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BRUNONIANISM UNDER THE BED: AN ALTERNATIVE TO UNIVERSITY MEDICINE IN EDINBURGH IN THE 1780s

by

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'. . . They agreed with me that it looked serious; but they both strongly dissented from the view I took of the treatment. We differed entirely in the conclusions which we drew from the patient's pulse. The two doctors, arguing from the rapidity of the beat, declared that a lowering treatment was the only treatment to be adopted. On my side, I admitted the rapidity of the pulse, but I also pointed to the alarming feebleness as indicating an exhausted condition of the system, and as showing a plain necessity for the administration of stimulants. The two doctors were for keeping him on gruel, lemonade, barley-water, and so on. I was for giving him champagne, or brandy, ammonia and quinine. A serious difference of opinion, as you see! a difference between two physicians of established local repute, and a stranger who was only an assistant in the house. For the first few days, I had no choice but to give way to my elders and betters; the patient steadily sinking all the time. I made a second attempt to appeal to the plain, undeniably plain, evidence of the pulse. Its rapidity was unchecked, and its feebleness had increased. The two doctors took offence at my obstinacy. They said, "Mr Jennings, either we manage this case, or you manage it. Which is it to be?" I said, "Gentlemen, give me five minutes to consider, and that plain question shall have a plain reply." When the time expired, I was ready with my answer. I said, "You positively refuse to try the stimulant treatment?" They refused in so many words. "I mean to try it at once, gentlemen."—"Try it, Mr Jennings; and we withdraw from the case." I sent down to the cellar for a bottle of champagne; and I administered half a tumbler-full of it to the patient with my own hand. The two physicians took up their hats in silence, and left the house.'

The disease referred to in this passage was a fever. The conflict about how to cure it is instantly recognizable to historians of medicine familiar with the life and works of John Brown.[1] The essentials of the conflict between Brunonians and orthodox eighteenth-century practitioners are represented here. Where one saw an exhausted system which required stimulation, to the other it was a phlogistic diathesis which required sedative remedies. The details about the social milieu also seem correct. Mr Jennings, the crypto-Brunonian, was a stranger and had the lowly status of an assistant. His adversaries were physicians of reputation; they outnumbered him. The consultation eventually broke down acrimoniously.

In fact the extract is taken from *The moonstone* by Wilkie Collins, first published in 1868.[2] In his preface, the novelist prided himself on the accuracy of the medical details which play such a crucial role in the narrative; and there is no reason to doubt that they

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[1] See *The works of Dr John Brown, to which is prefixed a biographical account of the author by William Cullen Brown, M.D.*, 3 vols., London, J. Johnson, 1804. See also G. B. Risse, 'The Brownian system of medicine: its theoretical and practical implications', *Clio Medica*, 1970, **5**: 45–51; and *idem*, 'The history of John Brown's medical system in Germany during the years 1790–1806', Ph.D. diss., University of Chicago, 1971, pp. 68–135.

[2] See Wilkie Collins, *The moonstone* (1868), edited by J. I. M. Stewart, Harmondsworth, Penguin Books, 1966, p. 421.

reflect the climate of medical opinion as it stood in England during the mid-nineteenth century. This raises the question of whether the views of medical men, who thought and practised in a manner similar to the fictional Mr Jennings, can be ascribed to the influence of John Brown and the Brunonian system of medicine?

In 1809, when Bartholomew Parr published his article on fever, inflammation, and phlebotomy for the *London medical dictionary*, it seemed to him that medical practice was undergoing a significant and profound change.[3] Parr doubted the efficacy of bleeding in cases of certain fevers and other diseases where it had always been indicated. He made it quite clear that there had been a shift of sensibility about bleeding in order to alleviate phlogistic diatheses. Inflammation was interpreted more and more as an indication of debility rather than excitement. Its cure therefore required forms of stimulation, rather than such sedative remedies as blood-letting. Received wisdom throughout most of the eighteenth century was that theories might come and go, but practice remained the same. In particular, the dominant antiphlogistic regimen of bleeding, purging, blistering, sweating, and vomiting was the standard way of treating diseases considered phlogistic or inflammatory. There had always been exceptions where bleeding was prohibited—even in phlogistic, or sthenic diseases, as they also came to be known. So where had this apparent change of practice come from?

Parr could not give a satisfactory answer. He tentatively suggested that the interpretation of inflammation as debility, rather than excitement, originated among the private teachers at Edinburgh, rather than the University professors.[4] The significant point, however, is that he did not give any credit to Brown for inaugurating the new form of restorative practice. In fact, he gave the opposite impression by categorizing Brown as an old-fashioned bleeder:

> Brown was led to violent indiscriminate bleeding in his revival of the Methodic system, and he could not discover his error, as he had little experience. His pupils have unfortunately not always been enlightened by their errors.[5]

Other commentators disagreed. Charles Maclean, a lecturer for the East India Company on diseases in hot climates, shared the view that medical practice had been transformed. Looking back from the early 1820s, he spoke of "the immensity of the change which ha[d] taken place in the practice of physic".[6] Maclean claimed much of

[3] Bartholomew Parr, *The London medical dictionary*, 3 vols., London, J. Johnson and others, 1809, vol. 1, 642–55; vol. 2, pp. 13–25; 385–91.

[4] Ibid., p. 13. The names Parr mentioned were a Dr Lubbock and John Allen, a lecturer in physiology from the extramural school. His authority for this statement was based on A. Philips Wilson, *A treatise on febrile diseases, including intermitting, remitting, and continued fevers, eruptive fevers; inflammations; hemmorrhagies; and profluvia; in which an attempt is made to present, whatever, in the present state of medicine it is requisite for the physician to know respecting the symptoms, causes and cures of those diseases*, 4 vols., Winchester, J. A. Robbins, 1799–1804, vol. 3, p. 25. Wilson was himself an Edinburgh extramural medical lecturer. See vol. 1, pp. 490–533, for Wilson's discussion of Brown's system which, while critical, also stated that when all the other systematists were forgotten, "there will remain enough of the Brunonian doctrines to preserve the memory of the author" (p. 490).

[5] Ibid., vol. 2, p. 387. Parr went even further in the article on the 'Brunonian system', vol. 1, pp. 284–7, where he stated that Brown had not even visited a sick bed.

[6] Charles Maclean, *Evils of quarantine laws and non-existence of pestilential contagion; deduced from the phenomena of the plague of the Levant, the yellow fever of Spain and the cholera morbus of Asia*, London, T. and G. Underwood and others, 1824, p. vii.

the credit for this himself, but he also acknowledged another source of innovation. His own research and experiments on epidemic diseases in Calcutta and the Levant

> were originally suggested by the new and luminous views of the philosophic author of the "Elementa Medicinae Brunonis"; whom less prejudiced posterity, I venture to predict, will not hesitate to acknowledge as the Hippocrates of the 18th century.[7]

This difference of opinion about Brown's influence can in part be related to the ways in which Parr and Maclean were trained. Parr completed his medical education in Edinburgh in 1773, some five years before Brown began to lecture extramurally.[8] Maclean was a student there just over a decade later in 1784, when Brown's impact was at its height.[9] His loyalty was probably typical of many of those who, during the course of acquiring a more formal education at the University, also attended Brown's lectures and heard the debates at the Medical Society.[10] However, others present in Edinburgh around the same time held views diametrically opposite to Maclean. They saw Brown as a plagiarist, a pale imitation of William Cullen, without his experience of practice.[11] Somewhere in between the Brunonians and anti-Brunonians was yet another group. Its adherents discussed, developed and disseminated ideas similar to those adopted by

[7] *Idem, Results of an investigation respecting epidemic and pestilential diseases, including researches into the Levant concerning the plague*, 2 vols., London, Thomas and George Underwood, 1817, p. 53. In his subsequent book, *Practical illustrations of the progress of medical improvement, for the last thirty years: or histories of cases of acute diseases, as fevers, dysentery, hepatitis, and plague, treated according to the principles of the doctrine of excitation*, London, printed for the author, 1818, pp. xxxvii–xxxix, Maclean stated that his only criticism of Brown was that he had retained a small category of diseases which were due to sthenia or the phlogistic diathesis. Nevertheless, Maclean continued to insist that Brown had done more to approximate medicine to science than perhaps any of his predecessors, and that "his fundamental position will for ever remain the foundation of medical science, or rather the science of life" (p. xxxix). See also William Yates and Charles Maclean, *A view of the science of life on the principles established in the 'Elements of medicine' of the late celebrated John Brown M.D.* [etc.], Calcutta, 1797.

[8] See University of Edinburgh, MS Da., Album Academiae ab Anno 1762, ad annum 1786. Parr attended the University for the 1769–70, 1770–71, and 1771–72 sessions, fulfilling the course requirements for the degree, which he obtained in 1773. He is not to be confused with Dr Samuel Parr, the noted Whig minister who was a family friend, and to whom William Cullen Brown dedicated his edition of his father's works.

[9] Maclean attended the University during the 1784–85, and 1785–86 sessions, and took courses in Anatomy, chemistry, the practice of medicine and "Nos. Reg", or nosology. Unfortunately, class lists for Brown's lectures have not survived.

[10] See James Grey, *History of the Royal Medical Society 1737–1937*, Edinburgh University Press, 1952, pp. 50–61. For an earlier account, see William Stroude, 'History of the Royal Medical Society', in *List of members, laws and library catalogue, of the Medical Society of Edinburgh, instituted 1737; incorporated by Royal Charter Dec. 14, 1778*, Edinburgh, William Aitken, 1820.

