

David Brewster at the Royal Society of Edinburgh: Science, politics, and patronage in Scotland, 1808–37

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Abstract

The Scottish natural philosopher David Brewster played an important role in the history of the Royal Society of Edinburgh (RSE), being at different times its general secretary, vice-president, and president. This paper examines his career between joining the Society in 1808 and becoming principal of the University of St Andrews in 1837. It explores how he built a network of scientific and personal connections with key individuals in Scottish science that helped him establish himself as a leading Scottish natural philosopher of the nineteenth century. The surviving records of the RSE allow us to see how Brewster used recommendations of new members and his own contributions to the meetings of the Society to build his reputation. Brewster was a committed reform Whig for his entire career. We will see how he both benefitted from the patronage of fellow Whigs, such as John Playfair and James Russell, and was able to build strong personal connections with figures from across the political spectrum, from the Tory president of the Society, Sir Walter Scott, to the radical anatomist, Robert Knox. Brewster's career at the RSE has much to tell about the roles of politics, patronage and sociability in the scientific culture of Scotland in the early nineteenth century.

Keywords: Royal Society of Edinburgh, nineteenth century, politics, patronage, David Brewster, Walter Scott, Robert Knox, James David Forbes

Introduction

In December 1796 the ambitious young Whig law student Henry Brougham (1778–1868) wrote to his friend Francis Horner bemoaning ‘the abominable politics, trifling pursuit and vile aristocracy which sway the Royal Societies of London and Edinburgh.’¹ Brougham, who was not himself a member of the

¹ Henry Brougham to Francis Horner, 29 December 1796, in Francis Horner, *The Horner Papers: Selections from the Letters and Miscellaneous Writings of Francis Horner, M.P. 1795–1817* (eds Kenneth Bourne and William Banks Taylor) (Edinburgh, 1994), 64.

Royal Society of Edinburgh (RSE), was so dissatisfied with the situation that he and some friends set up an Academy of Physics as a Whig rival to the RSE in 1797, which survived until 1800.² However, not all of Brougham's associates seem to have thought so ill of the Society. In 1808 Brougham's younger friend and protégé, the natural philosopher and scientific writer and editor, David Brewster (1781–1868), became a fellow of the RSE. Brewster was a politically active Whig and a consistent advocate of political reform. But this does not seem to have been a handicap to him at the RSE. Despite his politics and his relatively humble origins, he went on to become general secretary, vice-president and finally president. Brewster's progress through the ranks of the Society has much to tell us about the interactions between science, politics, and patronage in early nineteenth century Scotland.

Published scholarship on the RSE has tended to focus on the foundation of the Society and its early years. The work of Steven Shapin and Roger L. Emerson in the 1970s and 1980s particularly stands out in this regard. Shapin's 1974 paper on 'Property, patronage, and the politics of science: the founding of the Royal Society of Edinburgh' depicts the RSE at its inception as a cultural vehicle for the political power of the regime of Henry Dundas, Lord Melville (1742–1811), projected into the sphere of the Edinburgh literati.³ According to Shapin, it was therefore fully incorporated into Dundas's all-encompassing patronage network. In his unpublished PhD thesis Shapin takes the story of the RSE from its foundation right up to 1820. There he claims that '[t]he political tone of the RSE probably derived most effectively from the masses of its Fellows who had been the recipients of Tory patronage or who hoped to be in the future.'⁴ He does, however, admit that only those whose scientific credentials were marginal were likely to be excluded on account of their politics and that the Society did in fact from its inception contain a significant number of notable Whigs among its fellows.⁵ In a 1975 paper on phrenology in Edinburgh in the early nineteenth century Shapin did, however, suggest that 'gentry and aristocrats' still represented a relatively large proportion of the membership of the RSE in 1820, although, according to the figures he cites, they actually only numbered around 16 percent of the membership.⁶

² G.N. Cantor, 'The Academy of Physics at Edinburgh 1797-1800', *Social Studies of Science* 5: 2 (1975) 109–34.

³ See in particular Steven Shapin, 'Property, Patronage, and the Politics of Science: The Founding of the Royal Society of Edinburgh', *British Journal for the History of Science*, 7: 1 (1974) 1–41.

⁴ Steven Shapin, 'The Royal Society of Edinburgh: A study of the social context of Hanovarian science', unpublished PhD thesis, University of Pennsylvania (1971), 275.

⁵ Shapin, 'The Royal Society of Edinburgh', 272–3.

⁶ Steven Shapin, 'Phrenological knowledge and the social structure of early nineteenth-century Edinburgh', *Annals of Science* 32: 2 (1975) 219–43, 229.

Emerson's contribution to our knowledge of the RSE lies principally in a series of papers on the RSE's predecessor, the Philosophical Society of Edinburgh, the most relevant to the RSE being his 1988 paper on 'The Scottish Enlightenment and the End of the Philosophical Society of Edinburgh'.⁷ He broadly concurs with Shapin that from its beginning 'the new RSE was not to be an apolitical institution but one which from its inception reflected the growing conservatism of the Scottish landed and professional classes.'⁸ However, he also argues that by the 1780s 'the initiative in Scottish cultural life had slipped from men belonging or closely related to the kingdom's landed élite into the hands of the most successful and talented professional men' who 'were to run the affairs of the R.S.E. despite its aristocratic and *ex officio* members.'⁹ Although Shapin and Emerson have explored the origin and early years of the RSE in some detail in their published work, we know less about its subsequent development. While the RSE may, as Shapin and Emerson have argued, have owed its origins to the efforts of a conservative oligarchy to dominate the cultural life of Scotland, I will attempt to determine to what extent it remained a bastion of the conservative political regime into the early decades of the nineteenth century and whether, as Emerson contends, it came to be dominated by professional men rather than aristocratic virtuosi.

In this paper I will be exploring the history of the RSE in the first four decades of the nineteenth century with Brewster, one of its most prominent members of the period, as our guide. Shapin has noted that, as an organisation, the RSE 'has historically taken the direction imposed on it by a small group of its most energetic Fellows'.¹⁰ Brewster would certainly qualify as one of those 'energetic Fellows'. He joined the RSE as a young graduate and magazine editor who was already beginning to build a modest reputation as a natural philosopher. In 1819 he was elected general secretary, a post he held until 1828. As at the Royal Society in London, '[t]he highest-born were not expected to serve in onerous secretarial positions'.¹¹ It was therefore often a competent and energetic member from a more modest background who was chosen for this role, and this seems to have also been the case for Brewster. Nonetheless, this position conferred significant power within the Society. He may even have been able to use his influence to ensure that a like minded successor took his place when he resigned. In August 1828 he wrote to John Robison, who was to succeed him in the post, that 'I have written to Dr [Thomas Charles] Hope & Mr

⁷ Roger L. Emerson, 'The Scottish Enlightenment and the End of the Philosophical Society of Edinburgh', *British Journal for the History of Science* 21 (1988) 33–66.

⁸ Emerson, 'End of the Philosophical Society', 47.

⁹ Emerson, 'End of the Philosophical Society', 62.

¹⁰ Shapin, 'The Royal Society of Edinburgh', 210.

¹¹ Ruth Barton, *The X Club: Power and Authority in Victorian Science* (Chicago, 2018), 461.

[James] Skene on the subject and have stated that I consider you perfectly qualified for the office.¹² His elevation through the ranks of the RSE continued when he became vice-president in 1831, remaining in this role until 1864 when he was finally elected president. I will concentrate principally on the earlier part of Brewster's career at the RSE up to 1837, when he became principal of St Andrews University. After this date his position both financially and professionally became much more secure and his reputation as a leading figure in Scottish science was firmly established.

Brewster's case is particularly instructive for two main reasons. Firstly, he spent most of his life in circumstances that were much more precarious than was true for many of his peers at the RSE. He was neither an aristocrat nor a man of independent means, and he never held a teaching post at a university. Until relatively late in life he could never take his position for granted; earning a sufficient livelihood through his writing and editorial activities to maintain both his family and his status as a gentleman of science was a constant preoccupation. As well as supporting himself and his family financially, he had to struggle to construct his own place in Scotland's scientific establishment through conducting and publishing original research, earning the support of patrons, and contributing to the activities of scientific institutions. Secondly, Brewster was a life-long Whig who was politically active in the cause of reform. He was therefore unlikely to be able to rely on the goodwill or patronage of the regime in power until after the 1831 election returned a reforming Whig government, bringing some of his friends into positions of power within the British political establishment. Brewster's rise through the RSE therefore gives a particularly clear picture of the mechanics of power and patronage within a learned society in the early nineteenth century. As a man of marginal social and political status, he had to work hard and use all the means at his disposal to build his influence and his patronage network within the Society over several decades.

Through Brewster, I will attempt to answer two key questions regarding the post-Enlightenment RSE, its culture, and its political life. Firstly, I will explore the extent to which the shifting political landscape of Scotland shaped the life of the Society in the years 1808 to 1837. Was the RSE an arena within which the wider rifts in Scottish society and culture were reflected in microcosm, or was it rather a safe space where philosophers could meet and exchange knowledge without the intrusion of the political or social conflicts that were convulsing wider Scottish society in those years? Secondly I will examine the interaction these social and political factors had with the workings of the mechanisms of patronage and scientific sociability, which both facilitated entry to the RSE and secured advancement within it for a man

¹² David Brewster to John Robison, 20 August 1828 (National Library of Scotland, Acc.10000/352), f. 1 verso.

such as Brewster. How could a figure like Brewster gain entry through the hallowed portals of the Society, and once inside, what resources could he find there to help him build a reputation as a respected and influential figure in Scottish science?

