmark in about 1797 and they gained a positive reputation there.⁹

⁸ Perkins E. Certificates of the efficacy of Doctor Perkins's patent metallic instruments. New-London, S. Green; 1796.; Perkins E. Evidences of the efficacy of Dr Perkins's patent metallic instruments. Philadelphia, R. Folwell; 1797.

⁷ Quen. A Study of Dr. Elisha Perkins, 1954 (Note 4). p.14.

⁹ Quen. A Study of Dr. Elisha Perkins, 1954 (Note 4). p.18-19.

His son Benjamin Douglas Perkins (1774-1810) acquired a BA from Yale University in 1794, and advanced to an MA three years later.¹⁰ He was probably involved in the marketing of the Tractors in America but came to England in December 1797 to market them in Europe. He set up in London and developed a successful practice using and marketing Tractors, publishing several pamphlets and books as advertisement,¹¹ and creating the Perkinean Institution in 1803 before he returned to America where he died in 1810.¹²

Mr Charles Cunningham Langworthy

Born in 1774, within a family of surgeons based at South Brent in Devon, Charles Cunningham Langworthy was the same age as Benjamin Perkins. He was probably initially apprenticed within his family then had further surgical training at St Thomas's and Guy's in 1794-95. It appears that Langworthy spent very little time in this country after completing his training before travelling to America where he became involved with the Perkins. He returned to England at the end of 1797 or start of 1798. He writes about this in his first pamphlet, *A View of the Perkinean Electricity*, when he established his credentials as a suitable business partner for the Perkins:

Mr. BENJAMIN DOUGLAS PERKINS, a son of the Discoveror [sic], and who assisted him in extending the practice over the United States, crossed the Atlantic in the spring of the present year [1798], for the purpose of its establishment in England; and, having myself made a voyage to America and contracted an intimacy with Mr. Perkins, I returned to my native country in his company.

Having received a regular surgical education, and intending to settle in the profession in some part of England, Mr. Perkins (who confines himself to London) solicited me to combine his practice with my own. The cures I had witnessed during my residence in America, and the successful experiments I had made in London after my return, determined me to comply with his solicitation; ... and circumstances ... having induced me to settle at Bristol, I take this method of announcing that determination.¹³

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¹⁰ Yale University. Catalogue of the Officers and Graduates of Yale University in New Haven, Connecticut (1701-1895). New Haven: Tuttle, Morehouse & Taylor Press; 1895. p.52.

His first was: Perkins BD. The Influence of Metallic Tractors on the Human Body: In Removing Various Painful Inflammatory Diseases, Such as Rheumatism, Pleurisy, Some Gouty Affections, &c. &c. Lately Discovered by Dr. Perkins, of North America; and Demonstrated in a Series of Experiments and Observations, By Professors Meigs, Woodward, Rogers, &c. &c. by which the Importance of the Discovery is Fully Ascertained, and a New Field of Enquiry Opened in the Modern Science of Galvanism, Or, Animal Electricity. London: Printed for J. Johnson, and Ogilvy and Son; 1798.

¹² See: Miller. Elisha Perkins and His Metallic Tractors, 1938 (Note 4). p.49 for description of the Institution. Benjamin returned to the States the same year and died 1810 – see: Lanska. Perkins's patent metallic "Tractors", 2019 (Note 4). p.137 & footnote for his life after 1803.

¹³ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p.4.

Langworthy's promotional narrative is that they arrived in England in Spring 1798, but it is elsewhere said that Benjamin arrived in England in December 1797,¹⁴ which fits with an April 1799 advert where Langworthy says he arrived with Perkins eighteen months previously.¹⁵ The quotation above can be read as meaning that Benjamin wanted to combine their practices either as fellow surgeons or because Langworthy alone had surgical training. Benjamin is not known to have had any formal surgical education and never claimed to be a surgeon when in England.¹⁶ However, Elisha wrote to Benjamin in October 1798 suggesting he 'got a degree of MD'.¹⁷ This might indicate how informal training was in the States, or how easy degrees were to purchase.

It appears to have taken three to six months for the pair to settle in London. Perkins appears to have started patenting the Tractors in March 1798, getting the final award in September. He published a 100-page book, *The Influence of Metallic Tractors on the Human Body*, at the end of April promoting the patent Metallic Tractors. The book is persuasive – it gives the theory of how they work, quoting authors on galvanic electricity, and describes numerous cases they cured, citing cases submitted by other doctors, including a vast range of conditions particularly where there was pain, since pain is 'an accumulation of electricity'. He adds that some practitioners may not be as effective as others in using the Tractors as it depends on the electricity of the practitioner. 19

Langworthy moved to Bristol by May 1798, leaving Benjamin in London. He moved into the fashionable spa area of Hotwells and Clifton where he set up practice with his Tractors. He immediately got positive reviews for Perkins's book into the *Bristol Mercury* and in the *Bath Chronicle*:

The pamphlet is written in a very unassuming style, but contains a great number of experiments communicated to the Discoverer by the most eminent Physicians, Philosophers, Politicians and Divines in the United States, which seems to place the existence of the discovery beyond the possibility of a doubt.²⁰

Richard Cruttwell, publisher, bookseller and the owner of the *Bath Chronicle*, advertised that he was the agent selling Tractors in Bath at the end of this article.²¹ Perkins recognised only two agents in his adverts: Langworthy in Bath and later, chemist Frederick Smith of the Haymarket in London.²² This first advertising of the Tractors in Bristol and Bath probably shows how important the spas there were as a market, but

¹⁴ Quen. A Study of Dr. Elisha Perkins, 1954 (Note 4). p.20.

¹⁵ Anon. Perkins Metallic Tractors. Saunders's News-Letter. 8 Apr 1799. p.3.

