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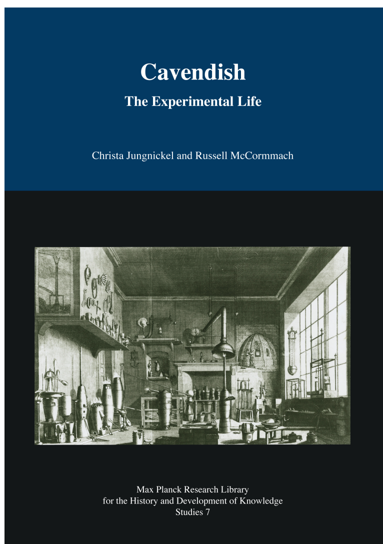
Christa Jungnickel and Russell McCormmach:

Politics



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Chapter 13
Politics

The president of the Royal Society Joseph Banks kept his distance from political faction: "I have never entered the doors of the House of Commons," he told Benjamin Franklin at the time of the American Revolution, "& I will tell you that I have escaped a Million of unpleasant hours & preserved no small proportion of Friends of both parties by that fortunate conduct."[1] The year after Banks wrote to Franklin of his apolitical conduct, he became the focus of a political struggle in the Royal Society. Like Banks, Henry Cavendish did not participate in national politics, but like Banks and because of Banks he was drawn into a contest for power among the men of science.

Royal Society

In his history of the Royal Society, Charles Richard Weld wrote that it was "painful" for him to turn to the events of 1783 and 1784. He would rather have passed over them in "silence," but duty fobade it. He gave what he regarded as an impartial account of the so-called "dissensions," which "turned the hall of science into an arena of angry debate, to the great and manifest detriment of the Society."[2] The dissensions originated, Weld said, in a widespread resentment of Joseph Banks (Fig. 13.1). President of the Royal Society since 1778, Banks announced at the time of his election his "determination to watch over the applications for admission, and the election by ballot." There being no secret about it, fellows wishing to elect a new member would likely bring him to one of Banks's breakfasts, and if Banks approved of him, he would then be invited as a guest to a dinner of the Royal Society Club, at which Banks also presided, where he would meet influential members. If Banks disapproved of the candidate, he would urge fellows to blackball him at balloting time.[3] Banks was not always successful.[4]

For the good of the Society, Banks believed, members should bring in two kinds of persons, men of science and men of rank.[5] Like the membership at large, the ruling Council of the Society contained men of both kinds, and here again, in the elections Banks made clear his likes and dislikes, exposing himself to the charge of packing the Council with pliant friends. Banks's forceful interference in elections revealed a pattern, so certain members

[1] Joseph Banks to Benjamin Franklin, 9 Aug. 1782, quoted in A. Hunter Dupree (1984, 15).

[2] Charles Richard Weld (1848, 2:151). This discussion is taken largely from Russell McCormmach (1990). We acknowledge permission by the Associated University Presses to use material from this chapter.

[3] Weld (1848, 2:152–154). "Sir Joseph Banks," in Henry Brougham (1845, 364).

[4] Charles Blagden to Joseph Banks, 30 Oct. 1785, Banks Correspondence, Royal Botanic Gardens, Kew, l:213.

[5] In defense of Banks, Andrew Kippis said that in addition to men of science and men of rank and fortune, the Royal Society should have a third category, "men of general literature," who could form "a right opinion concerning the general value of the philosophical observations and experiments which are produced at the Society's meetings." J.L. Heilbron (1993b, 88).

thought, of a bias against men of the mathematical sciences, in favor of men of rank and and men of the life sciences. Their dissatisfaction with Banks came to a head in, as Weld turned it, the “violent dissensions, foreign to matters of science,” of 1783 and 1784.[6]

Figure 13.1: Sir Joseph Banks, Bt, by Thomas Phillips, 1810. Wikimedia Commons.

In Weld’s and other historical accounts of the dissensions, Henry Cavendish receives only one brief mention, if any at all. Speeches are quoted at greater or lesser length, but Cavendish is recalled only for his seconding of a motion of approval of Banks as president of the Society.[7] This, to be sure, is the only time Cavendish entered the public record of the dissensions, but there was more to his involvement than this, as there had to be given his standing in the Society.