The Royal Society of Edinburgh in the early nineteenth century

The RSE, founded in 1783, was a project of the Moderate oligarchy that dominated Scotland's cultural life and universities in the second half of eighteenth century and into the early years of the nineteenth. These men, who Richard Sher has designated the 'Moderate literati', embodied the values and perspectives of the Moderate Party within the Church of Scotland.¹³ They represented a cultured and intellectually tolerant strand within the Scottish Church that set itself up in conscious opposition to the Popular Party (later to become the Evangelical Party), whose views harked back to the inflexible Calvinism of the previous century. Politically, they were typified by what J.G.A. Pocock has described as 'regime Whiggism'.¹⁴ While comparatively open and tolerant in the realm of ideas – they had, after all, in earlier decades publicly defended the right of their friend David Hume to his sceptical views – they were deeply socially conservative and staunch defenders of the Hanoverian settlement and the political status quo.

Politically, the Moderate literati tended to align themselves with the regime of Henry Dundas, who effectively managed the political life of Scotland on behalf of the administration of William Pitt the younger (1759–1806) in London. He occupied key Scottish or British national offices continuously from 1774 until 1806. His grip on power was only strengthened by the reaction to the rise of radicalism in Scotland in the years after the French Revolution and the ensuing government repression. In the last decades of the eighteenth century Dundas bestrode not only the political nation but the Scottish universities and the early RSE, which were fully integrated into his patronage network. At the first general meeting of the RSE Dundas was elected a fellow and vice-president. The 'form, officers, constitution and founding fellows were to be determined by the Crown', giving Dundas and his allies a

¹³ Richard B. Sher, *Church and University in the Scottish Enlightenment: The Moderate Literati of Edinburgh* (Edinburgh, 2015).

¹⁴ J.G.A. Pocock, 'The Varieties of Whiggism from exclusion to reform: A history of ideology and discourse', in J.G.A. Pocock, *Virtue, Commerce, and History: Essays on Political Thought and History, Chiefly in the Eighteenth Century* (Cambridge, 1985), 282.

controlling interest in the Society at its inception.¹⁶ Dundas would dominate the early RSE as he dominated political life in Scotland in the late eighteenth century.

Modern historians have tended to follow Brougham's lead in typifying the RSE in its early years as an organ of the ruling oligarchy in Scotland. Shapin has commented that Dundas's prominent presence among the founders of at the RSE 'conspicuously aligned the new institution' with the regime in power.¹⁷ Emerson has also claimed that from its inception the RSE was set up in such a way that Dundas's 'political interest would become dominant in yet another prestigious institution.'¹⁸ Nonetheless, even in 1783 the RSE was by no means closed to opponents of the regime. Both John Playfair (1748–1819), the University of Edinburgh's professor of mathematics, and Dugald Stewart (1753–1828), the professor of moral philosophy, were prominent opposition Whigs who were also founder members.

By the first decade of the new century the tectonic plates of Scottish political life were beginning to shift. The fall of Dundas, impeached by Parliament in 1806, saw the end of his monopoly of power. Even before this, the establishment of the *Edinburgh Review* by Francis Jeffrey, Henry Brougham, Francis Horner, and Sidney Smith in October 1802 in many ways marked a turning point.¹⁹ These men belonged to a group of young Whig professionals who openly challenged the political regime and the stranglehold of the Dundas network on the political life of the country. Playfair and Stewart had acted as political mentors to many of them at the University of Edinburgh during their student days.²⁰ In 1805, in the run up to Dundas's impeachment, Stewart wrote to Francis Jeffrey: 'The affair of Lord M. [Melville] has, since the date of your letter, assumed a much more serious aspect than it then wore, and I trust that it will terminate in a manner so decisive as to close for ever his political career, – an event which I consider as synonymous with the emancipation and salvation of Scotland.'²¹ While Scotland was not to be emancipated just yet, the grip of the Dundas interest on the reins of power was loosening.

The RSE had been explicitly modelled on the Royal Society of London (RSL), as is made abundantly clear in the 'History of the Society' found in the first volume of the RSE's *Transactions*.²² There were

¹⁶ Emerson, 'End of the Philosophical Society', 47.

¹⁷ Shapin, 'Property, Patronage, and the Politics of Science', 37.

¹⁸ Emerson, 'End of the Philosophical Society', 47.

¹⁹ William Ferguson, *The Edinburgh History of Scotland*, vol. 4 (Edinburgh, 1990), 266.

²⁰ L.S. Jacyna, *Philosophic Whigs: Medicine, Science and Citizenship in Edinburgh, 1789–1848* (Abingdon, 1994), 9.

²¹ Dugald Stewart to Francis Horner, 8 June 1805, in Dugald Stewart, *The Collected Works of Dugald Stewart* (ed. William Hamilton), vol. 10 (Edinburgh, 1858), cxxxvii.

²² Royal Society of Edinburgh, 'History of the Society', *Transactions of the Royal Society of Edinburgh* 1 (1788), 3–4.

important similarities between the two Societies in the early nineteenth century, but also some striking contrasts. Both Societies existed in a world with very little institutional support for science. The interest of wealthy and powerful individuals, even if they contributed little to the scientific life of the society, therefore provided a vital source of funds, patronage, and social legitimacy. Although it had been in existence for 123 years when the RSE was founded, the RSL was also subject to the same criticism in this period from Whig reformers. As Brougham's remarks quoted above suggest, for a significant body of would-be reformers it was seen to have degenerated into a social club for dilettante aristocrats, where very little work of real scientific value was in evidence. Marie Boas Hall has written of the RSL that 'although all Fellows were supposed to be *interested* in the world of learning, it was by no means thought requisite that they be *practitioners* of learning.'²³ This much was evident to concerned, if not always entirely impartial, commentators in the early nineteenth century such as the English mathematician and inventor Charles Babbage (1791–1871), whose *Reflections on the Decline of Science in England* (1830), was a call to action to 'rescue the Royal Society from contempt in our own country, from ridicule in others.'²⁴

One striking difference between the two societies was that from 1778 to 1820 the RSL was dominated by the personality of one man, Sir Joseph Banks (1743–1820). Banks was involved in every detail of the Society's running, down to the production of the Society's *Philosophical Transactions*.²⁵ Through the 'Banksian Learned Empire', as David Philip Miller has described it, he ensured that an aristocratic ethos of gentlemanly science prevailed at the Royal Society.²⁶ At the RSE, on the other hand, presidents and vice-presidents were generally aristocratic figureheads who played little role in the day-to-day running of the Society; in their history of the RSE Campbell and Smellie note that 'it was not until the 1860s when David Brewster was elected that the Presidency involved active participation in the Society's administration'.²⁷ Power at the RSE was more evenly distributed among three groups from whom the office holders of the Society were drawn in more or less equal measure: aristocrats; upper middle-class professional men; and the professors of the Scottish universities. From its foundation all the professors

²³ Marie Boas Hall, *All Scientists Now: The Royal Society in the Nineteenth Century* (Cambridge, 1984), 4.

²⁴ Charles Babbage, *Reflections on the Decline of Science in England, and on Some of Its Causes* (London, 1830), 45.

²⁵ Noah Moxham, "'Accoucheur of literature": Joseph Banks and the *Philosophical Transactions*, 1778–1820', *Centaurus* 62: 1 (2020) 21–37.

²⁶ David Philip Miller, *The Royal Society of London 1800–1835: A Study in the Cultural Politics of Scientific Organization*, unpublished PhD thesis, University of Pennsylvania (1981) and David Philip Miller, 'Between hostile camps: Sir Humphry Davy's presidency of the Royal Society of London, 1820–1827', *British Journal for the History of Science* 16: 1 (1983) 1–47.

²⁷ Neil Campbell and R. Martin S. Smellie, *The Royal Society of Edinburgh (1783–1983)* (Edinburgh, 1983), 51.

of the University of Edinburgh and most of those at the other Scottish universities had been members of the RSE. This is in contrast to the situation at the RSL, where, as Maurice Crossland dryly remarks, while ‘an academic position could sometimes imply a qualification’ for membership, in the eighteenth century at least, the state of the English universities was such that ‘this might sometimes be an unwarranted assumption’.²⁸

While unarguably highly socially exclusive – no artisans, manual workers or women were permitted to cross its threshold – the membership of the RSE represented a relatively broad spectrum of the Scottish upper and middle classes. While its ranks were without doubt replete with aristocrats with somewhat doubtful scientific credentials, there were also many members from more modest backgrounds: Robert Jameson (1774–1854), Edinburgh’s professor of natural history, John Leslie (1766–1832), who held the chairs of both mathematics and natural philosophy at different times at the University of Edinburgh and, of course, Brewster himself come immediately to mind. Leslie, the son of a joiner and cabinet maker from Fife, was from the most humble background of the three. A Shapin has noted, the political leanings or social origins of a candidate were only likely to affect their eligibility for membership if their positive qualifications were marginal. This was certainly not the case for Leslie, who had already been professor of mathematics at the University of Edinburgh for two years at his election and whose book *An Experimental Inquiry into the Nature and Propagation of Heat* had won the RSL’s Rumford Medal in 1804.²⁹ While Jameson’s father was a soap maker from Leith. Brewster’s father, the rector of Jedburgh Grammar School in the Scottish Borders, was of slightly higher social status, but still hardly an aristocrat. While professors at the University of Edinburgh could expect to be made members of the RSE as a matter of course, neither Jameson nor Brewster were professors at the time of their election. Both Leslie and Brewster were also among the significant number of prominent Whig members of the RSE, which, as we have seen, also included the Edinburgh professors Stewart and Playfair. As we will see in the following section, Playfair’s patronage would play an important role in gaining entry to the RSE for Brewster.