[11] For example, see John Thomson, *An account of the life, lectures, and writings of William Cullen, M.D., Professor of the Practice of Physic at the University of Edinburgh*, 2 vols., Edinburgh, William Blackwood and Sons, 1859, vol. 2, pp. 222–487. In his *Lectures on inflammation exhibiting a view of the general doctrines pathological and practical of medical surgery*, Edinburgh, James Ballantyne for William Blackwood and others, 1813, Thomson opposed accounts of inflammation in terms of debility. However, like Parr, he associated these with Lubbock and John Allen, not Brown. Lubbock was prominent in the Royal Medical Society when Brown's ideas were deeply controversial and the main topic of debate. See R. Lubbock, 'Are contagions producing idiopathic disease directly or indirectly, debilitating?', Royal Medical Society, MS Dissertations of the Medical Society, vol. 14, 1782–1783, pp. 55–69. John Allen was also active in the Society. See 'Case AB [of Mania]', in Glasgow University Library, MS Gen. 1476, Allen Thomson Papers, Box 24, pp. 1–26. With Thomson, he subsequently defended Hume's philosophy against James Gregory, the Professor of the Practice of Medicine. See 'A necessitarian', *Illustrations of Mr. Hume's essay concerning liberty and necessity in answer to Dr Gregory in Edinburgh*, London, J. Johnson, 1795. There is also a manuscript copy of Allen's lectures in Edinburgh University Library, MS Gen. 2007/6.

Brunonians, but were less generous than Maclean in giving Brown any credit. For example, Erasmus Darwin wrote:

> The coincidence of some parts of this work with correspondent deductions in the *BRUNONIAN ELEMENTA MEDICINAE*—a work (with some exceptions) of great genius—must be considered as a confirmation of the theory, as they were probably arrived at by different trains of reasoning.[12]

From a broader national perspective, even those who identified themselves as Brunonians or anti-Brunonians were probably just a tiny minority of the medical practitioners who responded to changes in theory and practice that were taking place. As the nineteenth century progressed, most medical men were never actually in a position either to acknowledge or repudiate Brown's role. They simply absorbed an approach which was by then widely diffused throughout the culture. A similar point was explicitly made by an article on Brunonianism in *The Edinburgh medical and physical dictionary* of 1807.[13] It began by noting that Brunonian language and sentiments had become such an established feature of medical culture in Scotland and elsewhere in the world that it was necessary to have a working knowledge of its principal tenets. Yet the "remarkable thing is that a majority of the persons who are become converts to the doctrine, are totally unable to recollect, when or how they were converted."[14] Thus, even if the fictitious Mr Jennings had been a real medical practitioner in Britain during the mid-nineteenth century, he may not have had the slightest idea about the history of the practices he adopted.

In view of this confusing situation, the currently accepted view that Brown's ideas had little impact in Britain, while it cannot be conclusively refuted, cannot be substantiated either.[15] Should one wish to proceed in the face of the divided testimony of medical men at the time, some basis must be found to decide who was "right" and who was "wrong" about the extent of Brunonian influence. Yet how is this to be

[12] Erasmus Darwin, *Zoonomia; or the laws of organic life*, 2 vols., London, J. Johnson, 1794–1796, vol. 1, p. 75. Darwin's claim to be a co-discoverer were widely commented on at the time, and considered to be less than ingenuous. For example, see Thomas Beddoes, *Observations on the nature and cure of calculus, sea scurvey, consumption, catarrh, and fever, together with conjectures upon several other subjects physiological and pathological*, London, J. Murray, 1793, footnote, pp. 160–1; *The English review; or an abstract of English and foreign literature*, 1795, **34:** 349–53. See also A. Philips Wilson, *An essay on the nature of fever, being an attempt to ascertain the principles of its treatment*, Worcester, J. Tymbs, 1807, pp. 46–88, 164. After discussing the laws of excitability of the animal system in the Medical Society, and lecturing on febrile diseases, Wilson subsequently became Physician to Worcester Infirmary. He accordingly regretted his earlier high estimation of Brunonianism: "I had conceived a strong prejudice in favour of it before I was capable of estimating its merits, and it was long before I could persuade myself that it had in fact made no real addition to our knowledge" (p. 164).

[13] *The Edinburgh medical and physical dictionary*, 2 vols., Edinburgh, Bell and Bradfute and others, 1807, vol. 1, s.v. 'Brunonianism or Brunonian system'.

[14] Ibid. Beddoes, op. cit., note 12 above, p. 160, also spoke of the widespread diffusion and secret influence of Brown's ideas upon practice. Even highly critical reviews acknowledged his genius and contribution to medicine. For example, see the *Analytical review, or history of literature, domestic and foreign*, 1789, **4:** 166–71, which stated that "the Doctrine" had made "a deep impression on those qualified to judge of its value; it had introduced into practice some important innovations, and these innovations are acknowledged and followed by many who refuse their assent to the principles of Dr Brown, or who have bestowed no pains in examining his opinions" (p. 166).

[15] See Grey, op. cit., note 10 above, p. 57; G. B. Risse, 'The quest for certainty in medicine: John Brown's system of medicine in France', *Bull. Hist. Med.*, 1971, **45:** 1–12, p. 2.

done? Any appeal to information in the accounts of Brown's life and opinions by Thomas Beddoes, William Cullen Brown, and John Thomson falls back into the same conflict of interpretation.[16] An alternative approach might be to claim Brown had no "real" influence because he never made an original contribution to medicine. However, it is doubtful whether an objective, rational case for Brown's plagiarism, based upon a comparison of Brown's and William Cullen's works, could actually be made.[17] Even if it were possible, this would only beg the question of whether Cullen was himself an innovative thinker. All this would succeed in doing is to recapitulate features of the historical debate itself. Where the Cullenians were dismissive, Brown's apologists could just as easily point to differences with Cullen's approach and defend Brown's originality.

Another strategy widely used to denounce Brown at the time was to attack his experience as a practical physican. Many besides Parr intimated that Brown had very little practice compared, for example, with Cullen; and that such practice as came his way, had been conducted badly.[18] In reply, Brunonians pointed out that Brown was prevented from practising in Edinburgh. They also defended his record and pointed to successful cures by his followers. Given the incommensurability between the contents of eighteenth-century and modern medical discourse, it is actually very difficult to evaluate whether Brown's practice was misguided and pernicious in comparison with that of Cullen or other figures. Yet unless one can show this, the argument carries no weight today. Certainly, there are many case histories of patients treated by Cullen and other Edinburgh professorial practitioners, whereas Brown's practice is inaccessible. However, even if one accepts the disease classifications, details of therapies, and cure claims contained in hospital and other records at face value, the care outcome cannot be assessed without major reinterpretations in line with current medical knowledge and experience. If the case for Brown's influence is dismissed because of errors in his views about the causes and treatment of disease, the accounts of many other medical men who currently enjoy a more respectable place in the history of medicine might also have to be treated in the same way. Thus an appeal to the standards of modern medicine would rapidly get out of hand, and the whole period would take on the appearance of a graveyard of rejected medical knowledge.

Instead of being drawn into ultimately indefensible statements about the originality, correctness, and wider British influence of Brunonianism, another

[16] See Thomas Beddoes, 'Observations on the character and writings of John Brown M.D.', in *The elements of medicine of John Brown M.D.*, new ed., 2 vols., London, J. Johnson, 1795, vol. 1, pp. xxxv–cii; William Cullen Brown, 'Life of Dr John Brown', in op. cit., note 1 above, vol. 1, pp. xix–ccxxxi; John Thomson, op. cit., note 11 above, vol. 2, appendix, pp. 710–18. See also National Library of Scotland MS 5173, Elizabeth Cullen Brown, 'Reminiscences concerning John Brown' (1838), fols. 1–13. Although Beddoes was attacked by Brown's children for his biography, he was ambivalent towards Brown and Brunonianism, rather than overtly hostile. For example, as well as expressing reservations about Brown the man, his edition had Darwin's comment about Brown printed on the title page.

[17] However, a comparison of Cullen's and Brown's views which took account of changes in different editions of their various works would be useful. For example, at present it is not possible to see precisely how their doctrines changed during the course of successive editions; nor is there any means of assessing the reliability of the edited version of the *First lines of the practice of physic* and *Elementa medicinae*.

[18] For example, see *Lexicon medicum or medical dictionary*, 5th ed., London, Longman and others, 1825, pp. 211–12.

approach will be followed here. Brunonianism is viewed as a medical movement with a very distinctive ideological character. The account of health and disease it advanced was originally inseparable from the social and political values attached to it as a form of alternative medicine which emerged in Edinburgh during the late 1770s and early 1780s. Examining Brunonianism in relation to its local social context reveals how it developed in opposition to the medical establishment which decried it. It also enables an assessment of the effect it had on the Edinburgh medical community to be presented in a manner which avoids many of the difficulties outlined above.

Brown's original followers were drawn from the men who attended his lectures in Edinburgh between 1778 and 1786. Many of them were members of the Royal Medical Society, and those that were not, could be taken in as guests to swell the ranks of the pro-Brown lobby. Unfortunately, there is no recent history of the Society upon which to base a prosopography of those who wrote dissertations and discussed case histories along Brunonian lines.[19] Nor are there any reliable figures of the numbers involved. One source suggests that over 200 annually adopted Brunonianism.[20] Even if this estimate represents a fifty per cent exaggeration, it still makes those about whom some details are known painfully few. Of course, not all of the early Brunonians had medical careers.[21] Among those that did, only a minority took MDs. Some, however, did become distinguished physicians in their own right. Yet a Brunonian dissertation for the Royal Medical Society will hardly serve as evidence for a life-long commitment to the movement. A former allegiance to Brown, rather like one to Hobbes or Hume before him, may have been something that had to be denied even in private. If so, admissions in print should be thought of as exceptions, rather than the criterion for assessing the degree of Brunonian influence.

For a variety of reasons, then, there is a paucity of reliable information from which to reconstruct the beliefs, values, and attitudes which made up the Brunonian ideology. Only one early follower was prepared to go on record as a Brunonian. This was Robert Jones, who published *An inquiry into the state of medicine, on the principles of inductive philosophy* at the height of Brown's influence in Edinburgh.[22]

[19] See J. R. R. Christie, 'Edinburgh medicine in the eighteenth century; the view from the students', *Bull. Soc. soc. Hist. Med.*, 1976, **33**: 311–18. For two recent general accounts of the Society, see L. Rosner, 'Students and apprentices: medical education at Edinburgh University, 1760–1810', Ph.D. diss., Johns Hopkins University 1985, pp. 258–327; C. J. Lawrence, 'Medicine as culture: Edinburgh and the Scottish Enlightenment', Ph.D. diss., University of London, 1984, pp. 200–17.