¹⁶ In his patent – Patent AD1798 No. 2221. *Application of Galvanism as a Curative Agent*. London: Eyre & Spottiswoode; 1856 – he calls himself 'Master of Arts'.

¹⁷ Quen. A Study of Dr. Elisha Perkins, 1954 (Note 4). p.24.

¹⁸ Woodcroft B. *Titles of Patents of Invention, Chronologically Arranged from March 2, 1617 (14 James I.) To October 1, 1852 (16 Victoria*),. London: Queen's Printing Office; 1854. See also: Patent, 1798 (Note 16).

¹⁹ Perkins. *The Influence of Metallic Tractors*, 1798 (Note 11). p.98-99.

²⁰ Anon. Galvanism and Perkinean Electricity. *Bath Chronicle and Weekly Gazette*. 10 May 1798. p.3.

²¹ Anon. Dr Perkins' Patent Metallic Tractors. Bath Chronicle and Weekly Gazette. 21 Jun 1798. p.3.

²² Anon. Perkins' Metallic Tractors. *Oracle and the Daily Advertiser*. 25 Oct 1803. p.1.

Langworthy was also unique in embracing the Tractors in the USA and then coming with Benjamin back to England as his promoting surgeon. The price of five guineas a set meant the instruments were targeted at doctors and the wealthy public, so having a surgeon promote them must have helped. Spas had a lot of doctors and a lot of patients seeking relief from chronic pains.

Most quack medical treatments can be divided into two groups: the most common are medications which can be advertised widely and distributed without training through nominated druggists or other suppliers; much rarer are unique pieces of equipment, such as James Graham's celestial bed which was advertised to attract patients to visit the salesman and practitioner. The Tractors were unusual in that they were tools that needed some form of explanation but were small and easily posted around the country. Perkins advertised through booksellers who sold his pamphlets and books explaining how the Tractors worked, but generally stressed in his adverts that only he or his two agents could sell the patented originals, and he would include publications to explain how to use them. Doctors could make their fortunes using them but not sell copies.

So Langworthy trail-blazed the Tractors in the two spa towns where he could mingle with the many doctors there and encourage them with tales of the miracles the Tractors produced. Perkins is first known to advertise his publications nationally in August 1798 in *The Times*.²³ Langworthy was probably doing well by then as in August he married Maria Austen, the wealthy daughter of the late Robert Austen, archdeacon of Cork.²⁴ The next month he set up practice in Bath at the start of the Bath Season.²⁵ He claims in his book that he moved to Bath after the death of a 'dear and affectionate brother' whose illness had induced him to move to Bristol, but no death of a brother of his (or his wife's) in this period can be traced.

While in Bristol, Langworthy emulated Perkins and wrote his own book on the Tractors, signing it 'Charles Langworthy, Sion Row, Clifton. August 1798'. He announced his arrival in Bath by advertising his new work on Perkinean Electricity and the Tractors (Figure 2),²⁶ published in Bristol but also sold by Cruttwell, adverting the Tractors were obtainable from him in Bath and Mrs Langworthy in Bristol for five guineas a set. Cruttwell is no longer mentioned as a seller. His book is 82 pages long, including an index of the conditions treated.²⁷ After several pages decrying those who will not listen to reality, he adds:

Mr. Perkins is known to be a man of honor and integrity. In his own country, he associated with men of letters and science, and brought with him recommendations which, added to his own manners and conduct, have secured him a similar society in England. He is just as incapable of such an artifice as his calumniators are of acknowledging the truth, when that truth opposes their interest.²⁸

²³ Anon. Metallic Tractors – just published. *The Times*. 7 Aug 1798. p.1.

²⁴ Married by licence, 8 Aug 1798 at St Andrews Clifton, Bristol (Register at Bristol Archives).

²⁵ Anon: Arrived here. Bath Chronicle and Weekly Gazette. 20 Sep 1798. p.3.

²⁶ Anon: This day is published ... *Bath Chronicle and Weekly Gazette*. 27 Sep; 4, 11 & 25 Oct 1798, and onwards in slightly modified formats. His Preface is dated Sep 1798 and describes his move to Bath.

²⁷ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p.81.

²⁸ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p.8.

This Day is published, price 1s 6d. Newly printed in Octavo and hot-pressed A View of the PERKINEAN ELECTRICITY; or, An INQUIRY into the INFLUENCE of

METALLIC TRACTORS

Founded on a newly-discovered Principle in Nature And employed as a REMEDY in many PAINFUL

INFLAMMATORY DISEASES, as

RHEUMATISM QUINSY **TUMEFACTIONS** GOUT **PLEURISY SCALDS BURNS**

And a variety of other *Topical Complaints* With a REVIEW of Mr PERKINS'S late Pamphlet on the subject; - to which is added, an APPENDIX, containing a variety of EXPERIMENTS made in London, Bath, Bristol &c with a view to ascertaining the efficacy of this practice.

By CHARLES C LANGWORTHY

Surgeon of Bath

Oppose no principle because 'tis new, But first examine if the thing be TRUE! Up to its source each novel science trace If false, reject it – but if true *embrace*

N.B. The TRACTORS with Directions for their use, may be had of Mr Perkins, No18 Leicester Square, London; C.C.Langworthy, surgeon, No 9 South Parade, Bath; and of Mrs Langworthy, Dowry Square, Bristol Hotwells price Five Guineas a set.

Figure 2. Transcription of Langworthy's first advert for his publication. From: Bath Chronicle and Weekly Gazette. 27 Sep 1798. p.1.