²⁸ Maurice Crossland, ‘Explicit qualifications as a criterion for membership of the Royal Society: A historical review’, *Notes and Records of the Royal Society* 37: 2 (1983) 167–87, 172.

²⁹ Shapin, ‘The Royal Society of Edinburgh’, 272–3.

Getting into the RSE

David Brewster was elected a non-resident member of the RSE in June 1808 at the relatively young age of twenty-seven (of the twenty-three members elected between 1806 and 1810 whose birth dates we know, only two were younger, the average at election being around thirty-six). When compared with other members of the RSE elected between 1806 and 1811, Brewster's background was not that unusual. Out of the twenty-three new members elected in those years, we know the occupations of the fathers of sixteen. As the son of a schoolmaster, Brewster was one of six whose fathers belonged to one of the professions (principally schoolteachers, university professors, lawyers, and medical men). Of the fathers of the others, three were aristocratic landowners, one was a merchant, one was a farmer and the other four were from more modest backgrounds, including a 'retired woolman' (Thomas Thomson) and a joiner (Leslie).³⁰ In terms of social status, he was therefore fairly typical as one of a significant minority of members who came from a professional, middle-class background. He was more unusual in that he did not himself belong to one of the established professions or hold a chair at one of Scotland's universities (only Thomas Thomson, a private lecturer in chemistry at the time of his election in 1807, had a similarly marginal status). As a man who lived by his pen, writing books and articles, and editing journals and reference works, he did not have guaranteed employment or a stable income. While it was very rare for members of the Society to make a living from science, most at least had a stable source of income that gave them the time and resources to pursue their scientific work at their leisure. This was not the case for Brewster.

The sons of members of the 'industrious classes' could occasionally find their way into the RSE, but only if they made it to university, established themselves in a suitable profession and proved their scientific credentials, Leslie being the most notable example. On the other hand, the remarkable autodidact natural philosopher, scientific instrument maker, and Brewster's boyhood mentor, James Veitch of Inchbonny (1771–1838), was not, as far as we know, ever even proposed for membership. Even though Walter Scott, the Tory president of the RSE, described him as 'a very remarkable man, a self-taught philosopher, astronomer, and mathematician, residing at Inchbonny, and certainly one of the most

³⁰ Jack Morrell, 'Thomson, Thomas (1773–1852)', *Oxford Dictionary of National Biography* [retrieved 17 Feb. 2021. <https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-27325>]; and Jack Morrell, 'Leslie, Sir John (1766–1832)', *Oxford Dictionary of National Biography* [retrieved 17 Feb. 2021, from <https://www.oxforddnb.com/view/10.1093/ref:odnb/9780198614128.001.0001/odnb-9780198614128-e-16498>].

extraordinary persons I ever knew', this was not enough to get him through the doors of the Society.³¹ Although his scientific accomplishments were far beyond those of many aristocratic members of the RSE, Veitch worked as a ploughwright all his life and had never attended university. Despite his strong connections with many members, the closest he came to attending a meeting of the Society was when Lord Meadowbank read his paper 'on the Casting & Polishing Metallic Specula for reflecting Telescope' before the Society on 20 December 1813.³²

Like Veitch, the young Brewster too was notable for his interest in 'philosophical instruments'. Ten of the 15 contributions to the Society's meetings in his first five years as a member related to new or improved scientific instruments. His first original book-length scientific work, published in 1813, was entitled *A Treatise on New Philosophical Instruments*. However, it is likely that his time as a student at the University of Edinburgh, where he made the acquaintance of influential professors such as Playfair and Robison, as well as his relatively genteel background, would have set him apart from a self-taught and less well-connected figure such as Veitch. In any case, elite designers and makers of scientific instruments were a partial exception to the exclusion of artisans from the RSE. Even without a university education, three individuals who were working instrument makers became members between the foundation of the Society and 1822: Jesse Ramsden (1735–1800, elected c. 1798), Alexander James Adie (1775–1858, elected 1819) and Edward Troughton (1752–1835, elected 1822). (Brewster was himself an important patron of Adie and was one of his proposers.)

How did a young man like Brewster from a relatively modest background go about securing a place at the RSE? According to the statutes and regulations of the Society published in 1788, a prospective member first wrote to an existing member to put himself forward. If the existing member thought him a suitable candidate, he would propose him publicly at one of two general meetings held on the fourth Monday of January or the fourth Monday of June each year. The proposal then had to be seconded by two additional members present at the meeting. The candidate's name was then added to a list which was displayed at the Society's meetings. Membership was confirmed by a ballot at which two-thirds of the members had to vote in favour in a meeting with at least twenty-one members present.³³ Members were expected to pay an 'annual contribution', although the amount was not specified in the statutes.

³¹ Walter Scott to James Ellis, April 1818, quoted in Mrs Gordon, *The Home Life of Sir David Brewster* (Edinburgh, 1869), pp.25–6.

³² Royal Society of Edinburgh, Minutes of the Meetings of the Physical and Literary Classes of the Royal Society from 1 July 1793 to 12th January 1824 (NLS, Acc.10.000/4), 81.

³³ Royal Society of Edinburgh, 'History of the Society', 11–12.

The laws of the RSE adopted in May 1811 are somewhat more specific on the subject, stipulating that new members had to pay an admission fee of three Guineas, followed by a yearly annual sum of two Guineas.³⁴

In 1820 Brewster, by then the general secretary of the RSE, replied to an enquiry about membership with the following advice: 'There is no way of becoming a Member of the Royal Society of Edin but by being recommended by one of its members well acquainted with you; and the only claim to which the Society attends in the case of Gentlemen not resident in Edin is that of Literary or Scientific Reputation. One or two good and original papers form the best of all recommendations.'³⁵ According to Brewster himself, there were therefore two important criteria for membership: contacts within the Society and a solid track record of publication showing evidence of original contributions to science. There was no mention of the latter in the Society's own published laws, although they did provide a model proposal letter that read: 'A. B. a gentleman well skilled in several branches of Science (or Polite Literature, as the case may be) being to my knowledge desirous of becoming a Member of the Royal Society of Edinburgh, I hereby recommend him as deserving of that honour, and as likely to prove an useful and valuable Member', suggesting that that demonstrable scientific achievement was also a desideratum.³⁶ Let us look first at Brewster's research and publishing record prior to 1808.

As Alex Csiszar remarks, in the absence of any 'course of study [that] qualified one to be an authority on natural philosophical topics', by the early nineteenth century learned societies had begun 'to promote particular forms of authorship as criteria to pick out true contributors to knowledge' of the kind that the RSE would welcome as members.³⁷ Brewster was a prolific author, producing an impressive 175 publications between 1800 and 1808.³⁸ However, almost all of these could be classified as scientific hack-work. Eighty-two of them were lists of astronomical phenomena for the coming month, 65 were 'Memoirs of the progress of manufactures and the fine arts' and most of the rest were commentaries on broad scientific developments or on other people's discoveries. Ten had nothing to do with science at all, including six poems. The only publications which could be described as original contributions to

³⁴ Royal Society of Edinburgh, 'Laws of the Royal Society of Edinburgh', *Transactions of the Royal Society of Edinburgh* 6 (1812), 9.

³⁵ David Brewster to John Murray, 1 December 1820 (Centre for Research Collections, Edinburgh University Library, Coll/313/Gen.1730/20, 1 recto – 1 verso).

³⁶ Royal Society of Edinburgh, 'Laws of the Royal Society of Edinburgh', 14.

³⁷ Alex Csiszar, *The Scientific Journal: Authorship and the Politics of Knowledge in the Nineteenth Century* (Chicago, IL, 2018), 121.

³⁸ A.D. Morrison-Low, 'Published writings of Sir David Brewster: A Bibliography', in A.D. Morrison-Low and J.R.R. Christie (eds), *'Martyr of Science': Sir David Brewster 11781–1868* (Edinburgh, 1984), 107–9.

science were three articles on new astronomical instruments. None of them were accounts of significant new discoveries or theoretical breakthroughs. It is also worth noting that 150 of his 175 publications appeared in either the *Edinburgh Magazine, or Literary Miscellany* or its successor *The Scots Magazine*. Brewster was himself the editor of these magazines from 1802 to around 1806. It is therefore unlikely that he had much difficulty in getting his articles accepted for publication (although he did publish at least the first sixteen of these articles before becoming editor of the *Edinburgh Magazine*). At this point his original contributions to science were still to come. His most important work was all carried out between 1811 and 1818, by which time he had already been a member for several years.³⁹ While it is possible that his literary connections and editorial and journalistic experience might have recommended him as a candidate, his scientific credentials were relatively meagre. From this evidence it seems unlikely that he was proposed for membership of the RSE principally on the strength of his original contributions to science or landmark publications to date. This leads us to the question of Brewster's friends within the RSE before 1808 and their role in getting him in.