[20] Op. cit., note 13 above. The article also made the point that, among these were many army and navy physicians who disseminated Brunonianism over the whole medical world.

[21] See Robert James Mackintosh (editor), *Memoirs of the life of the Right Honourable Sir James Mackintosh*, 2 vols., London, Edward Moxon, 1835, vol. 1, pp. 23–6. Mackintosh stated that he became a Brunonian in 1784, while studying for his medical degree. Later, he became an MP and a distinguished Whig political writer. He was the author of a 'Dissertation second, exhibiting a general view of the progress of ethical philosophy, chiefly during the seventeenth and eighteenth centuries', in the *Encyclopaedia britannica*, 7th ed., Edinburgh, Adam and Charles Black, 1842, vol. 1, pp. 293–429. Elizabeth Cullen Brown, op. cit., note 16 above, recounted a conversation which took place between Dr Parr and James Mackintosh about collaborating on Brown's biography. Parr said Mackintosh would have to supply him with "the medical matter" if he undertook the project.

[22] Robert Jones, *An inquiry into the state of medicine, on the principles of inductive philosophy, with an appendix containing cases and observations*, Edinburgh, T. Longman and T. Cadell, London, C. Elliott, 1781. Subsequent references to Jones's *Inquiry* indicate this book. Jones's only other accredited work is *An inquiry into the nature, causes and termination of nervous fevers; together with observations tending to*

Next to nothing is known of Jones's life. However, his narrative provides ample compensation for this. Jones gave a direct and passionate view of the Edinburgh medical community, one which discarded many of the eighteenth-century conventions of literary politeness and actually named names.[23] Although his exposé emerged from a very definite point of view, it was much more than a polemical rag. Jones made it quite clear that his attack was upon a group of men, rather than the personalities of individual professors; and, on the whole, he maintained this stance. By way of a returned compliment, his views are treated here as representative of early Edinburgh Brunonianism.

Jones's manifesto used three interrelated themes to express the principal features of Brunonian ideology. He gave a conjectural history of the rise and progress of medicine as an art, which culminated in the advent of Brunonianism as the first manifestation of scientific medicine. He created a heroic biography of Brown, the sage who first healed himself and then applied his findings inductively to all forms of universal disease. Finally, he attacked the antiphlogistic basis of Edinburgh medical practice, and showed how Brunonian procedures conformed to the methodology of inductive philosophy.

MEDICINE AS CONJECTURAL HISTORY

Although the genre of conjectural history by no means originated in eighteenth-century Scotland, some of its most notable contributors could be found among the literati closely associated with the flowering of Edinburgh Enlightenment culture.[24] Conjectural history in its broadest sense incorporated accounts of the rise and progress of social and political institutions, such as government and law; and of beliefs and practices, such as religion and morality. However, it also dealt with the institutionalization of human knowledge. This was discussed in terms of the origins

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illustrate the method of restoring His Majesty to health and of preventing relapses of his disease, Salisbury, Robinson, 1789. On Jones, see Alfredo Ilardi, 'La medicina secondo i principi della filosofia induttiva nel pensiero di Robert Jones', *25th Congr. naz. Stor. Med.*, Forli-Bologna, 1971, (1973), pp. 403–6. William Cullen Brown, op. cit., note 1 above, vol. 1, p. cxlvii, claimed his father was the author. The same point was made by Elizabeth Cullen Brown in her 'Reminiscences', op. cit., note 16 above, fol. 9. Whether this was true or not is irrelevant to the use made of the *Inquiry* here. However, features of this work, which have no exact parallel in Brown's writings, do seem to match Jones's studies in both arts and medicine, and his attendance at the Royal Infirmary.

[23] Most of the information about Brown's early followers actually comes from Jones's *Inquiry*. For example, John Wainman is reported to have converted his father to Brunonian therapies for the intermittent fevers which were common in their practice in the Lincolnshire Fens. Of others mentioned, such as Richard Scott Byam, Richard Codrington, and John Watson Howell, little is known beyond their names in the matriculation albums. Those who were identified as eminent physicians included Edward Stevens, James Campbell, William Yates, and James M'Donnell. Stevens became an eminent gastric physiologist in America. Campbell and Yates practised in India; and the latter collaborated with Maclean to produce an analysis of fever cases at the General Hospital at Calcutta. M'Donnell was one of the founders of the Belfast Fever Hospital. Samuel Lynch and Mr Christie, finally, were two other pupils. The former compiled the 'Table of excitement and excitability' also known as "the Brunonian biometer", included in subsequent editions of Brown's works. The latter explained Brown's doctrine of excitement in terms of a complex analogy based around fuel burning in a grate. See Beddoes, op. cit., note 16 above, pp. cxix–cxxxvii.

[24] For a recent reassessment of this tradition, see R. L. Emerson, 'Conjectural history and Scottish philosophers', in D. Johnson and L. Ovellette (editors), *Historical papers 1984 Communications historiques*, Ottawa, Canadian Historical Association, 1984, pp. 63–90.

and development of the arts and sciences. Jones also adopted this framework to identify the character of medicine and to provide an account of its historical development as a discipline.

The ways in which the terms "arts" and "sciences" were used suggests they had very general, not to say ambiguous, connotations. There were liberal and mechanical arts, as well as those of luxury. Arts could also be described as polite, rude, or refined, which often added further complexities. The sciences could include metaphysics, religion, politics, criticism, and morals as well as, for example, mathematics and natural philosophy. To group such diverse subjects together may seem like a simple mistake. However, what seems like a fundamental confusion of epistemic categories, is actually quite consistent from another viewpoint. In common with other eighteenth-century users of these terms, Jones understood the arts and sciences less in relation to the boundaries between disciplines, and more as shorthand descriptions of two different activities. "Science" referred to the process of observing nature, collecting facts, and assembling histories, in order to discover the relations and laws which governed the particular phenomena in question. An "art" resulted from the application of this scientifically acquired knowledge for definite ends. Thus, for Jones, medicine was the art of preserving health and curing disease; at the same time, it could only achieve this beneficial end if it was also a science.

Because Jones interpreted medicine as an activity performed by men with particular goals in mind, the way was open for an analysis of the cultural dynamics which had affected its historical development. He catalogued the rapid progress made by almost all the arts of his day which were concerned with men's safety, subsistence, accommodation, and ornament. These had all received encouragement from the development of commerce. The rise of the inductive philosophy and its application to different branches of knowledge had also engendered greater freedom of enquiry. Scrutiny of the principles of evidence had improved the art of legislation. Even such unlikely candidates for reform as moral philosophy, criticism, and *belles-lettres* had become progressive through a reorganization upon scientific principles. Yet, within this optimistic survey of social and intellectual accomplishments, the art of medicine alone was stationary. The reasons for this were complex and Jones discussed them at some length. However they all stemmed from the fact that

> the medical profession remains in the condition of an art deprived of its science to analize and improve it; as we cannot perceive the most faint appearance of the inductive philosophy of Bacon applied for that purpose, or Sir Isaac Newton's axioms of natural philosophy, which can be shown to be universal axioms of nature.[25]

From Jones's perspective, physicians had an inadequate conception of medicine. They lacked knowledge of the foundations and rules which underwrote the practice of their particular liberal art. The history of medicine from antiquity to the late eighteenth century illustrated the unreformed state of medicine as a "rude", and "conjectural art". In Jones's hands, history became a mirror for physicians which reflected back their failings and provided lessons for the future of medicine in a new Brunonian age.

[25] Jones, *Inquiry*, op. cit., note 22 above, p. 4.

It was a standard ploy for all advocates of the inductive philosophy to abhor system, theory, and hypothesis as the enemies of scientific improvement. What Jones contributed was an assessment of the wider social and political conditions which favoured the reformation of medicine along inductive lines. During the course of his medical education at the University of Edinburgh, Jones almost certainly heard other conjectural histories of the rise and progress of medicine. He attended the theory and practice classes of James Gregory and William Cullen, who each gave historical introductory lectures to their courses.[26] He may also have heard a similar approach to anatomy, although Alexander Monro *secundus* reduced this part of his father's original course, where the history of the subject was more thoroughly treated.[27] However, other features of Jones's presentation suggest that conjectural histories of medicine by the faculty were by no means his only exemplars.

When Jones came to Edinburgh, he was clearly out to get himself much more than a medical education. In 1781, the last year his name appears in the University matriculation roll, he also attended natural philosophy, logic, moral philosophy, and law of nations classes.[28] These were taught by John Robison, John Bruce, Adam Ferguson, and Allan Maconochie. Each professor stressed the role that inductive philosophy had played in reforming his particular discipline, and Jones drew heavily upon them all.[29] If Bacon and Newton were cast into the roles of man-midwives who attended the birth of the inductive method, then Robison, and Bruce in particular, were Jones's wise men, bringing news of the nativity to far-off disciplines.[30] Throughout his discussion, Jones showed a keen appreciation of the wider social and political circumstances which affected the development of knowledge:

> The arts and sciences, we shall hereafter have occasion to observe, have been found to be considerably affected by the spirit of political laws. In free states they are cherished; in despotic ones they languish; notwithstanding which, they are, as in the course of nature, found to be progressive.[31]

[26] Jones studied anatomy with Monro *secundus* and chemistry with Black during the 1778–79 session. In the following year, he repeated Monro's course and attended Gregory's on the theory and Cullen's on the practice of medicine.

[27] See Emerson, op. cit., note 24 above, p. 79, for a discussion of the use of history by Monro *primus*.

[28] In the same year he also studied botany and materia medica, and attended clinical lectures at the Infirmary.