Langworthy includes a copy of the *Bristol Mercury*'s positive review of Perkins's 1798 publication,²⁹ and cites a mixture of cases: many cases of cured rheumatism and cured bad throats from his work in Bristol from May to August 1798; and various cured cases of others from London and America, as well as his brother in Devon. He cites the involvement of such Bristol doctors as Thomas Beddoes (1760-1808) in arranging for him to use the Tractors on a patient at St Peter's Hospital in front of Beddoes and the surgeon Mr Bowles.³⁰ He impressively records that the Tractors even cured a case of hemiplegia and, even more impressively, cured a patient with deadly gangrene. He does also describe a few conditions where he has found no effect, for example hemiplegia or palsy without pain or inflammation, and in his cases sometimes talks of not initially intending to use the Tractors. He offers to attend the patients of other doctors to treat them in their presence and to treat paupers gratis, though he will charge his normal fees

²⁹ Anon. Perkinean Electricity. *Bristol Mercury*. 21 May 1798. p.3.

³⁰ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p.57.

otherwise. In addition, people can buy their own set of Tractors from him, with instructions for use, at five guineas a set.

By relating cases where the Tractors failed, or were used later on in the consultation, Langworthy presented himself as a reasonable medical man who did not unquestioningly trust remedies and so encouraged other doctors to trust him. One case may be instructive. 'Mr Coward, book-keeper at the Bush, Bristol' wrote to him,³¹ relating that in May he was 'attacked with an Inflammatory Rheumatism in my foot', when a 'gentleman came in from Bath in one of the stages' and seeing the wrapped foot enquired and was told it was painfully inflamed; 'he desired me to let him try if he could not cure me with Dr Perkins's Tractors' and applied them for about a quarter of an hour – a perspiration came on over the whole body and the inflammation disappeared and he had been pain free for over eight weeks. This probably shows Langworthy building up his reputation in the early days of being at Bristol.

The London *Oracle* reviewed Langworthy's book positively in October 1798, and the review was repeated in the *Bath Chronicle*.³² The review concluded: 'The candour displayed through the whole of this tract has not a little prejudiced us in favour of the accuracy of Mr. L---'s statements; and we do not hesitate to recommend the work ...'.³³ Langworthy developed a thriving practice in Bath. His book soon needed reprinting. He had the support of Cruttwell who had a financial interest in the Tractors, initially selling the Tractors and later publishing and selling the books about them.

There were also critical reviews. For example, *The Monthly Review* gave highly critical reviews of the Tractor texts, saying of Perkins's text: 'In vain is that spirit of quackery exorcised in one form; it rises again immediately.' and of Langworthy's: '... we shall only add that the scheme of the Tractors has at least the merit of being harmless, if it be nugatory'.³⁴

Dr John Haygarth MD FRS

The Yorkshireman John Haygarth (1740-1827) became physician for the Chester Infirmary in 1767 where his work on smallpox and inoculation gave him a national reputation.³⁵ In 1798 he 'retired' to Bath where his friend William Falconer (1744-1824) had also moved from Chester. Falconer had a prior interest in the effect of the imagination, as he had written a prize-winning essay on the effect of the mind on disorders.³⁶ Haygarth lived in the prestigious Royal Crescent and for some years hosted the Bath Philosophical Society. Along with Falconer he became concerned about the popularity of the Metallic Tractors in Bristol and Bath.³⁷

³⁷ Booth. *John Haygarth*, 2005 (Note 5). p.105.

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³¹ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p.51.

³² Anon. Novelties of Literature (from the Oracle). *Bath Chronicle & Weekly Gazette*. 25 Oct 1798. p.4.

³³ Anon. Novelties of Literature. No. CLXXVII. *Oracle and Daily Advertiser.* 17 Oct 1798. p.2.

³⁴ Anon. Articles 35 & 36. Monthly Catalogue. *Monthly Review*. Vol. 28, April 1799. p.463-464.

³⁵ For biographical details, see: Booth. *John Haygarth*, 2005 (Note 5).

³⁶ Falconer W. A Dissertation on the Influence of the Passions upon Disorders of the Body, being an Essay to which the Fothergillian Medal was adjudged, London: Printed for C. Dilly; 1788.

In January 1799, Haygarth read a paper to the Literary and Philosophical Society of Bath. He reported using replica wooden Tractors on five of Dr Falconer's patients at the Bath Hospital who had chronic rheumatism, followed the next day by applying the patented Tractors. The wooden replicas proved as effective as the patented articles.³⁸

After the lecture

If Langworthy did not attend Haygarth's lecture he would have quickly heard of it. He did not challenge Haygarth directly. Within a fortnight he left for Dublin even though the Bath Season had not finished. He then repeatedly used the *Bath Chronicle*, ostensibly to advertise the second edition of his book but, repeating the wonders of the Tractors and naming a Dr O'Connell as his agent, selling and using the genuine Tractors at Langworthy's address whilst he was in Dublin.³⁹ His adverts do not mention any adverse comment nor does his second edition, which appears to have been printed at the end of 1798 and presents new cases, including that of a horse cured of its swollen leg.

Dublin could have been fertile virgin ground for selling and using the Tractors but the Revd John Porter was already there using the Tractors. The Dublin Saunders's News-Letter saw an advertising war between Langworthy and Porter with a storm of adverts from each between February to July. Porter emphasised that he had been practicing in Dublin for over a year and had been personally trained to use the Tractors by Perkins when in the States. He sold Tractors and stressed he had total success with rheumatism. Langworthy adverted that he was a personal friend of Perkins and sold the genuine article. Langworthy won. On 13 March 1799 Porter advertised that 'by virtue of an agreement entered into by Mr Langworthy and Porter' he was going to North Ireland. This he did and advertised his more powerful 'compound Tractors', with the pair of Tractors combined as one, hills Langworthy continued with Perkins's patent Tractors in Dublin.