Brewster was proposed for membership by Alexander Dirom (1757–1830) and the proposal was seconded by John Playfair and James Russell (1754–1836).⁴⁰ Dirom was an army officer in whose household Brewster had been a tutor between 1804 until 1807. He therefore knew Brewster well and they seem to have remained on friendly terms until Dirom's death in 1830. Margaret Gordon, Brewster's daughter, wrote of 'the warm and long-continued esteem with which he was regarded by General Dirom and his family.'⁴¹ Brewster was one of only six new members ever proposed by Dirom. Playfair was professor of natural philosophy at the University of Edinburgh, and a founder member of the RSE. It was Playfair who first told him he had been elected a member of the Society.⁴² According to Margaret Gordon, 'the learned and popular Professor Playfair', who had taught Brewster natural philosophy as a student, by this time had become his 'intimate associate'.⁴³ Brewster's third proposer, Russell, was an Edinburgh surgeon and professor of clinical surgery at the University. Both Playfair and Russell were prominent Edinburgh Whigs, so Brewster's own political leanings would have been congenial to them. All three proposers were, as might be expected, significantly older, more established figures than Brewster.

³⁹ William Cochrane, 'Sir David Brewster: An Outline Biography', in Morrison-Lowe and Christie (eds), *Martyr of Science*, 13.

⁴⁰ Royal Society of Edinburgh, Minutes of the Meetings of the Physical & Literary Classes of the Royal Society from 1 July 1793 to 12th January 1824 (National Library of Scotland, Acc.10.000/4), 12.

⁴¹ Gordon, *Home Life of Sir David Brewster*, 57–8.

⁴² *Ibid.*, 65.

⁴³ *Ibid.*, 70.

According to his daughter's account, Brewster was on close friendly terms with a number of the professors at the University of Edinburgh while still a student there; in his letters home there was 'frequent mention of the eminent men with whom he was associated, at first in the relation of student and professor, but marvellously soon in that of friend and companion, – Professor Playfair, Professor Robison, Dugald Stewart, and others.'⁴⁴ These connections would prove invaluable to him in his scientific career. Although Robison had died in 1805, Brewster maintained close contact with his family. In 1813, for example, Brewster was empowered by Robison's widow to negotiate with the publisher John Murray a four-volume posthumous work entitled *A Complete System of Natural Philosophy* (eventually published by Murray in 1822 as *A System of Mechanical Philosophy*).⁴⁵ He also became a close associate of Robison's son, also called John. In 1816 Brewster proposed him as a member of the RSE and in 1821 they were both involved in the foundation of the Society for the Encouragement of the Useful Arts in Scotland.

The keys to the portals of the RSE for Brewster therefore seem to have been the important contacts he had made in Scottish scientific circles during his time at the University of Edinburgh and in his subsequent tutoring career with the Dirom family. While his scientific interests and expertise must have played a crucial role in winning him the friendship of so many notable figures in Edinburgh science, he had little to show for it before 1808, as his major discoveries and publications only came later, after he had already gained entry to the Society. His ability to successfully navigate the patronage networks of early nineteenth century Scottish science was therefore the crucial factor that ensured his election.

We may also ask why it might have been important to Brewster to gain entry to the RSE at this stage in his career. For a young man with ambitions to make a name for himself as a natural philosopher, the Society provided him with an invaluable forum in which to demonstrate his achievements in the field before the elite of Scottish science. Papers describing his important work on the polarisation of light and double refraction were read to the RSE in his early years there, along with a series of papers on new or improved scientific instruments he had invented, culminating in 1817 with the invention for which he is best known, the kaleidoscope, described by him to the Society as 'a New Optical Instrument for displaying an Infinite Variety of beautiful forms.'⁴⁶ As a young man who made his living by editing journals and encyclopaedias the access the RSE gave him to the most important figures in Scottish

⁴⁴ *Ibid.*, 36.

⁴⁵ David Brewster to John Murray, 30 June 1813 (NLS, Ms.40146), 7–8.

⁴⁶ Royal Society of Edinburgh, Minutes of the Meetings of the Physical and Literary Classes of the Royal Society from 1 July 1793 to 12th January 1824 (NLS, Acc.10,000/4), 114.

natural philosophy and natural history must also have presented a boon by providing a forum in which he could establish and strengthen his relationships with the authors who provided the raw material for his publishing projects. The *Edinburgh Encyclopaedia*, which he edited for the publisher William Blackwood between 1808 and 1830, included many notable names from among the members of the RSE among its authors, including Thomas Allan, John Leslie, George Steuart Mackenzie, John Robison, and numerous others. The RSE must have provided Brewster with an important additional channel for regular contact with the many distinguished authors who contributed to his work. On occasion research presented at the RSE could subsequently find its way directly into one of the journals that Brewster edited. For example, an extended summary of two papers read to the RSE on 'The physiology of the nervous system' by William Pulteney Alison (1790–1859) appeared in volume 1 of Brewster's *Edinburgh Philosophical Journal* in 1819. Brewster later pointed out in a letter to Alison that the papers 'which were read to the Royal Society of Edinburgh in the Sessions of 1818 and 1819, and of which I published an abstract in the *Edinburgh Philosophical Journal* were admired by all who heard them.'⁴⁷

Brewster at the RSE: Patronage, collaboration, and sociability

Once a new member had got through the doors of the Society, what advantages did membership bring? Entry to the RSE provided a number of important mechanisms for building patronage networks. One obvious way to help friends and allies was by proposing them as new members. Brewster was exceptionally active in doing this. In total sixty-eight individuals proposed by him became members of the RSE between 1808 and 1868 (61 of whom were proposed before 1837). While not a record (Thomas Charles Hope, Edinburgh's professor of chemistry from 1799 to 1843, and John Playfair both exceeded this total, in the latter case by a significant margin), it does make him one of the most prolific proposers of new members in the history of the Society. The majority of the new members proposed by Brewster were professional men of one kind or another.⁴⁸ Medical practitioners were particularly well represented, making up sixteen out of the sixty-eight. The legal profession and ministers of the Church of Scotland were also well represented, with six members each. Although Brewster was a committed partisan of the Evangelical Party of the Church of Scotland, only one of these men, John Fleming (1795–

⁴⁷ David Brewster to William Allison, 20 June 1821 (Special Collections, St Andrews University Library, QC16.B8L2, MS.1617), f.1 recto. The article was published in 'Proceedings of the Royal Society of Edinburgh', *Edinburgh Philosophical Journal* 1 (1819) 404–6.

⁴⁸ C.D. Waterston and A. Macmillan Shearer, *Former Fellows of The Royal Society of Edinburgh 1783–2002: Biographical Index* (Edinburgh, 2006).

1857), can be firmly identified as a fellow Evangelical, while two of them, Edward Bannerman Ramsay (1793–1872) and Thomas Baker Morrell (1815–77), were Episcopalians. Religious affiliation therefore does not seem to have been an important criterion for Brewster. Seven are listed as landowners, although several others probably owed a significant proportion of their income to landed property. Unfortunately it is not possible to determine the political affiliations of enough of these individuals to make a convincing argument that Brewster was favouring men of a particular political outlook, although he certainly seems to have mostly recommended professional men rather than aristocrats.

Looking more closely at the pattern of Brewster's membership proposals over the years a clear trend emerges. Between becoming a member in 1808 and 1809, he did not propose anyone. In 1810 he proposed his first new member, the Church of Scotland minister Andrew Stewart. The number of candidates successfully proposed by Brewster subsequently increased incrementally, reaching a peak in 1818 and 1819 (in 1818 he proposed more than half of all the new members elected). In 1819 Brewster became general secretary of the RSE. By this time approximately a fifth of the membership had been proposed by Brewster. A significant proportion of members were therefore under an obligation to him. The support of these men would doubtless have been very useful when he decided to stand for general secretary, an annually elected position.⁴⁹ After Brewster became general secretary the number of new members he proposed each year dropped off dramatically. The large number of proposals of new members in the five years immediately before his election to general secretary seems unlikely to be entirely coincidental. The influx of new members friendly towards him would certainly have done him no harm in seeking election to this post.

⁴⁹ Royal Society of Edinburgh, 'Laws of the Royal Society of Edinburgh', *Transactions of the Royal Society of Edinburgh* 9 (1823), 499.