[29] For Robinson see John Playfair, 'Biographical account of the late John Robison LL.D., F.R.S.E., and Professor of Natural Philosophy in the University of Edinburgh', *Trans. Roy. Soc. Edinb.*, 1815, **7**: 495–540; for Bruce, see Alexander Grant, *The story of the University of Edinburgh*, 2 vols., London, Longmans and Green, 1888, vol. 2, pp. 330–1; for Ferguson, see R. B. Sher, *Church and university in the Scottish Enlightenment: the moderate literati of Edinburgh*, Princeton University Press, 1985, pp. 117–19; for Maconochie, see the *DNB*. See also Edinburgh University Library, Mic. M 1070–1071, Meadowbank Papers.

[30] After Bacon and Brown himself, Bruce was by far the most quoted author. Jones referred to Bruce's recently published *First principles of philosophy for the use of students*, Edinburgh, William Creech and T. Cadell, 1780. A slightly modified second edition appeared a year later. Eventually Bruce expanded what was originally only a brief précis of his lectures into a full text, but this was after Jones' work was published. See *idem, Elements of the science of ethics on the principles of natural philosophy*, London, A. Strahan and T. Cadell, 1786. Robinson also published *Outlines of mechanical philosophy, containing the heads of a course of lectures*, Edinburgh, William Creech, 1781. Jones and Brown both admired Robison, under whom they studied at different periods. However, Brown seems to have been a student of John Stevenson, the former Professor of Logic and Metaphysics, in 1770, and his name does not appear in the matriculation album after 1775. Bruce was not appointed joint professor with Stevenson until 1774.

[31] Jones, *Inquiry*, op. cit., note 22 above, p. vii.

Certainly, the interrelationship of human knowledge, culture and social institutions would have been emphasized by all the professors in the Arts Faculty. However, it is doubtful whether the strongly republican political sentiments which pervaded Jones's discussion were adopted from his professorial mentors.[32] When Jones connected the spirit of political laws with the development of the different branches of learning, he may well also have been drawing on Hume's influential *Essays,* especially 'Of the rise and progress of the arts and sciences', where almost all the credit for the cultural sponsorship of learning and polite attainments was ascribed to republican government.[33]

Despite the many injustices of British social institutions, Jones was confident, medicine could be improved and catch up with other subjects. If the inductive method championed by Newton and Bacon was fully adopted, men would acquire the "indispensable qualifications which should centre in the character of a physician, those of historian, philosopher and artist".[34] However, there were still formidable obstacles involving the nature of medical education which had to be overcome:

> But if graduates are to be only believers, bigots, or, to use the phrase, Tories in medicine, by a blind attachment or passive obedience, to systems; in that case we must give up all hope, that the healing art will have its science to simplify and explain it.[35]

For Jones, the institutional basis for medical systems was the corporation. Foremost among these in Edinburgh was the University.[36] Once a beacon of learning, it had now been taken over by professors who peddled old knowledge for profit. As a result, the original intention of universities to benefit the community had been corrupted. Despite good service in the past, they had degenerated into so many "interested corporations". This had led to bigotry in religion and prejudice in philosophy. The individual's power to make independent judgments had been lost and fewer men thought for themselves. But if the full implications of the inductive philosophy were realized, then, Jones wrote, "a great part of mankind would find themselves qualified not only for making improvements, but discoveries."[37] Jones repeatedly contrasted the republicanism of the individual medical improver with the despotism of the faculty. In this way, the whole notion of medical reform advocated by Brunonianism was always connected with more general issues of cultural and

[32] This cannot be entirely ruled out without further research. Young professors, like regents before them, often entertained radical political ideas, which were revised as they ascended to positions of authority and responsibility. Bruce and Maconochie would be interesting cases to pursue. They were among the original founders of the Speculative Society. Bruce became a close political associate of Henry Dundas and eventually an MP. Maconochie, under the title Lord Meadowbank, became an eminent judge at the Court of Session.

[33] David Hume, 'Of the rise and progress of the arts and sciences', in *Essays, moral and political* (1741–1742), 2 vols., 3rd ed., London, A. Miller and A. Kincaid, 1748, vol. 2, pp. 156–92.

[34] Jones, *Inquiry*, op. cit., note 22 above, p. 31.

[35] Ibid., p. vii. For a similar view, expressed by Dr John Richard Marlyn in a resignation speech at the Royal Medical Society, see Royal Medical Society, Minutes of the Medical Society, 12 February 1781.

[36] Jones, *Inquiry*, op. cit., note 22 above, pp. 173–85; 366–7.

[37] Ibid., p. 179.

social change.[38] The movement nurtured and developed themes associated with classical republican, country Whig, and radical groups: the right of the independent, free-thinking individual, ready to bear arms against tyranny, political or intellectual; the corruption of social institutions by patronage and favouritism; and finally, the prospect of an intellectual republic, in which the franchise of human judgement would be extended beyond its current sphere.[39]

HEROIC BIOGRAPHY AND MEDICAL INDUCTION

Jones's historical drama would have been anticlimactic without a hero to set the medical world to right. The story of Brown's discovery of the true physic and the reception he received from the Edinburgh medical community provided Jones with a plot within a plot. Using carefully selected scenes of conflict between Brown and the University, College, and Infirmary physicians who dominated the Edinburgh medical school, he created a medical morality play. In places, the style and the setting actually resembled Collins's characterization of Jennings.[40] However, unlike the novelist, dramatic impact was not the only effect for which he strived. Brown's personal trials and public tribulations were presented in a forceful manner which aimed to attract further converts to Brunonianism. The young medical students had all been educated to regard truth as something which operated involuntarily upon the mind, according to the degree of evidence. The necessity of belief each experienced at Brown's lectures was frequently contrasted with the absence of felt conviction when listening to Monro or Cullen. Following Brown and his "New Doctrine" offered students the uplifting experience of conversion, and the promise of medical improvement delivered to the world through their hands.[41]

Although Jones's conjectural history referred to social, economic, and political factors which had affected the progress of medicine, they were not his sole concerns. Intellectual causes which retarded the development of human understanding, such as a psychological propensity to adopt systems, and the search for ultimate facts, were important too. Individual genius was also considered to have played a significant role in the progress of the arts and sciences. Indeed, at times when society and its institutions were unfavourable to progress, all hope rested upon the talents of

[38] In particular, see Jones's account of the different forms of government and their advantages and disadvantages, op. cit., note 22 above, pp. 156–72.

[39] When such terms as "Whig", "Tory", "radical", and "republican" are used in relation to the eighteenth century, this raises the complicated question of the relationship between the varieties of political thought described in these ways and political action itself, considered in terms of government and opposition. For a general discussion, see Q. Skinner, 'Some problems in the analysis of political thought and action', *Polit. Theor.*, 1974, **2**: 277–303; and H. T. Dickinson, *Liberty and property: political ideology in eighteenth-century Britain*, London, Methuen, 1977, pp. 1–10.

[40] Jones went into great detail about the case of John Isaacson, over which Brunonians, Andrew Duncan, and Monro *secundus* clashed. See the *Inquiry*, op. cit., note 22 above, pp. 134–53. For a reply see Andrew Duncan, *A letter to Dr Robert Jones of Caermarthenshire, in answer to an account which he has published of the case of Mr John Braham Isaacson, student of medicine, and to the injurious aspersions which he has thrown out against the physicians who attended Mr Isaacson*, Edinburgh, C. Elliot, 1782.

[41] The dedication to Brown at the beginning of the *Inquiry* stated: "But the nature of truth is such, that it needs only to be known to beget conviction". See also Library of the Royal College of Physicians of Edinburgh MS, Edinburgh Medical Society, 1779–80, 'Mr Campbells Brunonianism'.

specially gifted men. Thus Brown was presented as the first to apply the model of inductive inquiry to medicine, and his view of the animal economy was held up as a new and scientific way of proceeding. Brown began with the simple phenomena of health; he then considered the powers which operated upon men in that state and next, deviations from the healthy state; and finally, he moved on to disease itself. The logical progression—from health, to predisposition, to idiopathic disease—was analogous to the pattern of investigation in other reformed sciences. They all showed the same orderly progression, from the simple to the complex. By attributing all disease to the variation in degrees of excitement, Jones claimed, Brown had also avoided a multiplicity of causes, and created a sound basis for the interpretation of medical facts. This philosophical arrangement of evidence then paved the way for laws of nature affecting the animal economy to be discovered.

Jones also legitimized the scientific claims of Brunonian medicine by correlating the steps which led to Brown's discovery of excitement with those which led Newton to universal gravitation.[42] He also added details about Brown's struggle with gout, and the failure of orthodox antiphlogistic medicine to cure it. Throughout Brown was portrayed as an independent free-thinking genius who first had to close all the medical textbooks "and seal each of them with seven seals, till he saw what he might make of his own thoughts."[43] The result of this process was the revelation that "the human machine was nothing in itself, but in constant and momentary dependence upon a number of powers, perfectly distinct from it, the operation of which was necessary to its existence."[44] Nor was the doctrine of excitement limited to the animal kingdom. It was one department of a broader science of living matter which resulted from the universal application of Newton's first rule of reasoning. Thus if the doctrine of excitement was properly applied to agriculture, then farming would also be leached of its errors and take its place alongside medicine as a reformed art.[45]

Appeals to Baconian induction and Newton's rules of reasoning like those entertained by Jones were commonplaces at the time. There was a widespread consensus about this means of legitimizing knowledge so that it acquired the proper scientific pedigree. Hume sought to reform moral philosophy and natural religion along these lines, and thinkers as diverse as Priestley and Reid attempted much the same thing, although they hoped for less controversial results.[46] Hence, the rhetoric

[42] Jones, *Inquiry*, op. cit., note 22 above, p. 92.

[43] What evidence we have about Brown himself suggests he also identified with intellectual dissent and free-thinking. Thomas Somerville, in *My own life and times, 1741–1814*, Edinburgh, Edmonston and Douglas, 1861, pp. 134–40, discussed Brown, with whom he was at school. In particular, Somerville emphasized Brown's general independence of mind and that Brown was a secret sceptic and admirer of Hume's philosophy. Robert Kerr, in *Memoirs of the life, writings and correspondence of William Smellie*, 2 vols., Edinburgh, John Anderson, 1811, vol. 2, p. 262, relates an anecdote involving Brown, and William Smellie and Gilbert Stewart, two other Edinburgh outsiders who had been passed over for university preferment. During a walk together, a conversation took place between Brown and a mason adding the finishing touches to Hume's tomb on Calton Hill. Brown inquired whether Hume, "the honest gentleman", would be able to get out of such a strong building at the Resurrection. The mason replied: "I have secured that point, sir, for I have put the key under the door."