To understand his part in the dissensions, we need to recall some of the characteristics of the political Cavendishes. A historian writes of the family:

> Much was heard of the “great Revolution families” – of whom some of the proudest, as Sir Lewis Namier has pointed out, were in fact descended from Charles II’s bastards. These families—above all, perhaps, the Cavendishes—could not forget that their ancestors had, as it were, conferred the crown upon the king’s ancestors, and they did not mean to let him forget it either, for they alluded to it in season and out of season. They looked upon themselves as his creators rather than his creation: one would almost say that they had forgotten

[6]Weld (1848, 2:153, 170). Henry Lyons (1944, 198–199).
[7]Weld (1848, 2:162). Lyons (1944, 213).

> that the dukedom of Devonshire itself had been established, less than a century earlier, by the merely human agency of a king.[8]

Edmund Burke observed in 1771, "No wise king of Great Britain would think it for his credit to let it go abroad that he considered himself, or was considered by others, as personally at variance with […] the families of the Cavendishes …,"[9] but George III, Burke also observed, was no wise king. By then it was understood that the nation was governed by a cabinet headed by a prime minister, who depended on a majority in the House of Commons, all of the ministers in the Cabinet being seated in Parliament, an arrangement that was thought to have resolved the conflict between the king and Parliament of the previous dynasty. Having other ideas, George III wanted to make the cabinet and prime minister instruments of his will,[10] and upon acceeding to the throne in 1760, he immediately set about to break the power of the old Whig families. In fact, although it was not entirely obvious at the time, the Whig ascendancy had already come to an end. Marking this historic turn was the resignation in 1762 of the fourth duke of Devonshire, after whom never again could a Devonshire assume that holding high office was his birthright.

Henry Cavendish entered the public world of science at just this time, in 1760, with his election to the Royal Society and the Royal Society Club. He showed no interest in a career in politics, then or ever. He would have found campaigning hard and speaking in the House of Commons probably impossible; at best, he would have found assignments in technical committees. In its place, he wisely chose a life of science. However, from his part in the dissensions of the Royal Society, we get an idea of the kind of politician he would have made.

Devonshire House, the Piccadilly mansion of the dukes of Devonshire, was the London headquarters of the so-called New Whigs of the 1780s.[11] They were libertarian and passionately opposed to George III's policy on the American colonies. Their leader Charles James Fox was in fundamental disagreement with his king over who should govern. He believed that power was properly exercised only through the king's ministers, while the king was merely to sit on the throne, not rule from it, whereas George III believed that his ministers were *his* ministers, bound by loyalty to uphold his policy. In the ensuing constitutional struggle, the government of the kingdom was brought to a standstill. The person of George III was *the* political issue, as John Dunning asserted in his resolution of 1780, which was favored by a parliamentary majority: "That the influence of the Crown has increased, is increasing, and ought to be diminished."[12] An argument has been made that the years 1783–84 saw the greatest "political convulsion" in Britain since the Revolution of 1688–89.[13]

The same years saw the dissensions of the Royal Society, in which the president, Joseph Banks, was accused, like George III, of desiring personal rule, bringing the regular business of the Society to a standstill. The immediate cause of the dissensions was a disagreement between Banks together with his Council on the one hand and the foreign secretary Charles Hutton on the other. The foreign secretary was not necessarily on the Council. When Hutton was elected to his office in 1779, he happened also to be on the Council, but not after 1780

[8] Richard Pares (1953, 58–59).
[9] Ibid., 59.
[10] G.M. Trevelyan (1953, 3:64).
[11] Whigs are important in Hugh Stokes (1917).
[12] Pares (1953, 119–125, 134–135).
[13] John Ashton Cannon (1969, x–xi).

when the dissensions occurred. At a meeting of the Council on 24 January 1782, Hutton's responsibility and performance were taken up, the former judged burdensome, the latter deficient. Hutton, it was decided, had not dealt with the foreign correspondence with sufficient punctuality" and was "by no means adequate to the duties of his office." Because he was also overworked and underpaid, a probable reason for his tardiness, the Council resolved that in the future, he should not be expected to translate foreign articles and extracts from books, and in return he was not to fall behind in the foreign correspondence. Hutton agreed to continue as foreign secretary with this new understanding. Nothing more was heard of the matter publicly until nearly two years later when at the meeting of the Council on 20 November 1783, it was resolved that the foreign secretary had to live permanently in London, a vote which was obviously directed against Hutton, who as professor of mathematics at the Royal Military Academy at Woolwich could not live in London. Hutton promptly resigned, and at an ordinary meeting of the Society on 11 December 1783, it was moved that Hutton be formally thanked for his services as secretary for foreign correspondence. After a vigorous debate, the motion was passed by a narrow margin, and Banks, who had opposed the motion, duly thanked Hutton. At the following meeting, on 18 December, the secretary read aloud a written defense by Hutton of his performance, after which a motion was made that Hutton had justified himself. The motion was carried, but again only after a vigorous debate. The mathematician Samuel Horsley attacked Banks, accusing him of infringing upon the chartered rights of the Society, and he said he knew of enough wrongs to keep the Society "in debate the whole winter [...] perhaps beyond the winter."[14] The prospect of a winter spent in debate would have been disturbing to Cavendish, who regarded the serious scientific purpose of the Society as having priority. He became actively, if invisibly to all but a handful of members, engaged in shaping the outcome of the dissensions. His activity is reported in daily letters from Blagden in London to Banks at his country house.