Benjamin Perkins responded to the criticisms of Haygarth and others by overwhelming the public with evidence of success, republishing his 1798 book *The Influence of Metallic Tractors on the Human Body* as a second edition in 1799,⁴² alongside

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³⁸ Unfortunately, the programmes of the Society do not survive to give the exact date, but (see below) he later talks of January being the point when attitudes to the Tractors changed in Bath. ³⁹ Anon. Perkinean Electricity. *Bath Chronicle & Weekly Gazette*. 17 Jan 1799. p.3. Also 24 & 31 Jan; 7, 14, 21 & 28 Feb & 7 Mar 1799.

⁴⁰ See: *Saunders's News-Letter*. 18 & 19 Feb 1799. p.1 for John Porter advertising his practice. Then 4, 9 & 11 Mar with last two saying he is planning to leave Dublin. Langworthy is in *Saunders's News-Letter* on 7 & 12 Mar, p.3. In 13, 15 & 18 Mar, p.2 they publish the agreement that Porter will move North. Then Langworthy advertises on p.2 of 18 & 20 Mar, then p.3 of 8, 11, 13, 20, 22, 24 & 27 Apr; 4, 11 & 25 May; 1, 10, 15, 17 & 29 Jun; 13 & 20 Jul.

⁴¹ Anon. Metallic Compound Tractors. *Saunders's News-Letter*. 29 Mar 1799. p.3. And then also on p.3 on 20 & 27 Apr; 4, 11 & 25 May; 1, 10, 15, 17 & 29 Jun; 13 & 20 Jul.

⁴² Perkins BD. The Influence of Metallic Tractors on the Human Body: In Removing Various Painful Inflammatory Diseases, Such as Rheumatism, Pleurisy, Some Gouty Affections, &c. &c. Lately Discovered by Dr. Perkins, of North America; ... [Etc.] The Second Edition. London: Printed for J. Johnson, and Ogilvy and Son; 1799

a new 360-page book reporting the Tractors' wonderful results in cases in Copenhagen and London. 43 In this book he prints many of the cases from Langworthy's book plus a plethora reported by other doctors, including cases of horses being cured. He decries the criticisms in the *Monthly Review* and argues that the effects cannot be due to imagination as alleged if it cured horses. The *Monthly Review*'s later review of the Copenhagen publication was to point out that it described cases cured when the patient erroneously thought they were being treated by the Tractors. 44

Langworthy seems to have returned to Bath for the start of the 1799 Season as there is a new campaign on the wonders of the Tractors in the *Bath Chronicle*. On 31 October there is a promotional piece on the Copenhagen book saying it goes 'very far towards removing the doubts we formerly entertained'. Then, the next week, both Perkins's and Langworthy's publications are advertised together, with a footnote that Langworthy has returned to Bath from Ireland and was again using the Tractors in his practice. 46

Haygarth's publication

Haygarth appears to have responded to Langworthy's return and readvertising by publishing a pamphlet based on his talk, entitled *Of the Imagination, as a Cause and as a Cure of Disorders of the Body; Exemplified by Fictitious Tractors, and Epidemical Convulsions,* and distributing it widely.⁴⁷ His paper is the first published description of a single blinded clinical trial in England that uses fake against real implements to test for a placebo effect. Haygarth famously explains his reason and method as follows:

The Tractors have obtained such high reputation at Bath, even among persons of rank and understanding, as to require the particular attention of physicians. Let the merit be impartially investigated, in order to support their fame, if it be well founded, or to correct the publick opinion, if merely formed upon delusion. Such a trial may be accomplished in the most satisfactory manner, and ought to be performed without any prejudice. Prepare a pair of false, exactly to resemble the true, Tractors. Let the secret be kept inviolable, not only from the patient but from every other person. Let the efficacy of both be impartially tried, beginning always with the false Tractors. The cases should be accurately stated, and the reports of the effects produced by the true and false Tractors be fully given, in the words of the patients.⁴⁸

... London, J Johnson; 1799.

physician to his Danish Majesty; thence into the English language by Mr. Charles Kampfmuller

⁴³ Perkins BD (ed). Experiments with the metallic tractors: in rheumatic and gouty affections, inflammations, and various topical diseases; as published by surgeons Herholdt and Rafn, of the Royal Academy of Sciences, Copenhagen / translated into German by Professor Tode,

⁴⁴ Bed ... s. Article XV. Von dem Perkinismus, &c. Appendix. *Monthly Review*. Vol. 29, May to Aug 1799. p.559-562.

⁴⁵ Anon. The Efficacy of the Metallic Tractors. *Bath Chronicle & Weekly Gazette*. 31 Oct 1799. p.4. ⁴⁶ Anon. Metallic tractors. *Bath Chronicle & Weekly Gazette*. 7 Nov 1799. p.1.

⁴⁷ Haygarth J. Of the Imagination, as a Cause and as a Cure of Disorders of the Body; Exemplified By Fictitious Tractors, and Epidemical Convulsions. Bath: Cruttwell; 1800.

⁴⁸ Haygarth. *Of the Imagination*, 1800 (Note 47). p.2; extract used by many articles citing his work.

Haygarth's publication spent 24 pages on the Tractors. He described the series of five patients of Falconer's that he treated effectively with wooden replicas in Bath on 7 and 8 January 1799 and one assumes these were the original subjects of his lecture.