[44] Jones, *Inquiry*, op. cit., note 22 above, p. 109.

[45] Ibid., pp. 88–90. Agriculture is an important but neglected theme in Brown's works.

[46] Jones understood Newton's original rules as general maxims about casual reasoning. The first emphasized the parsimony of causes; the second the connection between similar causes and effects; while

of induction was just as likely to be used by conservative medical professors at Edinburgh University as it was by Brunonian opponents like Jones. By itself then, this is not enough to distinguish the intellectual content of the movement. However, the consequences which followed from a Brunonian application of Newton's rules to the animal economy were more unusual in later eighteenth-century Scottish medicine. To a Brunonian, the uniformity of animate nature was no different from its inanimate counterpart. In both, there was a regular succession of causes and effects. Life was a "forced state", the product of the action of stimuli upon matter which possessed the property of excitability. Other medical authors who used a similar rhetoric of scientific method, such as Robert Whytt and James Gregory, reserved an exceptional status for the phenomena of life and refused to associate it with matter of any kind. Cullen was frequently suspected of being a materialist because of the role he gave to the nervous fluid as the medium of sensation. Yet he also made special appeals to the *vis medicatrix naturae* as an occult power residing in the living body, while at the same time professing to follow the inductive method.[47]

THE ATTACK ON EDINBURGH MEDICAL PRACTICE

The final test of the status of Brunonianism as a medical art, based on a scientific understanding of the animal economy, was not just the discovery of laws of nature. It was their application to the useful purposes of life.[48] In the case of the medical art, this was to preserve health and cure disease. Therefore Brunonian medicine had to represent itself as a successful form of practice. Because of the important role that professorial physicians played in Edinburgh medical education, it is rarely appreciated just how limited their own opportunities for actual practice could be. Most of the general practice in Edinburgh was in the hands of local surgeon-apothecaries.[49] The private practice which was available came from the aristocratic, gentry, and professional classes and was controlled by a small, very exclusive group of physicians. Alexander Monro *secundus* inherited the practice of his father, who had been a surgeon-apothecary. Robert Whytt and Joseph Black were helped by their international reputations. However, such outsiders as John Gregory and Cullen had to work hard to achieve a local success, despite their prominent positions in the medical school. Although teaching success was important, it probably was not

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the third dealt with inferences from observed to unobserved causes. For a wider discussion, see, Michael Barfoot, 'Priestley, Reid's circle and the third organon of human reasoning', in R. G. W. Anderson and Christopher Lawrence (editors), *Science, medicine and dissent: Joseph Priestley (1733–1804)*, London, Wellcome Trust/Science Museum, 1988, pp. 81–9.

[47] For a discussion, see M. Barfoot, 'James Gregory (1753–1821) and Scottish scientific metaphysics, 1750–1800', Ph.D diss., University of Edinburgh, 1983, ch. 5, 'Knowing the nervous system: conceptions of nervous aetiology in the writings of Whytt, Cullen and Gregory', pp. 197–263.

[48] Jones, *Inquiry*, op. cit., note 22 above, p. 65. Jones saw the physician's application of laws of nature to effect a cure as analogous to the role of the legislator's, framing laws of society for the benefit of members. Dereliction of duty in the former was, in its way, no less serious than in the latter (p. 34).

[49] This was such an accepted feature of medical practice in Edinburgh that few writers commented on it explicitly. But see [William Graeme], *An essay for reforming the modern way of practicing in Edinburgh, wherein it is proved that the foreign method of paying physicians with small fees at a time would be of great benefit to the nation, if it were followed in Edinburgh, and the other Royal Burghs of Scotland, and do no hurt to physicians themselves*, Edinburgh, James Davidson and others, 1727, p. 13; and James Gregory, *Memorial to the Managers of the Royal Infirmary*, Edinburgh, Murray and Cochrane, 1800, p. 186.

enough to prove the soundness of a physician as a practitioner. Several of the professorial colleagues of these men would have been in considerably reduced circumstances, had it not been for a regular income from student fees.

It would therefore have been enormously difficult for Brown to acquire practice, even if he were impeccably orthodox in his views. As a medical radical and an extramural teacher his own prospects were bleak. The opportunities for those of his followers who had taken degrees, and remained in Edinburgh to practise, must have been virtually non-existent. This placed an apologist for the practical success of Brunonianism in a difficult position. Jones overcame this in part by recounting how Brown and his disciples had been consulted in private cases where orthodox medicine had failed. Some of these involved sick students; other cures were performed upon townsmen whose families would have been known to the local readership of Jones's book. There were also further details about Brown's management of his own gout to be drawn upon. However, this was at best a pastiche of *ad hominem* evidence and hearsay, and it required something more substantial to corroborate the appropriateness of Brunonianism as a form of practice. Jones turned to the Royal Infirmary to supply this.[50] The limited opportunities for physicians to practise in Edinburgh made it one of the few semi-public places open to Brunonians. They used their right of access to mount an assault upon the orthodox, antiphlogistic practice of medicine associated with Infirmary, University, and College physicians.

The sick poor offered ample opportunities for a physician-professor, or an aspiring young Fellow of the Royal College of Physicians who wanted to enhance his credentials for private practice. The Infirmary was a public gazebo, where news of success and failure was propagated by a social intelligence system involving patients, students, and managers. University professors ran clinical wards and gave lectures on patients; attendance at the Infirmary and clinical lectures was increasingly recognized as a crucial component of medical education. Students copied down clinical reports from ward ledgers, and attended more extensive discussions of particular cases. It was a complex medical bureaucracy based upon the transcription of records. Although the Infirmary actually got students somewhere near the patient's bedside, the professor had complete authority and dictated all the particulars relevant to the case. A considerable number of clinical reports and lectures, painstakingly transcribed by students, have survived. But there is little if any evidence of independent diagnostic judgement in them—that is, until Robert Jones published details of several cases from James Gregory's clinical wards in the spring of 1781.[51]

The matriculation album confirms that Jones signed up for clinical lectures in the 1780–81 session. He witnessed Gregory's practice and copied down the details of treatment from the ward ledger.[52] However Jones copied them for a purpose quite

[50] On the Infirmary, see G. B. Risse, *Hospital life in Enlightenment Scotland: care and teaching in the Royal Infirmary of Edinburgh*, New York and Cambridge, Cambridge University Press, 1986. For an earlier treatment, see A. L. Turner, *Story of a great hospital: the Royal Infirmary of Edinburgh 1729–1929*, Edinburgh, Oliver and Boyd, 1937.

[51] Jones, *Inquiry*, op. cit., note 22 above, pp. 188–307: cases of Alexander Hall, James Young, Bernard Stewart, William Goodwin, Catharine Neish, Betty Miller, Richard Thomson, and Betty Jackson.

[52] For further details of the hospital record system, see Risse. op. cit., note 50 above, pp. 43–56; 296–302. The original ward ledger from which Jones took his information is no longer extant. However, see Library

different from that of the majority of his fellow students. He used the cases to attack Gregory's practice as representative of the eclectic, empiric procedures of antiphlogistic therapy. Jones claimed that he had chosen Gregory, not through personal vindictiveness, but because he was acknowledged as the best of those practitioners to whom the students had access. The details of Jones's criticisms are too complicated to relate in any detail, but the general themes are clear enough.

Jones used the first two cases to show that Gregory had failed to distinguish between local and idiopathic disease of the digestive system. He claimed that although Brunonianism was only concerned with universal disease, it had stricter criteria for identifying local complaints based on some form of organic lesion. To act on the body's excitability in cases of local disease was useless and this is precisely what Jones said Gregory had done in the first case. Gregory's want of judgement had "tormented a poor dying creature for a number of days and [he] gave himself a great deal of useless trouble."[53] The second of the two cases was a genuine case of idiopathic diarrhoea. Here Jones criticized Gregory for confounding stimulating and debilitating procedures in the application of what Jones called a "farrago of drugs and remedies".[54] From a Brunonian point of view, Gregory's case history was a false species of evidence from which it was impossible to understand the cause of disease. Gregory's practice was presented as a form of inconsistent and piecemeal empiricism, comparable to that of the "Prince of Quacks", James Graham. Jones then gave details of how to cure the case on Brunonian principles using the gradual application of such diffusable stimulants as opium, coupled to a diet containing red meat and alcohol. The other cases analysed involved fever, haemorrhage, and dropsy, and each exposed further assumptions and unjustifiable features of the antiphlogistic cure. The common principle behind the various Brunonian counter-indications was presented as an application of Newton's second rule of reasoning, which would ensure continuity in patient treatment. Similar effects always implied similar causes; therefore, in cases where debility was the clear effect, it was fruitless to apply remedies which caused further debility. Instead, stimulating causes should be applied to produce stimulating effects. In this manner, Brunonianism offered the young practitioner a way of cutting through the arcana of practice and side-stepping the authority of professorial experience.[55] Diagnostic procedures were clear and

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of the Royal College of Physicians of Edinburgh MS, James Gregory 3, Clinical notes, Edinburgh, 1780–81. This is in an unknown student hand and includes details of the same cases, together with extracts from clinical lectures based on them. Although some details overlap enough to suggest a common source, these notes are much sketchier than Jones's own. Jones also criticized the recording system in the Infirmary, claiming there were many omissions and errors (*Inquiry*, op. cit., note 22 above, p. 216). Therefore he made his own cases as complete as possible. A comparison of general details, diagnoses and care outcomes contained in Jones, the other casebook, and the General Register of Patients, which has also survived, tends to support Jones's point, and reveals many of the difficulties surrounding their use as a historical source today.

[53] Jones, *Inquiry*, op. cit., note 22 above, p. 211.

[54] Ibid., p. 201.