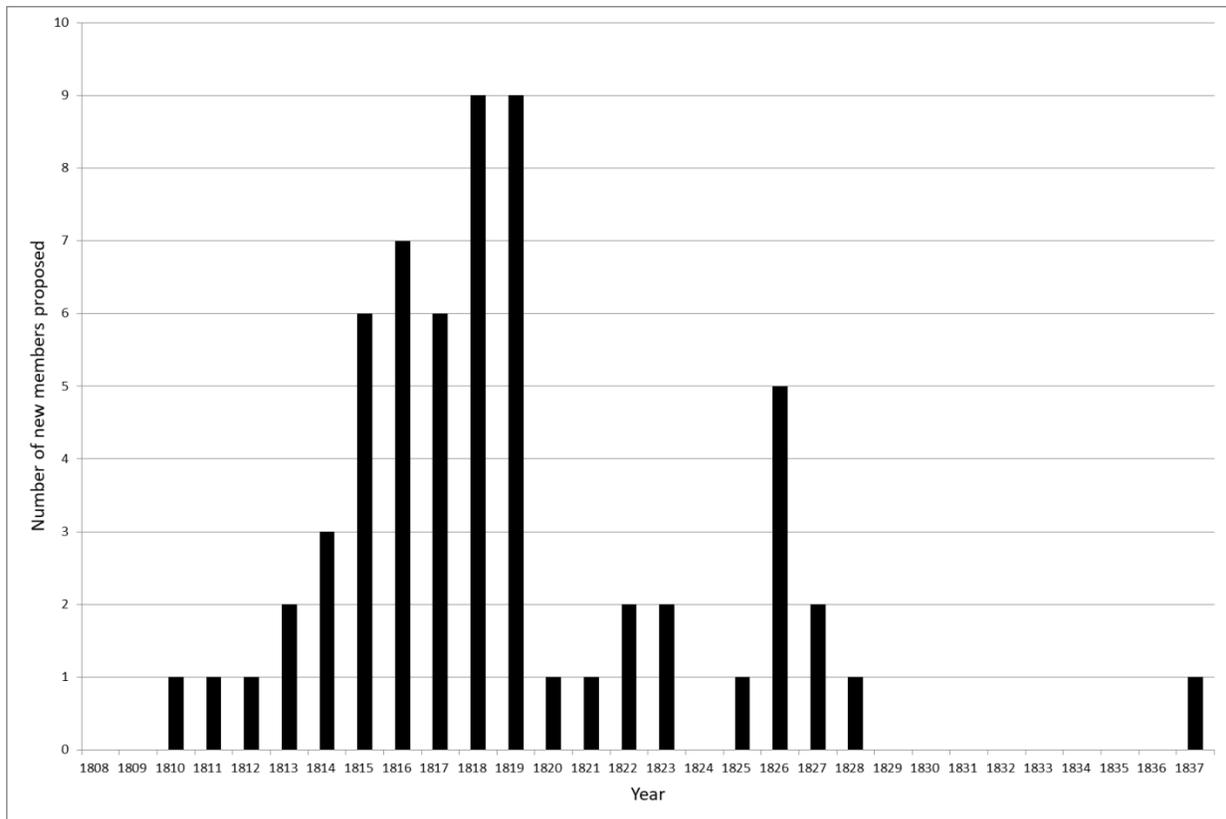


Figure 1: Number of new members proposed by Brewster, 1808–1837.

As the president and vice president generally played little role in the administration of the Society, much power and responsibility was devolved to the secretary, along with a heavy burden of administrative work. This made it a very attractive position for a man like Brewster. If he had decided that he wanted to stand for general secretary by the early 1810s, it is hard to resist the impression that he was, consciously or not, packing the Society with members favourable to him before standing for office in 1819.

Proposing new members was in any case an effective way of promoting the careers of like-minded individuals, as well as creating useful ties of obligation between them and Brewster. His promotion of sympathetic individuals as new members did not stop altogether when he became secretary but continued into the 1820s. Indeed, there was a second smaller peak in proposals centred on 1826. This may have been linked to his intention to stand for election to the vice-presidency in 1831, although as the last of this campaign of proposals was in 1828, this seems less certain than the link between the previous peak in proposals and his candidacy for secretary.

His proposals of new members also seem to have had the explicit purpose of injecting fresh blood and vigour into the Society. In a letter to the young James David Forbes written on 26 November 1828 he

wrote: 'I have not the least hesitation in assuring you that it will give me the utmost pleasure to recommend you as a Member of the RSE; and I should consider myself as doing a great service to that body if I could infuse a little activity into their movements by introducing a few more such members, as I am sure you will be.'⁵⁰ Brewster was no longer secretary of the RSE by this time, but used his influence with the new secretary, his friend John Robison, to promote his cause, reporting back to Forbes that he 'wrote twice to Mr Robison on the subject of your election, and I believe the way is now paved for our admission. Your hairs were not grey enough for that grave body, & nothing but your scientific attainments could have whitened them.'⁵¹ Although there were some further difficulties due to Forbes's young age, Brewster did finally manage to get him elected. Brewster's letters to Forbes in this period suggest an almost proprietorial interest in the recruitment of high-quality candidates for membership of the Society. He clearly saw the future of the Society and indeed its very survival, as well as the status of Scottish science more generally, as dependent on its success in recruiting the right kind of new members. The mechanism for the recruitment of new members was clearly a most effective way for existing members to establish or reinforce links of patronage and goodwill with aspiring men of science, while at the same time promoting the interests of Scottish science as Brewster saw them. It must have seemed that Forbes would be both a valuable acquisition to the Society and a useful asset in Brewster's patronage network.

To find out more about Brewster's allies at the RSE we can look at whose names appear as co-sponsors of proposed new members. Until 1820 Brewster always put forward possible new members in conjunction with two or more other proposers (the records of the Society do not make it clear whether an individual was the first proposer of a new member or seconding a proposal). After this date it seems his stock at the Society had risen to the extent that he could be the sole proposer, which thereafter was generally the case. (It was not unusual for the Society's record to indicate a single proposer in the period from the early 1820s until mid-century, although it never became the norm). In his earlier proposals the same names recur again and again as co-sponsors of new members alongside Brewster, and this can tell us a great deal about who his principal allies were within the Society. Eleven new members were proposed jointly with John Playfair between 1808 and Playfair's death in 1819 out of a total of 33 candidates proposed by Brewster in those years. This suggests a close relationship between the

⁵⁰ David Brewster to James David Forbes, 26 November 1828 (St Andrews University Library, Special Collections, msdep7 - Incoming letters 1828, no.42), f.1 recto.

⁵¹ David Brewster to James David Forbes, 20 January 1829 (St Andrews University Library, Special Collections, msdep7 - Incoming letters 1829, no.6), f.1 recto – 1 verso.

professor and his former student, who it will be remembered had also proposed Brewster himself as a member in 1808. Alongside Playfair, the names of the mineralogist Thomas Allan (1777–1833) and the chemist and geologist George Steuart Mackenzie (1780–1848) appear most often with Brewster's as proposers of new members. The former proposed the same candidates as Brewster on twelve occasions between 1808 and 1837 and the latter on eleven occasions. The same candidate was proposed by all three on two occasions in this same period. As well as his scientific interests, Allan was the proprietor of the *Caledonian Mercury* newspaper and was described by John Gibson Lockhart as a 'leading Whig'.⁵² As an enthusiastic follower of the phrenologist George Combe, it seems likely that Mackenzie too had Whig political sympathies, as Combe's social doctrines were hardly compatible with Tory political principles. Brewster also shared a strong interest in mineralogy with both of these men which formed the basis for friendly relations between them. Mackenzie in particular was described by Brewster's daughter in her biography of him as 'an early scientific friend'.⁵³ It therefore seems likely that their common interest in proposing new members was based ultimately on shared scientific interests, although a common political alignment may also have played a role.

If we turn to Brewster's contribution of papers to the meetings of the RSE, we find a pattern very similar to the one that emerges from his proposals of new members, although his activity here tails off more gradually into the 1820s and early 1830s. The number of these increases gradually from one paper a year in 1808 and 1809, reaching a peak of six or seven papers a year between 1815 and 1823.⁵⁴ Subsequently the number gradually declines, until after 1828 he contributes less than one paper a year on average up to 1837. The blizzard of papers between 1810 and 1824 suggests that Brewster was working very hard to make a name for himself at the RSE in this period. Once he was more firmly established in the mid-1820s, he may have felt able to reduce his activity and redirect his energies elsewhere. Of 96 communications to the RSE by Brewster between 1808 and 1837, only 32 were subsequently published in the *Transactions* of the Society. Unsurprisingly, the trend for the number of papers published largely follows that for papers read, with peaks of four papers a year published in 1816 and 1826. The drop off is less marked after 1828, with a much larger proportion of papers read being published than in the period before 1828, suggesting that Brewster's reputation was now such that the papers he gave were sure to be included in the *Transactions*.

⁵² John Gibson Lockhart, *Memoirs of the Life of Sir Walter Scott, Bart*, vol. 7 (Edinburgh, 1838), 245.

⁵³ Gordon, *Home Life of Sir David Brewster*, 119.

⁵⁴ These figures include both papers by Brewster read at a meeting of the RSE by someone else, and papers by others read by Brewster.

Brewster also read five papers on behalf of other people not present at the meetings. These were from the English astronomer Stephen Croombridge (1755–1832) in 1812, the French natural philosopher and astronomer Jean-Baptiste Biot (1774–1862) in 1815, the Church of Scotland Minister and Brewster's brother James Brewster (1777–1847) in 1816, the Swedish chemist Jöns Jacob Berzelius (1779–1848) in 1819, and the English mathematician Charles Babbage in 1822. He also exhibited a madreporite (stony coral) donated by the Marchioness of Huntly to the Society in 1821. Of these individuals Babbage was a member of the RSE when his paper was read, but, being based outside Scotland, presumably found it too difficult to attend the meetings himself; Berzelius became a member the year after his paper was read; and Croombridge and James Brewster were never members. As a woman, the Marchioness of Huntly would not have been eligible for membership and so could not have presented the coral to the Society in person. Biot is an interesting case. He was proposed for honorary membership by Brewster on 5 December 1814 and elected on 19 January 1815. Three papers by him were read by Brewster on 16 January, 1 May and 20 November of 1815, so the first was read after Brewster's proposal of Biot but before his election, and the other two within a few months of his election. It is clear that Brewster was keen to have such a notable figure in natural philosophy as a member and for the association between himself and Biot to be clear to all. Seen as a form of patronage, this worked in favour of both the writer and the reader of the paper, as the author had the honour of having his paper read before the RSE, while Brewster could benefit from linking his name with those of internationally renowned men of science such as Biot, Babbage, and Berzelius.