This trial was witnessed by Dr FALCONER, Mr. NICHOLLS, surgeon of the Hospital, Mr. FARNELL, apothecary of the Hospital, and myself, on both days; and on the second day by Mr. PHILLOTT, also surgeon of the Hospital. It need not be remarked, how completely the trial illustrates the nature of this popular illusion, which has so wonderfully prevailed, and spread so rapidly; it resembles, in a striking manner, that of Animal Magnetism, which merited the attention of FRANKLIN, when ambassador from America, and of other philosophers at Paris.⁴⁹

Haygarth was clear that the trial showed the power of imagination in curing patients, but the impressive number of medical witnesses must have improved the efficacy of any treatment. He further added ten cases seen up to May 1799 from a practitioner identified only as 'Mr Smith'.⁵⁰

Mr Richard Smith

In his pamphlet Haygarth relates sending some false Tractors with an explanation to Dr Moncrieffe in Bristol, where the idea of a trial was taken up by Mr Smith who reported back on using false Tractors in five cases and then followed up with a further five. The report is signed 'Richard Smith' and is clearly written by Richard Smith (1772-1843) who relates in his report to Haygarth that he knew Langworthy as a fellow student at Guy's Hospital and that they had 'occasionally met in Bristol, during his residence as an agent of Mr. PERKINS, at the Wells' [Hotwells], and also that 'I confess freely to you, that the very respectable American, and even British, testimonies by which it was recommended to the publick, at first staggered me exceedingly'.⁵¹

Richard Smith, junior surgeon of the Bristol Infirmary, was the son of Richard Smith (1748-91), a past surgeon of the Infirmary. The son became a major force in Bristol, becoming a proprietor of the Bristol Mirror newspaper and a leading freemason and supporter of the theatre. He was a collector, famously having his collection of papers relating to the death of a patient of his and the related trial bound with the skin of the executed murderer.⁵² Local medical historians are grateful for his twelve massive scrapbooks in the local archives that are filled with medical and theatrical ephemera along with his colourful personal accounts of local doctors and events at the Infirmary.⁵³

⁵⁰ The remaining eleven pages of the publication describe an episode of epidemical convulsions as a form of mass hysteria.

Dr Richard Smith Junior and the Horwood Book. Bristol Museums Collections. https://collections.bristolmuseums.org.uk/stories/dr-richard-smith-junior-and-the-horwood-book/ (accessed 19 Aug 2025).

⁴⁹ Haygarth. Of the Imagination, 1800 (Note 47). p.4.

⁵¹ Haygarth. *Of the Imagination*, 1800 (Note 47). p.6 & 14.

⁵³ The best biography is: Whitfield M. *Richard Smith: Bristol Surgeon and Medical Collector 1772-1843*. Bristol: Avon Local History and Archaeology. Book No. 26; 2018.

His style of writing is dramatic and enlivens Haygarth's pamphlet. Though only seven claimed cure, all the cases described had a dramatic reaction to the fake Tractors:

In the course of this case, the nails, lead, and wood, were used alternately, but there did not appear to be the least difference in the result. Mr LANGWORTHY, the agent for Mr PERKINS in this country, usually made use of the patent Tractors for 20 or 30 minutes at a time; but my patients crowded in upon me so fast, that I had not leisure to bestow more than four or five minutes upon each: yet such effects were produced as were almost incredible. ...

Exposing this revival of MESMER'S impositions, I do no more than comply with the above-mentioned gentleman's own request. He openly threw down the gauntlet to the faculty, and insidiously begged them to examine "how the Patent Tractors produced such wonderful effects?" and very cunningly lead the inquirers through the mazes of Galvanism in hopes of bewildering their judgements...

It would be as ridiculous in me to call in question the veracity of the accounts published by Mr PERKINS and others, as it would be unjust to degrade these marvellous pieces of metal (stamped with the magick word *Patent*) below the level of ten-penny nails or tobacco-pipes; since there can be no good reason why they should not be all equally efficacious.⁵⁴

The aftermath of Haygarth's pamphlet

Haygarth's pamphlet was at the printers in December 1799 and he arranged for copies to be sent out widely, including to 50 doctors and friends.⁵⁵ Given he both paid for the pamphlet to be printed and copies posted, he was clearly determined to ensure medical men locally and nationally saw the Tractors as quackery, and the paper was well reviewed by the press.

Langworthy again left Bath, moving his practice to Exeter 'for a few weeks', and there advertised his 'just published' year-old treatise along with his surgery hours for patients to make use of his skills with the Tractors.⁵⁶

As a lowly surgeon he could not argue from a position of equal status with a physician such as Dr Haygarth MD. As he left Bath, he followed the advice given earlier to Benjamin Perkins and applied for an MD from St Andrews which was quickly awarded in February 1800.⁵⁷ He could now call himself Dr Langworthy MD, physician. It was £14 (equivalent to £1,000 today) well spent.⁵⁸ He maximised its impact by feeding the news to the local newspapers who printed the news identically:

 $^{^{54}}$ Haygarth. Of the Imagination, 1800 (Note 41). p.9 & 15.

⁵⁵ Booth. *John Haygarth*, 2005 (Note 5). p.106.

⁵⁶ Anon. The Second Edition Just Published ... Exeter Flying Post. 20 Mar 1800. p.3.

⁵⁷ Biographical register of University of St Andrews: Charles C Langworthy M.D. 22.2.1800. https://arts.st-andrews.ac.uk/biographical-register/ (accessed 30 May 2025).

⁵⁸ Minutes of Senatus. University of St Andrews. ID: UYUY452/8. p180. https://collections.st-andrews.ac.uk/item/minutes-of-senatus/762919 (accessed 30 May 2025).