[55] Gregory did not reply directly to the Brunonian attack on his practice, but see *Conspectus medicinae theoreticae; or a view of the theory of medicine* (1778–82), translated from the original Latin, new ed., Edinburgh, Maclachlan and others, 1844, pp. 264–6. In his discussion of stimulants and sedatives, which was first published a year after the *Inquiry*, Gregory disputed the role of causal maxims in medical reasoning, such as those advocated by Jones, and appealed instead to the role of experience.

relatively uncomplicated. Was a disease local or idiopathic? If the latter, was it asthenic or sthenic? If the former, was the debility direct or indirect? All disease forms were accommodated under these categories and this step was justified by appealing to Newton's third rule of reasoning. It is not surprising that the College of Physicians was as troubled as the clinical professors in the Infirmary by Brunonianism, which represented a direct assault upon the arcana of practice. It identified the damage done by an unwarranted reliance upon so-called specifics in the materia medica, and called for the whole subject to be reformed according to "the principles of philosophical analysis".[56] If Brunonian principles were adopted, it would result in the deracination of a whole range of florid and exotic remedies which hitherto had bloomed, largely undisturbed, in the carefully tended gardens of college and hospital pharmacopoeias. This approach, together with the insistence upon substituting fresh observation for authoritative experience, enhanced its appeal as a set of rules for the guidance of the independent young medical practitioner. In short, Brunonianism was the educated physician's version of William Buchan's *Domestic medicine*.[57]

As well as the detailed criticism of particular cases, the Brunonian assault on Infirmary practice also had a broader dimension. Jones hinted at this when he stated that "the lives of our fellow creatures [were] subjected, especially in hospitals and dispensaries, to the dogmatic canons of credulous graduates."[58] Jones also briefly mentioned the wider role that Brunonian diet and regimen had to play in the prevention and cure of disease among the labouring poor. Brunonian therapeutics emphasized that too much exercise, coupled with a vegetable diet, led to dyspepsia, diarrhoea, schirrhus, dropsy, and fever. He added:

> The diseases prevailing among the poor people, who are commonly starved, and oppressed with assiduous excessive labour, afford many instances of diseased state originating from this source of direct debility.[59]

This theme was developed more fully in a pamphlet, which appeared anonymously a year after the publication of the *Inquiry*, entitled *A letter to John Hope*.[60] Hope was one of the Ordinary Physicians at the Infirmary and also Professor of Botany. Along with Cullen, Gregory, Francis Home, and Andrew Duncan, he was publicly accused, tried, and convicted of practising antiphlogistic medicine. Jones's *Inquiry* was praised several times in the *Letter*, where so many of his themes received a second airing as to

[56] Jones, *Inquiry*, op. cit., note 22 above, p. 59.

[57] See C. E. Rosenberg, 'Medical text and social context: explaining William Buchan's "Domestic medicine"', *Bull. Hist. Med.*, 1983, **57:** 22–42; C. J. Lawrence, 'William Buchan: medicine laid open', *Med. Hist.*, 1975, **19:** 20–35. For Jones's remarks on what he called "natural physic", see the *Inquiry*, op. cit., note 22 above, pp. 17–18.

[58] Ibid., p. 72. Jones made derogatory references to case histories published by Francis Home and Andrew Duncan. See Francis Home, *Medical facts and experiments*, London, A. Millar, 1759; *idem, Clinical experiments, histories, and dissections*, Edinburgh, William Creech, 1780; Andrew Duncan, *Medical cases selected from the records of the public dispensary at Edinburgh with remarks and observations; being the substance of lectures delivered during the years 1776–1777*, Edinburgh, Charles Elliot and J. Murray, 1778.

[59] Jones, *Inquiry*, op. cit., note 22 above, p. 126.

[60] *A letter to John Hope, Professor of Botany in the University of Edinburgh, and one of the attendant physicians of the Royal Infirmary; on the management of patients in that hospital; the contradictions adopted in Dr Cullen's 'First lines of physic'; and the superior merit and simplicity of the new system*, Edinburgh, 1782.

suggest that Jones was involved.[61] Just as Jones's book related medical reform to social issues of general concern, this pamphlet attempted to engage the wider population of Edinburgh on a specific matter.

Once more, institutional corruption was the theme. The argument throughout was that the sick poor suffered because of the stringent economy of the hospital, and that this was inconsistent with its status as a charitable institution. It referred to the widely known practice of friends and relatives bringing food which patients came to depend on for their survival. Hope's patients, in particular, were under-fed and over-bled. The diet schedules were reproduced and contrasted unfavourably with provisions at St George's Hospital.[62] It pointed out that most patients were already weak and what they wanted was food and drink, not a regimen which depleted them further:

> When a labourer has been hard wrought, ill-fed, and catches cold, you most absurdly suppose, that this poor creature is in a state of excessive vigour, and that his veins (forsooth!) are over full. *Quere*. Can transubstantiation be a greater absurdity? The miserable patient, however, is commonly bled, and purged, and blistered, and starved, and in short, reduced by every mode of inanition to a state of the most deplorable and desperate debility.[63]

By producing this pamphlet, the Brunonians made an important contribution to a continuing debate about the public health of the poor in Edinburgh. The proper care of the respectable sick poor in hospitals would be one solution to this problem; the Infirmary itself was dependent upon the whims of charitable virtue, and as as result, it lurched from one financial crisis to another. A less publicized but significantly larger institution, related to the same concern, was the Charity Workhouse.[64] Despite some municipal funding, it also experienced severe financial difficulties which began even before it actually opened in the early 1740s. In 1749, the Town Council applied to Parliament for a stent to be levied on the local population for the upkeep of the poor. This was successfully resisted by a committee organized by the professional and well-to-do sections of the community.[65] The parish heritors, merchants, guildsmen, and burgesses felt they had paid out more than their share. The Workhouse got deeper in debt and had to take out several loans. Voluntary contributions continued to be collected from parishioners. As a result, there was a resurgence of resentment against the Edinburgh poor provision, which coincided almost exactly with the appearance of the Brunonian pamphlet. In the same year, a time of famine and great scarcity of provisions in Scotland, John M'Farlan, a

[61] See ibid., p. 26, for a reference to Jones's exposure of Gregory's cases, with the prediction that it had "put a final period to the publication of *medical cases* from the *Cullenian* quarter."

[62] Ibid., pp. 8–12.

[63] Ibid., p. 27.

[64] For the general background, see R. A. Cage, *The Scottish poor law 1745–1845*, Edinburgh, Scottish Academic Press, 1981. For details, see City of Edinburgh District Council Archive, bay C, shelf 14, Minutes of the Charity Workhouse.

[65] For an account of the episode, see Jos. Williams, *Memorial for the Magistrates and Council of the City of Edinburgh, containing a short account of the Charity Work House, the reasons for applying to the legislature, in order to procure the establishment of a certain and equal fund for the maintenance and employment of the poor belonging to this City and Royalty, with answers to the objections against applying to Parliament for a poor rate*, c. 1750.

minister at the Canongate Church, published his *Inquiries concerning the poor*.[66] He opposed workhouses and claimed they were expensive because the poor in them were too well provided for. His view was refuted in 1783 by a merchant and treasurer of the Orphan Hospital, Mr T. Tod, who clearly felt that the burden of the poor had fallen inequitably upon the charitable shoulders of his sector of society.[67] Tod exposed what he saw as M'Farlan's Mandevillian arguments for reducing the provision for the poor. He felt it was a convenient rationalization for members of the professional and gentry classes, who were already reluctant to make voluntary contributions.

Clearly, the Brunonians wanted to mobilize the simmering resentment among the townsmen, and perhaps even win the surgeons and apothecaries over to their practices. They endorsed the widely held view that affluent and professional groups did not care about the unrespectable poor. What they added to the debate was a claim that this lack of charity extended to the mismanagement of the respectable sick poor in the Infirmary. However, Brunonian hopes for reform were over-optimistic. Tod did seem an ally when he attacked M'Farlan's socially-divisive and élitist attitude to the poor. But most of his book was actually devoted to defending the Edinburgh workhouses, on the grounds that they were much more frugally managed than their English counterparts. So the Brunonian message for public health went unheard. It was shouted down by a debate which turned not on the question of whether the Edinburgh poor should be fed as well as the English apparently were, but, in fact, on whether they were being fed and looked after as badly as they should be.

CONCLUSIONS

Jones's *Inquiry* helps us to reconstruct the content of early Brunonian ideology as it emerged in late eighteenth-century Edinburgh. This had three main dimensions. It involved a republican attitude to medical free-thinking, which related developments in medicine to the history of human understanding within political society. It stressed the role of induction as a reforming scientific method; and the application of Newton's rules of reasoning it favoured led to a distinctive account of life in terms of the excitability of animal (and vegetable) matter. Finally, it advocated a plan of cure based largely upon the use of stimulant remedies, which was perceived to have important consequences for the public health of the poor. Throughout, the intellectual aspects of reforming medicine associated with Brunonianism were inseparable from a political assessment of the physician's role and responsibilities in society. It now remains to examine whether the movement successfully used this ideology to change the Edinburgh medical community.

It is impossible to substantiate Jones's and other committed versions of particular episodes in the reception of Brunonianism. However, in one important respect, his account was probably very accurate. His attack focused upon members of the University, Infirmary, and College. From Jones's perspective, they were the conservative "Junto" of physicians who had collaborated to exile Brown, and to extinguish the enthusiasm which the Brunonian movement had initially generated.

[66] John M'Farlan, *Inquiries concerning the poor*, Edinburgh, T. Longman and J. Dickson, 1782.
[67] T. Tod, *Observations on Dr. M'Farlan's Inquiries concerning the state of the poor*, Edinburgh, James Donaldson, 1783.

Irrespective of Jones's commitment to the new doctrine, his identification of the sources of power controlled by Edinburgh physicians is a very plausible one. Given this interlocking élite and the institutional vantage points from which it opposed Brunonianism, it should not be surprising that no major structural changes occurred in the Edinburgh medical school as a result of the movement. The University and the Infirmary were never seriously troubled by Brunonians, and no apparent diminution of their appeal to medical students can be detected. However, the movement's failure to change such inherently conservative bodies would be an unduly myopic criterion for dismissing the historical significance of Brunonianism as a local medical, social, and political force. Brunonianism did not appear wholly by chance. Instead, it absorbed and reflected back wider changes taking place in Edinburgh society.