Highly personal in tone, the debates about the leadership of the Society turned on a judgment. The principal question the members addressed was this: had the Society been seriously damaged scientifically and had its honor been tarnished by its president? To keep Banks informed about opinions on the question, Blagden delicately inquired into Cavendish's position. Naturally, Banks needed to know where the Society's scientifically most eminent member stood. Four days after the stormy meeting of the Royal Society, after dining at the Monday Club Cavendish accompanied Blagden to his home, where they discussed the troubles of the Society. That morning Cavendish had gone to see Heberden, and the two of them had arrived at a common position. Blagden reported to Banks that Cavendish and Heberden would support him, but "just." While Cavendish did not "absolutely refuse a vote of approbation" of Banks, he would "absolutely oppose" any resolution that by its wording would seem to pass censure on Horsley and his friends, for they had given no evidence of acting out of any motive other than the good of the Society, and the good of the Society required that its members exercise just such scrutiny of their president and Council. Cavendish, however, did not mean that debates should be allowed during regular meetings, disrupting the scientific business of the Society. To put a stop to the debates without denying members their rights, Cavendish proposed a resolution that he believed would be passed by a very large majority. From dictation Blagden wrote down the resolution and read it back to confirm the wording: "That the proper method of rectifying any abuses which may arise in

[14] Weld (1848, 2:154–160). 24 Jan. 1784, Minutes of Council, Royal Society 7:97–98 (University Publications of America microfilm edition).

the Society is, by choosing into the Council such persons as it is supposed will exert themselves in removing the abuses and not by interrupting the ordinary meetings of the Society with debates." Blagden did not think that this resolution would have the result Cavendish intended. Horsley would agree that it was the task of a new Council to remedy abuses, but he would argue that for the Society to be made aware of the abuses, the debates must continue. Such an argument from Horsley, Cavendish thought, would carry weight, but there was an effective answer to it. The Society would inform itself of any abuses by holding special meetings for the purpose, and then if Horsley persisted with his interruptions, the Society would be within its rights to censure or even expel him. After his conference with Cavendish, Blagden gave Banks his opinion: the resolution Cavendish proposed was probably the best of any so far, and if to it was added another resolution that any motion had to be announced at the meeting before it was to be debated, the whole affair might be brought to a speedy and favorable conclusion.[15]

Cavendish's resolution omitted all mention of support for the incumbent president, Banks, which was something less than Blagden and Banks had hoped from him. Cavendish did not even want to talk to Banks about past Councils because he would find it awkward, one obvious reason being that Cavendish had been omitted from them. Cavendish believed that Banks was "a little blamable" on this subject, though he "forgave" him. With Blagden's prompting, Cavendish recalled past presidents he had served under. Banks's predecessor, the physician John Pringle, Cavendish said, had acted like Banks and had given rise to the same complaint about ineffective Councils. Pringle's predecessor, the antiquary James West, was "King Log" (from Aesop's fable of the frogs who desired a king to watch over their morals and were thrown an insipid log instead). But West's predecessor, the astronomer and mathematician Lord Morton, had handled the affairs of the Society in an unexceptionable way. Cavendish allowed that Banks's method of choosing the candidates for Council was fair, but he blamed him for not doing as Morton did, which was to "put in people who would have an opinion of their own, without agreeing implicitly with the President in every thing." Cavendish believed that if his resolution carried, it would mean that on election day there would be a contest. He wanted Blagden to reassure Banks that he would support the "House list" on election day unless it was "very exceptionable." He also wanted Blagden to tell Banks that he did not want to be consulted on the list beforehand, as Banks hoped he would. Blagden told Cavendish—Blagden quoted himself to Banks—that "any list that he [Cavendish] can possibly think good, will be sufficient for me."[16]