Mr. Charles Cunningham Langworthy, the ingenious author of the Treatise on "Perkinean Electricity," was last week honoured with a degree of Doctor in Medicine. Our universities do credit to their country, by thus making merit their criterion, in the distribution of honours. 59

To buy his MD, Langworthy simply needed two physicians to jointly sign a testimonial certifying that he had studied the relevant subjects and merited the award. He found two to do so. 60 The first was Dr Galfrid O'Connell (dates unknown) who had gone from Ireland to qualify with an MD in Edinburgh in 1766. He arrived in Bath in 1798 and appears in Langworthy's book as Dr O'Conel [sic] of Bath, who Langworthy early on persuaded to introduce him to a case of acute rheumatism and watch the Tractors cure them.⁶¹ O'Connell took over the Tractor practice in Bath when Langworthy went to Dublin but this author has found no other documentary evidence for him.⁶²

The second, James Owen Merry (1746-1831), was a freeman of the City of London through his father, a clockmaker. He was practising in Edinburgh as a physician in 1778 and is in the Bath directories as a physician from 1800 to 1826,63 before returning to London. He published an anonymous tract portraying vaccination as quackery and so was not a friend of Haygarth's.⁶⁴ He was Master of Ceremonies at a Bath Ball in 1812,⁶⁵ suggesting he was well regarded by local society. As he already had an MD from St Andrews he could have told Langworthy the procedure.

Langworthy also submitted the support of two clerics who certified that 'we hereby declare we have been acquainted with Mr Charles C. Langworthy since his first residence in the city of Bath, and that his conduct has been in every respect proper and becoming a gentleman'. They were both respected members of Bath Society. First, the elderly Revd Edward Synge Townsend (1741-1819), who held multiple appointments around Cork and would have known Langworthy's late father-in-law. Townsend who was commonly called 'the Apostle' due to his appearance, overwintered in Bath due to

⁵⁹ Anon. Bath Journal. 3 Mar 1800. p.3; also: Bath Chronicle & Weekly Gazette. 6 Mar 1800. p.3b.

⁶⁰ The original submission is in the archives of the University of St Andrews. The testimonials (UYUY350-737) are dated 13 Feb and the award granted 22 Feb 1800.

⁶¹ Langworthy. A View of the Perkinean Electricity, 1798 (Note 1). p49.

and Rolls' List of Medical Personnel https://www.medicalheritage.co.uk/Bath/Bath%20Medics.html (accessed 19 Aug 2025) does not mention him. He is probably related to the J B Galfridus Connell from Cork who gained an MD from Rheims in 1726. He probably suggested that Langworthy went to Ireland. Galfrid as a name was more popular in Catholic families and if he was a Catholic Irish doctor this would help explain his lack of record. Edinburgh University was not closed to Catholics.

⁶³ See: Williamson's Directory for the City of Edinburgh. Died 1831 in Fitzroy Square: Bath Chronicle and Weekly Gazette. 4 Aug 1831. p3.

⁶⁴ Fawcett and Rolls' List (Note 62) claims he is the anonymous author of A conscious view of circumstances and proceedings respecting vaccine inoculation which lambasts the claims of Jenner. Haygarth supported vaccination.

⁶⁵ Anon. Bath City Assembly, Guildhall – the Second Ball. Bath Chronicle and Weekly Gazette. 26 Nov 1812. p3.

his infirmity and almost certainly would have experienced the Tractors.⁶⁶ Second, the Revd David Fitzpatrick Pryce (1773-1823) was the young wealthy curate at Bathwick.⁶⁷

Perkins responded to Haygarth by publishing in 1800 a revised edition of his *Efficacy of Perkins's Metallic Tractors* – a new collection of cases with a long preface attacking Haygarth and other critics – and advertised it widely around the country, appealing to the lay public under the heading 'The Family Remedy'. This work cites a case of Langworthy's who was at Exeter. Perkins's publication includes a section to address Haygarth's paper; ingeniously he selectively quotes from Haygarth's paper as the front piece:

"The TRACTORs have obtained high Reputation at Bath, among Persons of Rank and Understanding." ... "The Intelligence of our Enquiries at the Bath Hospital excited great Commotions, accompanied with Threats and Abuse. A Counter-declaration was to be signed by a great Number of very respectable Persons." – Dr. HAYGARTH.

"In Fact, it was often necessary to play the Part of a Necromancer." ... " The Patient cursed the [fictitious] Tractors as the Cause of his accumulated Misery." – Surgeon SMITH.⁶⁹

Rather than a 'few weeks', Langworthy stayed in Exeter for seven months, not returning to Bath until the new Season in October 1800, when the local paper noted his arrival.⁷⁰ He immediately advertised his presence by readvertising the second edition of his booklet.⁷¹

In response Haygarth published a revised edition of his pamphlet *Of the Imagination* in 1801, expanding his 43 pages to 57, to repudiate Perkins's attacks on his experiments. He adds:

Before January 1799 the patent Tractors were said to have performed the most incredible cures in Bath. Exaggerated stories of their power were reported in every company. At that time, the experiments with the fictitious Tractors were

⁶⁸ For example: Anon. The Family Remedy. *Ipswich Journal*. 22 Mar 1800. p.3; *Sussex Advertiser*. 21 Apr 1800. p.4; *Aris's Birmingham Gazette*. 21 Apr 1800. p.1. He also produced a four-page pamphlet entitled *The Family Remedy*.

⁶⁶ For the biography of the Revd Townsend see the Townsend (Townshend) Family Records online. http://user.astro.wisc.edu/~townsend/tree/record.php?ref=601 (accessed 30 May 2025). (accessed 30 May 2025).

⁶⁹ Perkins BD. The efficacy of Perkins's patent metallic tractors, in topical diseases on the human body, and animals; exemplified by 250 cases ... To which is prefixed, a preliminary discourse, in which, the fallacious attempts of Dr. Haygarth, to detract from the merits of the tractors, are detected, and fully confuted. London: Printed by Luke Hanford, for J. Johnson and others; 1800.