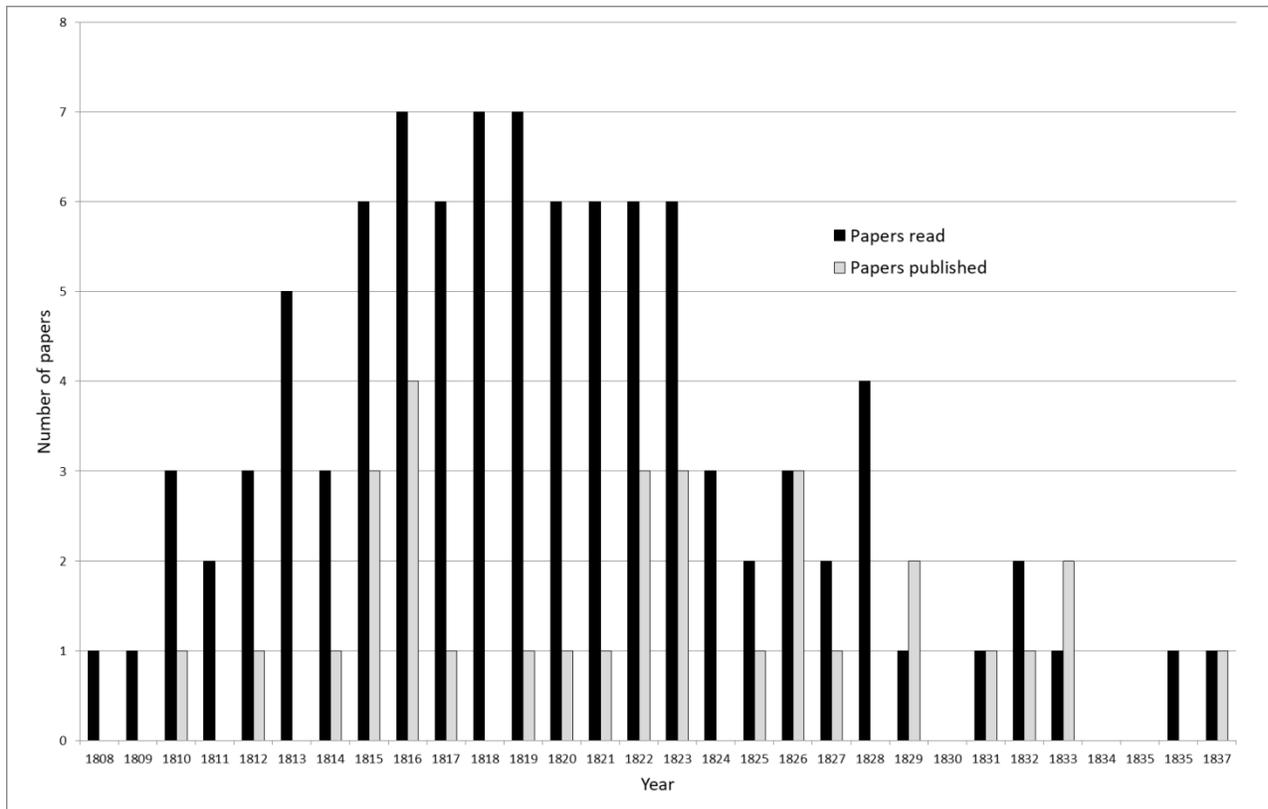


Figure 2: Number of papers by Brewster read at meetings of the RSE and published in its *Transactions* from 1808 to 1837. (These include all papers from Brewster, even if read to the Society by someone else, but not papers written by other people read by Brewster on their behalf.)

We have seen that, after a few years spent finding his feet at the RSE, Brewster was an extremely active member of during the 1810s and 1820s, his activity peaking around 1819, when he became general secretary of the Society. He was a prolific proposer of new members, an activity which not only increased his network within the Society, but allowed him to shape the membership by introducing new members, such as Forbes, who he thought would raise standards at the RSE and do credit to Scottish science. We have also seen that a number of his closest associates at the RSE, including Playfair, Russell, and Allan shared Brewster Whig political opinions. While Brewster can plausibly be identified as part of a Whig coterie within the RSE, his patronage network was by no means limited to those who shared his political views. His protégé Forbes, for example, was a moderate Tory from a wealthy Edinburgh banking family. In the next section we will see how ties of friendship and mutual interest could at times transcend political boundaries to include the RSE’s Tory president, Walter Scott, and the ‘radical’ anatomy lecturer Robert Knox.

Patronage and collaboration across the political spectrum: Two case studies

There is no doubt that Brewster was a lifelong reform Whig. In her biography of her father, written shortly after his death in 1868, Brewster's daughter Margaret describes him as 'a consistent though moderate Liberal'.⁵⁵ He not only held reformist convictions, but took an active role in politics in his native Roxburghshire in the 1830s. He was a member of the committee set up to support the electoral campaign of the Whig candidate for the constituency, Captain George Elliot (1784–1863), in the general election of 1832. In a letter to Charles Forbes he wrote 'I have exerted myself in conjunction with them to promote the success of a man of the first character, and attached as I am from conviction to the principles of Reform, I would gladly repeat all that I have done in giving them my support.'⁵⁶ The same sentiments are also expressed in a letter to Elliot's brother, Gilbert Elliot Murray Kynynmound, second earl of Minto (1782–1859).⁵⁷ However, not all of those he rubbed shoulders with at the RSE would have shared his convictions.

One of his close neighbours in the Borders was Sir Walter Scott (1771–1832), who was president of the RSE from 1820 until his death in 1832. For most of this time Brewster was the Society's general secretary. Scott was a confirmed Tory, who wrote to Robert Dundas, 2nd Viscount Melville, Henry Dundas' son, on his election as president of the Society that he had 'been chosen President of the Royal Society here which keeps one feather out of a Whig bonnet', suggesting that there was some concern in Tory circles that the Whigs were becoming increasingly dominant within the RSE.⁵⁸ Nevertheless, Brewster seems to have maintained a good relationship with Scott that went well beyond that required by their respective roles at the RSE despite their political differences. In her biography of her father, Brewster's daughter Margaret wrote that the 'friendship and intercourse between the families of Allerly and Abbotsford was intimate and frequent'.⁵⁹ Scott's journal gives a good sense of the friendly relations they enjoyed and the regular social contacts between their families during summers spent in the

⁵⁵ Gordon, *Home Life of Sir David Brewster*, 146.

⁵⁶ David Brewster to Charles Forbes, 8 November 1832 (Special Collections, St Andrews University Library, msdep7 - Incoming letters 1832, no.140), 2 recto.

⁵⁷ David Brewster to Gilbert Elliot Murray Kynynmound, second earl of Minto, 20 July 1832 (NLS, MS.13343) 155.

⁵⁸ Walter Scott, *The Letters of Walter Scott 1821–23* (eds Sir Herbert John Clifford Grierson, Davidson Cook) (Edinburgh: Constable, 1934), 35.

⁵⁹ Gordon, *Home Life of Sir David Brewster*, 136.

Borders. On 31 July 1826, for example, Scott paid a visit to Brewster and his wife. On 9 August of the same year the Brewsters returned the compliment, visiting Scott to share a 'day of happiness at the lake'.⁶⁰ On 3 July of the following year Brewster again dined with Scott, while on 25 August it was Scott's turn to dine with the Brewsters.⁶¹ Brewster could also be a socially useful presence at Abbotsford when Scott received 'philosophical' guests. In a letter to Maria Edgeworth from 1824 he recounted how Brewster had helped him out of a awkward situation when some 'philosophical friends' of Edgeworth came to visit and wished to discuss scientific matters: 'As the Gods have not made me philosophical I was happy to invoke the assistance of my neighbour Dr. Brewster an excellent fellow who talked geology and mineralogy and all other ologies with them to their heart's content.'⁶² Brewster could also be more practically useful; in 1825 Scott wrote to his nephew, also called Walter Scott, to say that Brewster had, at his request, written to recommend him for a post in the office of the engineer Thomas Telford (1747–1834) in London.⁶³ Regular social contacts between Brewster and Scott seem to have continued right up until the end of Scott's life. A little more than a year before Scott's death in September 1832, when his health was already failing, Brewster recounted in a letter to Forbes how he had recently visited him and 'had more agreeable conversation with him than I recollect of having ever'. Despite Scott's illness, '[h]is judgement, his memory and his imagination are unimpaired, and he is proceeding with his literary labours with the same energy and zeal as ever.'⁶⁴ When it looked as if the Tory Scott might not be re-elected as president of the RSE in November 1831 due to 'the present temper of the public mind' being in favour of reform, the Whig Brewster wrote to the Tory Forbes to urge him to use all his influence in favour of Scott, arguing that 'Sir Walters name is a real ornament to the Society, His time when very valuable to himself was directed to our service, & it would be the height of ingratitude, after his offer of resignation last year, to forget or to dishonour him in his old age & in his absence.'⁶⁵ Personal loyalty and affection clearly effortlessly trumped politics on this occasion. Likewise, when Brewster was recommending the well-connected Forbes for membership of the RSE in 1829, he made it clear that his high opinion of him was based squarely and solely on his scientific attainments:

⁶⁰ Walter Scott, *The Journal of Sir Walter Scott from the Original Manuscript at Abbotsford*, vol. 1 (Edinburgh, David Douglas, 1891), 233, 241.

⁶¹ Scott, *Journal of Sir Walter Scott*, vol. 2, 2, 25.

⁶² Walter Scott to Maria Edgeworth, October 1824, in Scott, *Letters of Sir Walter Scott 1823–1823*, 382.

⁶³ Walter Scott to Walter Scott, 1 November 1825, in Scott, *Letters of Sir Walter Scott 1826–1826*, 268.