Through Blagden, Banks asked Cavendish to come to his house the next day, which was Christmas. Cavendish replied, through Blagden, that he could not come. Blagden explained to Banks that it was "possible" that Cavendish had set aside the day for doing experiments, but most likely he wanted to avoid an "embarrassing conversation" with Banks. Banks was to be reassured that Cavendish was not "hostile" toward him and wanted to remain on good terms. It was necessary only that Banks should allow Cavendish to differ with him in opinion

[15]Charles Blagden to Joseph Banks, 22 Dec. 1783; original letter in the Fitzwilliam Museum Library; copy in BM(NH), DTC 3:171–172.
[16]Ibid. Charles Blagden to Joseph Banks, Wednesday morning [24 Dec. 1783]; original letter in the Fitzwilliam Museum Library; copy in BM(NH), DTC 3:176.

at any time "without an open quarrel"; this was to repeat what Cavendish wanted of Banks in his dealings with the Council.[17]

In conversation with Cavendish, Blagden brought up the principal disrupter of the meetings of the Society, Banks's enemy, Horsley. To Banks, Blagden quoted Cavendish to convey his exact meaning. These being the only faithfully recorded spoken words by the taciturn Henry Cavendish, they hold an interest of their own.

> *Cavendish*: I did not expect any success from the Drs negotiations [Dr. Heberden and, no doubt, Dr. Horsley]. But whatever violence *they* may express, that is no reason against proceeding with all moderation, as by such conduct the sense of the Society will be insured against them.
>
> *Blagden*: I wish you would see Dr. H[orsley] & learn from himself the implacable temper expressed; as I think you would then change the opinion to which you seemed inclined when we conversed last, that those gentlemen might have nothing in view but the good of the Society.
>
> *Cavendish*: I did not say they had nothing else in view, but only that no proof yet appeared of other motives.

At the end of their conversation, Cavendish came around to Blagden's position: he, like Heberden, would approve a vote of confidence in Banks, but only if the wording gave no offense. By this, Blagden declared himself highly satisfied with the results of his mediation.[18]

Blagden informed Banks, "Great opposition is making against you," some members being "decidedly against you even on the subject of the Presidency." So far as he could learn, Blagden said, they intended to put Lord Mahon in Banks's place. The alleged injustice done to Hutton as foreign secretary was only the pretext; the real cause of the dissensions was a "grudge of very old standing," backed by many grievances, Heberden told Blagden.[19] Heberden did not elaborate on the grievances, but they certainly included hard feelings arising from a rift between the natural historians and the mathematical practitioners, who were competing for authority within the Society. The natural historian Banks was thought to favor natural history, as were his allies the aristocrats and gentry, who were interested in horticulture and agriculture.[20] The grievances also included Banks's alleged exclusion of deserving men from the Society because they were not of sufficient social rank, their favorite example being the able mathematician Henry Clarke, whom they said was kept out because he was a mere schoolmaster. The membership of the last Council they held in derision. The battle line, as they drew it, was between Banks's fancy gentleman, or "Maccaroni's," and the "men of Science."[21]

Blagden attached a postscript to a letter he sent to Banks dated Monday, 29 December, which read: "Resolved, That this Society approve of Sir Jos: Banks as their President, and

[17]Charles Blagden to Joseph Banks, 24 Dec. 1783; original letter in the Fitzwilliam Museum Library; copy in BM(NH), DTC 3:177–179.

[18]Ibid.

[19]Blagden to Banks, 23 and 27 Dec. 1783. *Supplement* to: Friend to Dr. Hutton, *An Appeal to the Fellows of the Royal Society, Concerning the Measures Taken by Sir Joseph Banks, Their President, to Compel Dr. Hutton to Resign the Office of Secretary to the Society for Their Correspondence* (London, 1784), 11, 15.

[20]David Philip Miller (1981, 288–289).

[21]Blagden to Banks, 27 Dec. 1783. Charles Blagden to Joseph Banks, 28 Dec. 1783, Fitzwilliam Museum Library, Perceval H202.

mean to support him in that office." "Such, my dear friend," Blagden wrote to Banks, "is the resolution Mr. C[avendish] has just approved at my house." In Blagden's view, the vote on this resolution would sort out Banks's friends from his foes. Cavendish, he added, still thought that the resolution he first proposed would prove necessary, since the Society would not agree that under the present statutes they are forbidden to debate except on the day of elections.[22]