⁷⁰ Anon. Bath, Oct.6. Arrived here. *Bath Journal*. 6 Oct 1800. p.3. Perkins in a pamphlet quotes Langworthy in Exeter in September 1800: Perkins BD. *Was published, April 1st, 1801 ... an entire new work, entitled, Cases of successful practice with Perkins's metallic tractors, communicated since January, 1800. London: Printed by George Cooke; 1801. p.3.*

⁷¹ Anon. Gout Rheumatism ... Bath Chronicle & Weekly Gazette. 11 Dec 1800. p.1.

performed in the Bath Hospital. Since that date, I have only heard of a single cure performed by them in this city, and by a person who cannot be supposed capable of forming an accurate opinion upon a medical question. But during the same period, the efficacy of the patent Tractors has increased to an astonishing degree in other places.⁷²

Perkins continued his defence from London, publishing accounts of successful cases, but in his adverts from this point drops Langworthy as an agent in Bath. He advertises widely, presenting his new works, attacking Haygarth and claiming the Trade was conspiring against the use of the Tractors.

B D. PERKINS last work on the METALLIC TRACTORS with Prefatory REMARKS, in which are exposed the several artifices of interested men to prevent the adoption of the Metallic Practice. Among others, the scurrilous attack of a certain M. D. who found his way into the pages of the Monthly Review for August last; also an exposition of the tricks played upon the paupers in the Bath Infirmary, published by Dr. HAYGARTH, &c. to persuade that the Tractors cured by an operation on the Imagination. In this last work of the Patentee, and the one preceding, nearly Three Thousand Cures are attested, very many of which are upon Infants and Horses. Among the vouchers to these facts are eight Professors in four different Universities, nineteen regular Physicians, seventeen Surgeons, twenty Clergymen, eleven of whom are Doctors in Divinity, &c. &c.⁷³

He then advertised in 1802 that due to a new government tax he had to raise the price of the Tractors to six guineas. He was also leaving London and committing their sale entirely to his Haymarket agent.⁷⁴ He was moving on, having founded the *Perkinean Institute* that year. He is said to have become a Quaker and in 1803 returned with £10,000 to New York where he died in 1810.⁷⁵

Langworthy continued a low-key fightback in Bath as he was probably behind four promotional articles in November and December 1801 and March 1802,⁷⁶ appealing more to the public than medical men; starting as a report of various recent 'wonderful' cures with the Tractors and concluding with identical text – that the Tractors 'so necessary in every family' can be bought in London and from Dr Langworthy in Bath, and now come with improved directions for using them and two free books which contain about 3,000 cures.

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⁷² Haygarth J. Of the imagination, as a cause and as a cure of disorders of the body: exemplified by fictitious tractors, and epidemical convulsions ...: read to the Literary and Philosophical Society of Bath. Bath: Printed by R. Cruttwell and sold by Cadell and Davies, Strand, London; 1801. p.36.

⁷³ Perkins BD. Perkins Patent Tractors. *Star (London)*. 23 Sep 1801. p.1.

⁷⁴ Perkins BD. New Tax on the Tractors. *Morning Herald (London)*. 22 Jul 1802. p.1.

⁷⁵ Steiner. Dr Elisha Perkins, 1923 (Note 4); Quen. *A Study of Dr. Elisha Perkins*, 1954 (Note 4). p.32.

⁷⁶ Bath Chronicle and Weekly Gazette. 12 & 19 Nov; 3 Dec 1801 & 18 Mar 1802.

But by now the Tractors were gaining the ridicule of cartoonists, with James Gillray (1756-1815) publishing in November 1801 (Figure 3). George Canning (1770-1827) included Perkins's Metallic Tractors within his political poem 'The Grand Consultation' listing famous quacks, published by William Corbett (1763-1835):

If the health and the strength, and the pure vital breath Of old England, at last must be doctor'd to death, Oh! Why must we die of one doctor alone?

• •

Oh! where is Doctor Graham? Where are Somnambule Mesmer's convulsions magnetic? Where is Myersbach, renown'd for his skills diuretic Where is Perkins, with tractors of magical skill? ⁷⁷

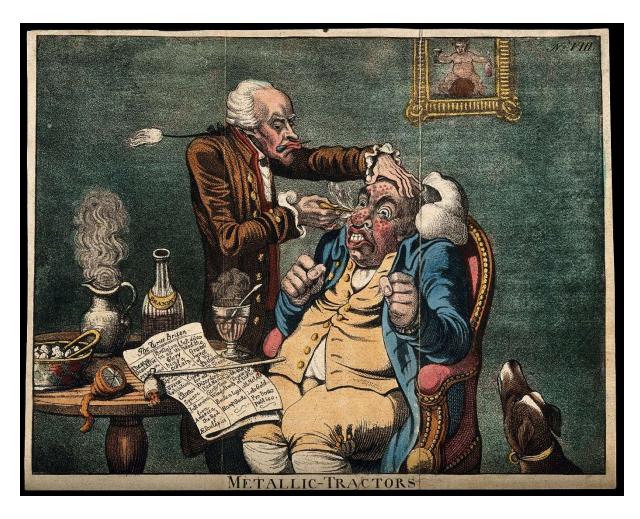


Figure 3. An operator treating the carbuncled nose of an obese patient with "Perkins's tractors". Coloured aquatint after J. Gillray, 1801. Wellcome Collection. Reference: 11819i. Attribution 4.0 International (CC BY 4.0).

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⁷⁷ Anon. The Grand Consultation. *Corbett's Annual register.* 23 April 1803. Columns 616-617. See: https://www.poemist.com/george-canning/the-grand-consulation (accessed 19 Aug 2025).