The height of the movement, during the late 1770s and early 1780s, coincided with a significant point in the wider political management of Edinburgh society.[68] Until then, local government had functioned effectively, with Edinburgh at the centre of a network of patronage which spread throughout Scotland. Administrations came and went, and even the coronation of George III did little to disrupt the structure and principles of the Scottish political establishment. Its stability and conservatism underlay the early success of the medical school. The University expanded rapidly from the early 1750s, and continued to grow throughout the 1770s. Its patron, the Town Council, helped the medical school by appointing able professors who continued to attract students. Physician professors increased their status and acquired more power and influence over the community. Although it controlled most general practice within the Town, the Incorporation of Surgeons was, politically, out-manoeuvred and disorganized.[69] However, things were to change quite rapidly.

The halcyon days of Argyll and Bute and their management teams ended, and, prior to 1785 at least, the new despotism of Henry Dundas was not yet fully institutionalized. It was a period of transition; and the hitherto quiescent and loyal capital of North Britain experienced an unprecedented period of political and social instability. Coalitions involving Rockingham and Foxite Whigs in central government gave more radical Whigs a higher public profile in Edinburgh. There were heated exchanges about the need for electoral reform in the local newspaper press.[70] The focus of this kind of Whig sentiment was the Erskine family. In 1780, the

[68] On this subject generally, see A. Murdoch, *'The people above': politics and administration in mid-eighteenth-century Scotland,* Edinburgh, John Donald, 1983, especially pp. 124–31; *idem,* 'The importance of being Edinburgh: management and opposition in Edinburgh politics, 1746–1784', *Scot. Hist. R.,* 1983, **62:** 1–16; J. S. Shaw, *The management of Scottish society 1707–1764: power, nobles, lawyers, Edinburgh agents and English influences,* Edinburgh, John Donald, 1983; and the essays in J. Dwyer, R. A. Mason, and A. Murdoch (editors), *New perspectives on the politics and culture of early modern Scotland,* Edinburgh, John Donald, 1980.

[69] For further details, see R. M. Stott, 'The Incorporation of Surgeons and medical education and practice in Edinburgh 1696–1755', Ph.D. diss., University of Edinburgh, 1984.

[70] The *Edinburgh Evening Courant* and the *Caledonian Mercury* make fascinating reading during this period. Along with political squibs about electoral reform and church patronage, the columns were full of debate about M'Farlan's book and the state of the poor. Details were provided about the times and places of Brown's and other extramural lectures, including those of Dr James Graham, who visited Edinburgh in 1783. There were favourable reports about the Society of Antiquaries. Also included were a range of advertisements of recent medical books (including Jones's own), and about forthcoming plays on medical subjects. Finally, a series of articles reporting and satirizing debates in the Royal Medical Society appeared

Earl of Buchan founded the Society of the Antiquaries of Scotland, which obtained a Royal Charter in 1783.[71] His brother Henry Erskine was influential in the Faculty of Advocates and actually rose to become Lord Advocate. For a brief period, the constellation of opinions, values, and attitudes by which Whig and Tory sentiment was more clearly distinguished in nineteenth-century Edinburgh, was also present there in the late 1770s and early 1780s.[72] However, the reinstatement of Henry Dundas and the French Revolution wrecked any prospects of a Whig administration. In Edinburgh, Henry Erskine lost his job, and the Royal Society of Edinburgh was founded. The Society of Antiquaries could not compete with a rival which adapted itself to the climate of extreme conservatism which descended in the last decade of the century. Nevertheless, while it lasted, it was a period of political, social, and intellectual dissent, which the Brunonian movement did all it could to exploit.

To Brunonians and others, it seemed that genuine cultural and political changes were in the offing; and it was upon these hopes that they based their prospects for the reform of Edinburgh medical institutions. At one point, they appealed to "some great man whose benevolence is supported by power" to reform the Infirmary.[73] In the event, no one with the right credentials was prepared to back the Brunonian case for medical reform, and no major changes occurred as a direct result of Brunonian agitation. The Medical Society did receive a Royal Charter of incorporation in 1778, while the Edinburgh Public Dispensary was founded a little earlier.[74] Henry Erskine was involved in both episodes, but it was Andrew Duncan, a more respectable Whig medical outsider with Erskine family connections, who obtained this patronage, and not the Brunonians. However, they were responsible for a degree of conflict and disorder in the closely related institutions which made up the Medical School.

Controversy spread from the Medical Society, to the University, and attended the Infirmary throughout the 1780s and early 1790s. Shortly after the publication of the *Letter to Hope*, the managers of the Infirmary attempted to restrict students' opportunities to walk the wards. The students retaliated by forming themselves into an association and made Beddoes their spokesman.[75] They succeeded in getting the managers to reverse their decision. Brunonians or crypto-Brunonians lay behind the

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in the *Edinburgh Evening Post* during 1783. They were entitled 'Medical intelligence' and appeared in nos. 288, 290, 294, and 296. On 5 April 1783, the Society Minutes noted the decision to take legal advice on the matter. No proceedings were actually started, but the Society did tighten up its rules for guests attending debates.

[71] See S. Shapin, 'Property, patronage, and the politics of science: the founding of the Royal Society of Edinburgh', *Br. J. Hist. Sci.*, 1974, **7**: 1–41. For the early history of the Society, see *Transactions of the Society of the Antiquaries of Scotland*, Edinburgh, William and Alex. Smellie for William Creech and T. Cadell, 1792, pp. iii–xiii; William Smellie, *Account of the institution and progress of the Society of the Antiquaries of Scotland*, Edinburgh, William Creech and Thomas Cadell, 1782.

[72] This analysis is adapted from D. Marshall, *Eighteenth-century England*, London, Longmans, 1962, pp. 480–521; H. W. Meikle, *Scotland and the French Revolution*, Glasgow, James Macklehose, 1912, pp. 1–40; and Dickinson, op. cit., note 39 above, pp. 195–231.

[73] Op. cit., note 60 above, p. 4.

[74] See Grey, op. cit., note 10 above, pp. 53–5; *A general view of the effects of the dispensary at Edinburgh during the first year of that charitable establishment*, Edinburgh, 1777.

[75] See *A narrative of some late injurious proceedings of the Managers of The Royal Infirmary against the students of medicine in The University of Edinburgh*, published by the students. The volume of Royal Infirmary Minutes dealing with the controversy has been "lost".

shadowy students' association, which was still alive and protesting when the student body was excluded from the ceremony of laying the foundation stone of the new college buildings in 1789.[76] Critical reviews of the medical syllabus appeared, and there was genuine concern over the illiberality of some professors who refused to allow references to Brown in MD theses.[77]

Inevitably, the clash with Cullenian ideas in the Royal Medical Society took on features of this wider struggle in the minds of those involved:

> We mimicked, or rather felt all the passions of an administration and opposition; and we debated the cure of a dysentery with as much factious violence as if our subject had been the rights of a people, or the fate of an empire.[78]

This process of perceiving the medical in terms of the political was even taken one step further by Jones, whose account of the perfections of republican government is also a plausible description of the Brunonian conception of health:

> So complete now was the whole system, so enlivened and invigorated through all its parts, that every principal member would act the part of the head, and every head return to that of a member. There was now, while all the parts of the community, supported, excited, and corrected every other, no longer any danger, either of despotism on the one hand, or of anarchy on the other.[79]

Brunonian ideology certainly developed themes which reflected both the wider political views of the nascent Edinburgh Whigs, and anticipated those of more radical groups in the 1790s. However, this does not necessarily imply that Brunonians were politically active in the pursuit of wider reforms outside medicine itself.[80] The evidence available suggests that their concerns were largely confined to medical institutions. There is one indication of some involvement outside this sphere, but it concerned local cultural politics, rather than wider issues of government. Thus, along

[76] Ibid., hand-written addition, Edinburgh University Library copy.

[77] See J. Johnson, *A guide for gentlemen studying medicine at the University of Edinburgh,* London, J. Robinson, 1792; and Francisco Solano Constancio, *An appeal to the gentlemen studying medicine at the University of Edinburgh,* 2nd ed., London, Mudie, Murray and Callow, 1797. The dispute about graduation theses involved John Wainman, and was specifically directed at Monro *secundus*, who refused to allow Wainman, among others, to cite Brown. See Beddoes, op. cit., note 16 above, pp. lxxxiii–lxxxiv; Jones, *Inquiry*, op. cit., note 22 above, pp. 369–75. Jones and others were particularly severe on what they saw as Monro's illiberality over this issue. This was because he was known to share the Brunonians' opposition to Cullen's doctrine of spasm. However, Monro sided with Cullen, Andrew Duncan, and other members of the establishment against them.

[78] See Mackintosh, op. cit., note 21 above, p. 25.

[79] Jones, *Inquiry*, op. cit., note 22 above, p. 158.