⁶⁴ David Brewster to J.D. Forbes, 1 June 1831 (Special Collections, University of St Andrews, msdep7 - Incoming letters 1831, no.21), 1 verso – 1 recto.

⁶⁵ David Brewster to J.D. Forbes, 19 November 1831 (Special Collections, University of St Andrews, msdep7 - Incoming letters 1831, no.45), 1 verso.

‘even if he were the Son of a peasant, his learning, his inventive genius, and his absolute devotion to science entitle him to the warmest reception which the R. Society can give him’.⁶⁶

On the opposite end of the political spectrum the RSE also numbered among its more active members in the 1820s the anatomist Robert Knox, a prolific contributor of papers on comparative anatomy to the Society’s meetings who also had links to Brewster. The extent of his ‘savage radicalism’, as Adrian Desmond puts it, is hard to determine, but he was certainly a flamboyant character with unconventional views.⁶⁷ Yet this seems not to have presented any barrier to his contributions to the Society. He read a total of twenty-one papers to the RSE between 1823 and 1838. The RSE was a forum in which it was perfectly possible for the Tory Scott to rub shoulders with the ‘savage radical’ Knox. During the early 1820s Knox seems also to have had a cordial and mutually beneficial relationship with Brewster. They had a common interest in the functioning of the eye, and, based on the evidence of the RSE’s minute books, they were on good enough terms to share a specimen of mutual interest on at least one occasion. In 1823 they each wrote a paper on the eyes of the squid *Sepia loligo*; Knox’s paper was read at the meeting of 3 November 1823 and Brewster’s on 15 December 1823 (Knox also read another, separate, paper on the anatomy of the eye immediately after Brewster’s on 15 December). Knox subsequently published his paper on the eye of the squid in Brewster’s *Edinburgh Journal of Science*.⁷⁰ In the published version Knox alluded to Brewster’s RSE paper on the same topic and made the collaborative nature of their work clear by pointing out that he himself had ‘had the honour of demonstrating the principal anatomical facts to the present distinguished Secretary of the Society.’⁷¹ This episode gives another striking example not only of the operation scientific networks in early nineteenth-century Edinburgh but also of the way in which Brewster’s roles as journal editor and general secretary of the RSE overlapped and reinforced each other. Knox was able to demonstrate his own virtuoso anatomical skills while at the same time highlighting Brewster’s ‘extensive knowledge of

⁶⁶ David Brewster to [John Robison], 8 January 1829, quoted in James David Forbes, ‘Extracts from letters from Dr Brewster on proposing Mr Forbes as a candidate for admission to the Royal Society’ (Special Collections, University of St Andrews Library, msdep7 - Incoming letters 1833, no.1), 1 recto.

⁶⁷ Adrian Desmond, *The Politics of Evolution: Morphology, Medicine, and Reform in Radical London* (Chicago, IL, 1989), 73. In fact we know very little of Knox’s political views before his move to London in the 1840s, and they are difficult to discern from his subsequent writings due to his extravagant style and often seemingly self-contradictory statements. For a detailed account of Knox’s life and character, see A. W. Bates, *Anatomy of Robert Knox: Murder, Mad Science & Medical Regulation in Nineteenth-Century Edinburgh* (Eastbourne, 2010).

⁷⁰ Robert Knox, ‘On the limits of the retina in the eye of the *Sepia Loligo*, one of the cephalopodous Mollusca’, *Edinburgh Journal of Science* 3: 6 (1826) 193–200. Knox was a fairly regular contributor to Brewster’s journal, publishing seven articles there between 1824 and 1830.

⁷¹ *Ibid.*, 200.

optics [that] eminently qualify him for so difficult and obscure an inquiry.’ The RSE provided the perfect venue and showcase for such fruitful and mutually beneficial collaborations.

We know that Scott did not like Knox personally. Aside from any political considerations, it seems probable the anatomist’s trade in human flesh would have been enough to make him distasteful to Scott. Brewster wrote to John Robison, his successor as general secretary of the RSE, that Scott ‘had a deep dislike to Knox’ even before the West Port murders made him notorious.⁷² But Scott’s personal opinion of Knox do not seem to have had any bearing on Knox’s membership or active involvement in the Society, except in one case that occurred under very exceptional circumstances, which I will discuss below. There is certainly no evidence that Knox’s political views played any part in conditioning Scott’s attitude towards him.

One dramatic and instructive incident sheds much light on Brewster’s relationship with both Scott and Knox, and with the RSE itself. Scott had called a meeting of the Council of the RSE in January 1829 with the intention of opposing the reading of one of Knox’s papers because he considered it in bad taste for Knox to read an essay on ‘some dissections’ so soon after his involvement in the notorious West Port murder case of the previous year. Knox had bought cadavers for dissection in his extra-mural anatomy school from William Burke and William Hare, who it turned out had committed a string of murders for the purpose of acquiring bodies for sale. There was no evidence that Knox was aware of the provenance of the corpses, but his reputation was nonetheless badly tarnished. Scott wrote in his *Journal* that it was ‘[a] bold proposal truly from one who has had so lately the boldness of trading so deep in human flesh! I will oppose his reading in the present circumstances if I should stand alone, but I hope he will be wrought upon to withdraw his essay or postpone it at least. It is very bad taste to push himself forward just now.’⁷³

Brewster was very much on Knox’s side in the heated, and at times violent, controversy that swirled around the anatomist as a result of his involvement in the West Port murder case. He candidly expressing his support for Knox in a letter to John Robison of 20 March 1829. The occasion for his letter was the news that Scott had called a meeting to oppose the reading of Knox’s paper. Brewster wrote that, ‘[i]f the Council were to refuse to receive Dr Knox’s papers, I would certainly resign’, although he quickly added ‘had I been an ordinary member, and not so particularly connected as I have been with

⁷² David Brewster to John Robison, 20 March 1829 (National Library of Scotland, Acc.10000/352), f. 1 verso.

⁷³ Scott, *The Journal of Sir Walter Scott*, vol. 2, 217.

the Institution.⁷⁴ While Brewster clearly liked and respected Knox, he was not willing to sacrifice his own position within the RSE in his defence. He was prepared to support the beleaguered anatomist in his private correspondence with Robison, but not to go head to head with Scott over the matter. When forced to choose between supporting a respected fellow man of science, who Brewster clearly believed had been wronged, and his own reputation and that of the RSE, he clearly chose the latter, and decided to take no action. However, far from this episode putting an end to his career at the RSE, Knox was soon once again regularly reporting his researches in comparative anatomy to the Society, starting with a paper on the anatomy of the dugong on 21 December 1829.⁷⁵

Decline and disillusionment: Brewster's critique of the RSE from the late 1820s and 1830s

In 1830 Charles Babbage published his controversial work on *The Decline of Science in England* sparking a lively debate on the state of British science and the role of the state in its advancement. A major part of Babbage's argument was a critique of the RSL and its ineffectiveness at promoting the interests of science in England. Brewster, who had been a fellow of the RSL himself since 1815, was an important supporter of Babbage in this debate. According to Brewster, the RSL had 'for years, been managed by a party or coterie', which 'usually consisted of persons of very modest talent' who ran the Society for their own benefit.⁷⁶ This aristocratic clique of dilettantes blocked any prospects of reform within the Society. Brewster became deeply embroiled in this debate, and in a lengthy review of Babbage's book he extended his critique to the RSE, writing that the RSE, like the RSL, was 'under the management of persons little acquainted with science'.⁷⁷ This might seem ironic in the light of Brewster's support for Scott as president of the Society, given the latter's obvious lack of scientific credentials. However, Scott's huge cultural standing made him a valuable asset as a figurehead for the Society, and, in any case, Brewster was loyal to Scott as a man he clearly considered a valued personal friend.

⁷⁴ David Brewster to John Robison, 20 March 1829 (National Library of Scotland, Acc.10000/352), f. 1 verso.

⁷⁵ Royal Society of Edinburgh, Minute book of the Royal Society, from 2 January 1824 to 1 May 1842 (NLS, Acc.10,000/5), 75.

⁷⁶ Charles Babbage, *Reflections on the Decline of Science in England, and on Some of Its Causes* (London, 1830), 141.

⁷⁷ [David Brewster], Review of Charles Babbage, *Reflections on the Decline of Science in England, and on Some of Its Causes*, *The Quarterly Review* 43: 86 (1830) 305–42, 324.