After 1802 Langworthy seems to have given up on publicity in Bath and, although he readvertised his old publication once in 1803, he did so in London as a minimal advert just listing the title and author and did not advertise where he was practicing. His public involvement with the Tractors ended with the departure of Benjamin Perkins for New York, but Langworthy seems have kept sufficient reputation in Bath to continue to practice there as a physician. He started to advertise as a physician in the local directories in 1805, but other than entries in the births and deaths, disappeared from the newspapers. He may have quietly continued to use his Tractors but he moved into the Madhouse business. He probably provided the medical input into the long established Kingsdown House asylum at Box for several years before taking on a lease in 1813 from its young heiress. Langworthy boosted his status further by acquiring a coat of arms in 1824. He died in 1847 as the senior physician of Bath, just before his only son was himself admitted to an Asylum.

Once the Tractors lost fame, alternatives were soon offered.⁸³ But like the conspiracy theories alleged by Perkins, and like other miraculous but improbable methods of cure, the Tractors lingered: a version of Metallic Tractors was advertised even as late as 1869.⁸⁴

Conclusion

Charles Cunningham Langworthy went to America soon after completing his surgical training and became involved in the use of Elisha Perkins's new Metallic Tractors, which had been enthusiastically accepted by many notable men there, although others considered them quackery. He returned to England with Elisha's son, probably planning to enter partnership.

While Benjamin Perkins stayed in London, Langworthy first publicised the Tractors in the spa resorts at Bristol and Bath, with testimonies that 'staggered' local doctors for their effectiveness. Both Langworthy and Benjamin developed successful practices using them to treat patients. They claimed that the Tractors worked best for painful inflammations though several applications over weeks might be needed. The Tractors were sold at five guineas, targeting their market at other doctors and educated laymen,

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⁷⁸ Anon. This day was published, price 2s. 6d. A View of Perkinean Electricity ... *Star (London)*. 11 May 1803. p.1.

⁷⁹ Fawcett and Rolls' List (Note 62).

⁸⁰ Noted in deeds of Kingsdown House *Wiltshire & Swindon Archives Hub*: 3521/4/63, lease dated 1828.

⁸¹ Berry W. *Encyclopaedia Heraldica, Or Complete Dictionary of Heraldry, Volume 2.* London: Sherwood, Gilbert & Piper; 1828. Listed under Langworts.

⁸² See the Box history website http://www.boxpeopleandplaces.co.uk/kingsdown-house.html for a resume of this period by Peter Carpenter, who is currently writing a more detailed description of Langworthy's involvement with Kingsdown House Asylum.

⁸³ See for example: Yatman M. *Animal Electricity; Observations on the Origin and Identity of the Electric and Galvanic Fluids; With a Practical Review of the Use of the Metallic Conductors.* Second Edition, With Additions. London: Printed for the author by G. Hayden; c1805.

⁸⁴ Anon. The Relief of Pain by the Use of Metallic Tractors. *Echo (London)*. 1 May 1869. p.7.

but we do not know how intensively they were used by other medics, though many are claimed to have reported cures.

Haygarth was inspired to try the effect of replica non-metallic Tractors. He presented this in a talk as proof of the effect of the imagination on cure, and so described the placebo effect as well as the first designed single blinded trial in England.⁸⁵ He knew that Benjamin Franklin (1706-90) and other investigators examining Mesmerism in 1784 had tested for a placebo effect by using sceptical patients, blindfolded patients, and fake treatment in the sight of the person versus real treatment hidden from the person,⁸⁶ as he refers to their work when describing his trial.

Langworthy did not argue with Dr Haygarth but went elsewhere to practice for about nine months. His return to Bath to again use his Tractors after the publicity died down made Haygarth publish his expanded work and send it to all the local doctors and to others nationally to destroy the reputation of the Tractors.

Perkins and Langworthy fought back by emphasising the large number of validated cures that the Tractors achieved. Langworthy also moved to addressing the lay-public directly, advertising the Tractors as vital components of the family medical chest. However, their price must have severely limited the market. He returned to the rich pickings of Bath but did not challenge Haygarth directly, though he boosted his own status by buying an MD. He stopped advertising his use of the Tractors and remained a successful medical practitioner in Bath, moving into the Mad-Trade. From London, Perkins published ripostes directed at Haygarth but this did not change matters in Bath. Perkins also moved his advertising to directly address the lay public but eventually returned to the States in 1803 when Langworthy stopped working as his agent and advertising the use of the Tractors.

It is easy to dismiss Langworthy as a charlatan who knew his Tractors were snake oil but he must have seen many patients cured by his own hands using the Tractors. He probably had a conviction in their efficacy that increased their personal effectiveness for him. Haygarth was not saying they did not work, but saying it was due to the imagination and similar items were as effective if the patient thought them Tractors. We do not know if Langworthy tried fake Tractors to test Haygarth's claims. To have publicly talked of them as quackery would have made him a public mockery and ruined his medical practice. His experience was that they cured people and he publicly continued to insist that they cured people whilst not addressing if other objects did the same.

If he had advertised his skills with them after 1801 he would have lost any reputation that he had within the Medical Trade and, after a time, he stopped doing so. But he was probably never convinced that they were worthless as to do so would have ignored his experience of many genuine cures and destroyed any self-confidence in his medical practice.

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⁸⁵ For reviews see: Mirza RD, Punja S, Vohra S, Guyatt G. The history and development of N-of-1 trials. *Journal of the Royal Society of Medicine*. 2017; 110(8): 330–340; Czerniak E, Davidson M. Placebo, a historical perspective. *European Neuropsychopharmacology*. 2012; 22(11): 770–774.

⁸⁶ Commissaires chargés par le roi de l'examen du magnétisme animal. Report of Dr. Benjamin Franklin, and other commissioners, charged by the King of France, with the examination of the animal magnetism, as now practised at Paris / translated from the French with an historical introduction. London: J Johnson; 1785.

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