[80] It is remarkable how figures associated with the Royal Medical Society during the period were involved in wider political issues of one kind or another. Sir James Mackintosh has already been referred to. For Beddoes's various activities see D. Stansfield, *Thomas Beddoes MD 1760–1808: chemist, physician, democrat,* Dordrecht, D. Reidel, 1984. Maclean attacked patronage and nepotism in the Army Medical Department. John Allen became involved in the radicalism of the 1790s and left Edinburgh to join the Holland House circle. He became a noted constitutional historian and Whig political biographer. Thomas Addis Emmet, (mentioned in Grey, op. cit., note 10 above, p. 61), another political radical and President of the Society, was actually imprisoned for agitation on the Irish question. This led such critics as James Gregory to remark that the Society was more appropriate for the training of orators than physicians and surgeons: op. cit., note 49 above, pp. 207–15.

with Smellie and Stewart, Brown joined the Society of Antiquaries, and became its Latin Secretary.[81] Jones was probably typical of other Brunonians who identified with it as an expression of Scottish cultural independence:

> A society has lately been instituted in this place, which from the candid, judicious, and impartial conduct of its noble founder, in filling it with distinguished names at home and abroad, and cautiously fencing it in against the encroachments of those freezers of the freedom of thought, those suppressors of all improvement in every department of thought, those craftsmen, who impudently arrogate to themselves the exclusive right of converting all the arts and sciences into a machine of gain for themselves, will certainly do honour to the kingdom, if their intrigues could be kept out of it.[82]

As a movement, rather than just a set of ideas, Brunonianism was widely perceived to have made an impact upon medical culture in Edinburgh. During this period, the Medical Society began to encourage the experimental investigation of medical and physiological topics which had become controversial during the course of Brunonian debates there.[83] Looking back from the early years of the nineteenth century, a new generation of commentators felt that medical culture had changed. They claimed physicians had renounced the "factions" and "party" politics of systematic medicine, and had evolved into "a congress of eclectics aware of the imperfections of medical

[81] Brown's wider social and political connections are far from clear. On his relations with Smellie and Stewart, see Thomson, op. cit., note 11 above, p. 715. He also had strong Whig connections through Parr and Mackintosh. During this period, Brown founded the Lodge of the Roman Eagle, although Freemasonry was not associated with radicalism by such authors as John Robison until later. See J. B. Morrell, 'Professors Robison and Playfair and the "Theophobia gallica": natural philosophy, religion and politics in Edinburgh 1789–1815', *Notes and Records Roy. Soc. London*, 1971, **26:** 43–63. Despite strong connections with the Campbells, Brown is also reported to have been a sentimental Jacobite. Hence it may be more appropriate to think of him as adopting the social and intellectual symbols of dissent, rather than the aims of a particular political group as such.

[82] Jones, *Inquiry*, op. cit., note 22 above, p. 362. The National Library of Scotland's copy of Jones's book used for this essay has the holograph inscription "To the Museum of the Society of the Antiquaries of Scotland from the Author". Buchan was elected an honorary member of the Royal Medical Society and his letter of thanks was inserted in their minutes. It contained themes similar to those emphasized in the *Inquiry*. Buchan stated that if "properly directed", the Society would succeed in making medicine more scientific in the Baconian sense. He added: "The whimsical Arrangements of System can never but disgrace, deform and perplex everything that they mix with, [and] I am persuaded that the noblest of arts under your auspices will acquire fresh dignity [and] importance by being stripped of its *fantastic* ornaments." See Minutes, op. cit., note 35 above, 13 April 1782.

[83] See ibid., 3 January 1784. Once again, the minute book dealing with the period 1784–90 is missing, which might suggest that controversy over Brunonianism continued well beyond Brown's departure to London. Experimental research carried out on such topics as inflammation, irritability, and respiration during this period needs further examination to see whether they were informed by Brunonian themes. For example, Edmund Goodwyn performed a series of experiments on drowning in the Society during the 1780s. These were discussed in *The connexion of life with respiration; or an experimental inquiry into the effects of submersion, strangulation, and several kinds of noxious airs on living animals: with an account of the nature of the disease they produce; its distinction from death itself; and the most effectual means of cure*, London, T. Spilsbury, 1788. Goodwyn was briefly mentioned by Jones, as a friend of John Isaacson. Although Goodwyn did not mention Brown, his views were also discussed by John Franks, a London apothecary, who claimed they were consistent with the Brunonian view of life as a forced state. See John Franks, *Observations on animal life and apparent death from accidental suspension of the function of the lungs, with remarks on the Brunonian system of medicine*, London, H. Reynall, 1790, pp. xlix–l. Thomson's lectures on inflammation (op. cit., note 12 above) were based on experiments originally performed in the Society. Alexander Philips Wilson (op. cit., note 4 above, Appendices to vols. 3 and 4) also carried out experimental research on urinary dispositions in fevers, and on opium, there.

science".[84] Medicine was inspired by a more "liberal spirit" of inquiry than it had been in the last two decades of the previous century, and this had to be nourished if men hoped to discover the laws of scientific medicine. From this vantage point, Brunonianism, especially in the guise of its founder's works, was certainly perceived as a form of systematic medicine which expounded the philosophy of induction, rather than experimental research as such. Nevertheless, it was also credited with having set the methodological direction to the be followed by early nineteenth-century Edinburgh medicine as a whole.[85] In this sense, Brown appeared as a Janiform figure. He was frequently acknowledged as the first to advocate that medical truth should be sought scientifically in terms of laws of nature. Paradoxically, he was also the last of the eighteenth-century systematic prophets of the inductive method who failed to find it.

Brown also showed that the audience for medical knowledge was not always a captive of the University professoriate. The expansion of extramural medical education in late eighteenth- and early nineteenth-century Edinburgh probably owed as much to this aspect of Brunonianism as it did to the contents of the lectures themselves.[86] It indicated there was room in the Edinburgh educational market-place for competition from new ideas and approaches different to those associated with the University professoriate. If Brown could do it, young physicians and surgeons could also fill lecture rooms, and so pursue careers in a city where medical opportunities could be very limited. In this way, features of Brunonian ideology contributed to the general climate of intellectual freedom which emerged through the clash with orthodox University medicine. The movement laid the foundations of an anti-establishment counter-culture which spawned the Academy of Physics and other scientific societies.[87] Nor were extramural medical and scientific institutions the sole beneficiaries. Brunonianism made an early contribution to the Scottish tradition more usually associated with the founders of the *Edinburgh Review* and the early decades of the nineteenth century, when social and political events were more conducive to its further development.

[84] See *The Edinburgh medical and surgical journal: exhibiting a concise view of the latest and most important discoveries in medicine, surgery and pharmacy*, 1805, vol. 1, pp. 357–75. These remarks were made in the course of a review of William Cullen Brown's edition of his father's works. Once again, the credit given to Brown is balanced by a major attack on the principles of excitability. See also Maclean, *Practical illustrations*, op. cit., note 7 above, p. xl.

[85] See G. N. Cantor, 'Henry Brougham and the Scottish methodological tradition', *Stud. Hist. Philos. Sci.*, 1971–72, **2**: 69–89.

[86] A. Philips Wilson, John Allen, and even John Thomson all benefited from Brunonianism in this way, as did John Aitken, another prominent extramural lecturer based at the Royal College of Surgeons. He was a member of the Society of Antiquaries, and Grey (op. cit., note 10 above, p. 77) stated that Aitken proposed Buchan for membership of the Royal Medical Society. Elizabeth Cullen Brown (op. cit., note 16 above, fol. 1) mentioned her father's friendship with a John Aiken, as his name was sometimes spelled. Aitken's views on medical improvement, animal life, and medical method were very similar to features of Brunonian ideology. See his *Principles of anatomy and physiology*, 2 vols., London, J. Murray, 1786, vol. 2, p. 119; and his *Elements of the theory and practice of physic and surgery*, 2 vols., London, Charles Dilley, 1783, vol. 1, pp. v–vi; 5–7; 66–9; 77–9. For further details on him and other extramural lecturers around this period, see John Struthers, *Historical sketch of the Edinburgh anatomical school*, Edinburgh, Maclachlan and Stewart, 1867.

[87] G. N. Cantor, 'The Academy of Physics at Edinburgh 1797–1800', *Soc. Stud. Sci.*, 1975, **5**: 109–34.

Factors which affected the transmission of medical theory and practice, alluded to at the beginning of this essay, make it difficult to connect changes in Edinburgh medical practice to Brunonianism as such.[88] Unfortunately, there is a paucity of information about the activities of members of the Royal College of Surgeons with which to assess William Cullen Brown's claim that local practice was deeply affected by the stimulant regime. On the wider question of Brunonian influence upon British practice as a whole, matters are even less clear, and it remains difficult to escape the dichotomy of opinion at the time. In view of this situation, perhaps it is appropriate to give Mr Jennings the last word:

> '. . . Towards sunset, as is usual in such cases, the delirium incidental to the fever came on. It lasted more or less through the night; and then intermitted, at that terrible time in the morning—from two o'clock to five—when the vital energies even of the healthiest of us are at their lowest. It is then that Death gathers in his human harvest most abundantly. It was then that Death and I fought over the bed, which should have the man who lay on it. I never hesitated in pursuing the treatment on which I had staked everything. When wine failed, I tried brandy. When the other stimulants lost their influence, I doubled the dose. After an interval of suspense,—the like of which I hope to God I shall never feel again—there came a day when the rapidity of the pulse slightly, but appreciably, diminished; and, better still, there came also a change in the beat—an unmistakeable change to steadiness and strength. *Then*, I knew that I had saved him; and then I own I broke down. I laid the poor fellow's wasted hand back on the bed, and burst out crying. An hysterical relief, Mr Blake—nothing more! Physiology says, and says truly, that some men are born with female constitutions—and I am one of them!'

[88] For example, there is some evidence of the adoption of more stimulant remedies in the Royal Infirmary itself. See G. B. Risse '"Typhus" fever in eighteenth-century hospitals: new approaches to medical treatment', *Bull. Hist. Med.*, 1985, **59:** 176–95; and *idem*, op. cit., note 50 above, which discusses the increased consumption of alcoholic beverages at the Infirmary around 1790. William Cullen Brown (op. cit., note 1 above, vol. 1, pp. ccviii–ccix) had no doubt these changes were more widespread in Edinburgh practice and that they were due to Brunonianism. For another viewpoint, see A. Philips Wilson, op. cit., note 4 above, vol. 1, pp. 679–84. Jones (*Inquiry*, op. cit., note 22 above, pp. 352–5, case of Thomas Collins) claimed that James Hamilton, one of the Ordinary Physicians at the Infirmary, had adopted Brunonian practices. For other viewpoints, see James Hamilton, *Observations on the utility and administration of purgative medicines in several diseases* (1805), Edinburgh, Bradfute, Bell and others, 1823, pp. i–xx; and Parr, op. cit., note 3 above, vol. 1, pp. 374–8, 650.