Brewster was not the only one who sensed a decline in the fortunes of the RSE in this period. In September 1828 John Robison, who was to take over as secretary of the Society from Brewster later that year, wrote to Walter Scott pointing out that it would be 'very desirable that some means should be resorted to give a little more general interest to the proceedings of the Royal Society than they appeared to possess last winter, during which a grieving degree of apathy seemed to prevail.'⁷⁸ Robison proposed an active campaign to procure more and better papers for the meetings of the Society. This does not, however, seem to have led to any appreciable improvement in the situation in the years that followed, for in June 1830 we find Forbes writing to Robison to say that he shared his opinion regarding the plight of the RSE. Forbes bemoaned the 'mismanagement of the affairs' and 'misdirection of the efforts of that Society'.⁷⁹ He end his letter by saying that in his opinion 'if something strong is not done, & that quickly, the Royal Society must speedily become "vox et praeterea nihil [sound without substance]"'.⁸⁰

Brewster's difficulty in getting his nominations for new members accepted on a number of occasions was also a source of frustration for him. Although he was finally accepted as a member, Forbes was at first rejected because of his youth in 1829. Another protégé of Brewster's, James Finlay Weir Johnston (1796–1855), had been refused membership the previous year, much to Brewster's annoyance. The Council of the RSE asked Johnstone to 'defer his petition, till he is more known as a man of science'.⁸¹ Having presumably proved his scientific credentials, he was finally elected in 1832. Brewster also struggled to get the RSE to pay for his legal expenses, incurred while trying to recover some the Society's property from the University of Edinburgh's museum, where it had been deposited for safekeeping. Robert Jameson, the professor of natural history and keeper of the museum proved extremely resistant to Brewster's requests that the items be returned. Brewster lost the case and he was ordered by the sheriff to pay Jameson's expenses of £23.12.2, an expense which Brewster passed on to the RSE. In March 1825 a committee consisting of Henry Jardine, James Skene, Thomas Allan, John Robison and, according to the minutes of council, Brewster himself, was set up to investigate the affair. The committee expressed the view that it was a 'particularly hard case that the R. Society should be made liable for so considerable an expense, when the object in view might have been attained by other

⁷⁸ John Robison to Walter Scott, 7 September 1828 (NLS, MS.3907), f. 90 recto.

⁷⁹ James David Forbes to John Robison, 15 June 1830 (Special Collections, St Andrews University Library, msdep7 - letterbook 1, 108.

⁸⁰ *Ibid.*, 118.

⁸¹ Royal Society of Edinburgh, Minutes of the council Nov 1821 to Dec 1827 (NLS, Acc 10,000/16), 11.

means'.⁸² The committee recommended that in future no office bearers should be allowed to enter into any transaction potentially involving the use of Society fund without the prior approval of the Council.

Another source of concern to Brewster was the haemorrhage of talented members to London, or even further afield in some cases, leaving the Society starved of men of science with solid reputations for original research. In November 1828 he wrote to Forbes:

I resign the Secretaryship of the Society at the general Election this month, but I shall do all I can to keep it in activity, tho' I fear, from the present torpid Science in Great Britain, that all provincial Societies will be swallowed up in the Royal Society of London. The loss of D^r [Leonard] Horner & D^r R[obert]. Grant is irreparable, & Mr [Wilhelm Karl Ritter von] Haidinger's return to Germany taking place at the same time has deprived Edin^r of most of its scientific ornaments. We who have begun our West-ward course look ~~in~~ anxiously for some rising stars, but excepting yourself and Mr [John] Foggo I know of no young men who are likely to extend the boundaries of Science.⁸³

As the quotation above indicates, Brewster became increasingly concerned that the lure of London would lead to the impoverishment of Scottish science and that Edinburgh and the RSE would be reduced to a provincial scientific outpost rather than a rival centre in its own right. He was afraid, for example, that his young protégé, Forbes, would be drawn by the lure of metropolitan scientific circles, following in the footsteps of Leonard Horner and Robert Grant, who both moved to the British capital in 1827 to take up posts at the newly founded London University. As he wrote to Forbes candidly on the occasion of the rejection of his candidacy for membership of the RSE in 1828:

I was very much annoyed to learn from Mr Robison that the Council had declined to pass your certificate on account of your youth; and I wrote him very strongly on the subject and stated that such a step might lose deprive the Society of all your future labours, as you might possibly become a Fellow of the Royal Society of London before they found you old enough, and that then you would not think of entering their body. A case analogous to this has actually happened, where an eminent Scotchman whom I wished the Council to recommend, & who they thought

⁸² *Ibid.*, 10.

⁸³ David Brewster to James David Forbes, 13 November 1828 (Special Collections, St Andrews University Library, msdep7 - Incoming letters 1828, no.38), 1 verso – 2 recto.

was not sufficiently known, has been made a F. R. S. London, & is now a contributor to their Transactions. It was Mr Ritchie of Tain.⁸⁴

There is a striking correlation between Brewster's expressions of disillusionment with the state of the RSE and a marked decline in his activity at the Society, both in terms of new members proposed and papers given. There was, however, no alternative body representing Scottish science, and Brewster was certainly not going to withdraw from it altogether. Instead, he successfully stood for election as vice-president in 1831, a post he was to hold for more than thirty years. Nonetheless, his contributions both to the recruitment of new members and to the scientific life of the society were never to regain their peak of the late 1810s and remained at a relatively low level from around 1829 onwards.

Conclusion

The Scottish literati of the Enlightenment period were typified by both a remarkable intellectual openness and tolerance, and a striking social and political conservatism. The RSE was very much a product of this intellectual climate, and reflected the values of its founders. This still seems to have been true in the early decades of the nineteenth century. While the doors of the Society were firmly closed against women and men of the labouring classes, even the son of a joiner could become a member if he could demonstrate appropriate academic credentials and solid scientific accomplishments. While the RSE was very much in origin a project of the Moderate Edinburgh literati of the late eighteenth century, integrated as they were with the Dundas regime, all shades of moderate political opinion seem to have been tolerated within the Society. There was clearly a significant Whig presence at the RSE from the very beginning centring on the figure of John Playfair, who acted as a mentor to many younger Whig scientists, including David Brewster. While there appears to have been a Whig coterie within the Society who tended, for example, to support each other's proposals of new members, they also formed friendships and alliances that crossed political boundaries, such as those between Brewster and the Tories Walter Scott and James David Forbes. On the other side of the political spectrum, he also respected and collaborated with figures who held more radical political views, such as the anatomists Robert Knox and Robert Grant.

⁸⁴ David Brewster to James David Forbes, 31 January 1829 (Special Collections, St Andrews University Library, msdep7 - Incoming letters 1829, no.9), 1 recto – 1 verso.

Shapin has explored how the early Royal Society of London exemplified a 'discursive culture which was elaborated by the general desire to prevent dissent from provoking disaster.'⁸⁵ This atmosphere of mutual respect required that members of the group set aside their religious or political differences when they met together as men of science. As Shapin has acknowledged, the idea of an in-group of gentlemen of science whose word could be implicitly trusted had a long history that reaches well beyond the early-modern period; as he points out, '[t]he normative presumption of gentlemanly equality endured well into the nineteenth century.'⁸⁶ The RSL was founded against the background of the religious and political chaos of the earlier seventeenth century and this goes a long way to explaining the anxiety of its founders to leave their political and religious differences at the door. The RSE in the early nineteenth century also existed in a period of intense political division in the aftermath of the French Revolution, which led to an upsurge of both popular radicalism and government repression in Scotland. The religious life of the country was also already marked by signs of the conflict between Moderates and Evangelicals within the Church of Scotland that was to tear the Church apart in the Disruption of 1843. There was therefore good reason to keep the tensions that divided Scottish society at arm's length within the RSE. I would argue that the gentlemen of science who composed the RSE at the beginning of the nineteenth century were imbued with the same essential ethos as their counterparts in seventeenth-century London. The Society was a self-selecting group of relatively high-status men who recognised one another as 'gentlemen of science'. Clearly, well-connected aristocratic dilettantes had little difficulty establishing their credentials as insiders. But it was possible for a talented man from a relatively modest background, such as Brewster, with substantial help from powerful patrons within the Society and the University, to gain entry and, once inside, to turn the Society's resources to account to build his own patronage network and reputation as a man of science.

In the decade before the passing of the First Reform Act of 1832, the political turmoil in the country at large does seem to have spilled over into the life of the Society to some extent. As we have seen, despite his huge cultural stature, Walter Scott's Tory politics put his presidency of the RSE in peril in the early 1830s. The Whigs, however, were very far from coming to dominate the Society. Brewster's own attitude towards the Society seems to have become increasingly negative at around this period. Having worked hard to recruit new members who he believed would contribute to the life of the society and presented numerous papers on his inventions and discoveries, Brewster seems to have become

⁸⁵ Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago, IL, 1994), xxvii.

⁸⁶ *Ibid.*, 45.

disillusioned with the RSE in the late 1820s, at around the time he resigned as general secretary. His contributions had begun to fall away in the mid-1820s and dropped very significantly in the last few years of the decade. He voiced his concerns on the state of the Society to his younger friend Forbes at this time, bemoaning the decline of the Society and the 'irreparable loss' of many scientifically active members, including a number who had moved to London. Brewster feared the eclipse of Edinburgh as an independent international scientific centre as the London–Cambridge axis came to dominate British science. He feared that the RSE would succumb to the same fate that Babbage bemoaned at the RSL, and it would become dominated by a dilettantish, aristocratic clique with no real scientific talent or accomplishments.

Despite Brewster's dark forebodings, the RSE did not collapse or become amalgamated into the RSL. It was to remain the most important scientific institution in Scotland. In 1837 Brewster finally found the financial and professional security he had been denied earlier in life when with the help of his old friend Henry Brougham, by now an influential member of the House of Lords, he was appointed principal of the University of St Andrews. This new-found security and relative prosperity made network-building at the RSE less of a necessity for him. However, far from abandoning the Society, Brewster was elected vice-president in 1831 and eventually president in 1864, by which time he had become a grand old man of Scottish science. Holding a high office in the RSE was clearly still an important symbol of Brewster's status as a leading natural philosopher. In comparison with the role of general secretary, these positions would have been considerably less onerous. While they reflected the reputation Brewster had achieved as a leading figure in Scottish science, they required much less involvement in the day-to-day running of the Society and Brewster's active involvement in the life of the RSE was a mere shadow of its peak in the 1810s. But by then he had already made his name as one of the foremost natural philosophers in the country and could afford to adopt a more complacent attitude towards the Society.

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