In anticipation of the coming meeting of the Society, Horsley told his friends that Banks was going to try to expel him, in that way ensuring, Blagden told Banks, an ample turnout of his friends.[23] To make certain that his own friends turned out, Banks sent a card to all members of the Society requesting their attendance, and at the meeting on 8 January 1784, some 170 members came, fewer than half of whom attended regularly. From the president's chair, facing the massed assembly, Banks watched as "each side took their station and looked as important as if matters of the utmost consequence to the State were the subject of their deliberation."[24] As planned, the accountant general of the Society, Thomas Anguish, rose to make the motion. The previous two meetings of the Society, he reminded his audience, had been disrupted by debates, and at the second of these, Horsley had threatened to keep the Society debating the rest of the winter, the obvious intent of which was to unseat Bank. The motion Anguish put to the members was the resolution approving of Banks, which Cavendish had earlier approved. Cavendish now seconded the resolution before the Society. Cavendish said nothing in support of it, and there is no evidence that he said anything else during this long night of angry speeches.[25]

The first speech was made by Edward Poore, a barrister at law in Lincoln's Inn, who called the motion a dishonorable attempt to evade scrutiny of Banks's conduct by praising it. The attempt would not succeed, he said; it would not stop debate (and did not, as Cavendish and Heberden had predicted). Francis Maseres, curistor baron of the exchequer and mathematician, said that for the Society to exercise its power of election of the president and Council, it had first to discuss the question of Banks's "abuse of power." Horsley said that the "abuses are enormous," going on about them at such length that Banks's supporters clamored for the question, almost drowning him out with their cries and with a clatter of sticks. As a last resort, Horsley said, "the scientific part of the Society" would secede, which would leave Banks leading his "feeble *amateurs*," his mace standing for the "ghost of that Society in which philosophy once reigned and Newton presided as her minister." Maskelyne, the astronomer royal, said that if it proved necessary to secede, the "*best* Society would be the *Royal* Society in fact, though not in name." The mathematician James Glenie was interrupted before he could finish what he had to say, which was that the present Council was incapable of understanding mathematics, mechanics, astronomy, optics, and chemistry, and that the Society as led by the natural historian Banks was degenerating into a "cabinet of trifling curiosities," a "virtuoso's closet decorated with plants and shells." When late in the evening the motion was finally put to a vote, it carried 119 to 42, the Society favoring Banks

[22] Postscript dated 29 Dec. 1783, Blagden to Banks, 28 Dec. 1783.

[23] Charles Blagden to Joseph Banks, 30 Dec. 1783, Fitzwilliam Museum Library, Perceval H203.

[24] Notes of the meeting taken by Banks, quoted in Hector Charles Cameron (1952, 134).

[25] [Paul Henry Maty], *An Authentic Narrative of the Dissentions and Debates in the Royal Society, Containing the Speeches at Large of Dr. Horsley, Dr. Maskelyne, Mr. Maseres, Mr. Poore, Mr. Glenie, Mr. Watson, and Mr. Maty* (London, 1784), 24–25. *Supplement*, 9.

to continue as their president by a margin of three to one.[26] This, then, was the outcome of all the meetings, letters, maneuverings, and canvassing. The safest course had been taken by Banks's supporters in their approval of a resolution that contained no detail; it said nothing about limiting debates, nothing about abuses, and nothing about reforms, nothing, that is, that might divide the majority.

The opponents of Banks as well as his supporters claimed that they longed for a return of "tranquility, order, harmony, and accord" and the "instructive business of these weekly meetings, *the reading of the learned of papers presented to the Society*."[27] For three consecutive meetings, debates had prevented the reading of all new scientific papers. Only John Michell's paper on the distance and other measures of the fixed stars, which Cavendish had communicated to the Royal Society, continued to be read at two of these meetings, on 11 and 18 December, while at the third meeting, on 8 January, no papers at all were read.[28]

Along with Michell's paper, the main new paper read at the next meeting, on 15 January, was another strong paper, and though it was not mathematical like Michell's, but experimental, it was written by a mathematical member, Henry Cavendish. Earlier that day Paul Maty, secretary of the Royal Society and outspoken critic of Banks, wrote to Banks asking him to send papers, since there were not enough for the meeting. He said that he would not read papers he was not prepared for, nor would he come to Banks' house on Soho Square to pick up papers unless a statute was made to command him. Banks wrote back that same day saying that he had read the papers at hand, ordering Maty to read Cavendish's paper, which he sent to him forthwith. The paper, "Experiments on Air," contained Cavendish's investigation of the production of water from the explosion of gases, considered by many his most influential paper. Following upon three meetings at which members had listened to speeches contrasting the present, feeble state of the Royal Society with what it had been in Newton's day, and coming one week after Cavendish had seconded the motion approving of Banks's presidency, the reading of Cavendish's paper at the first opportunity was an answer to the charges.[29]

On 22 January, the Council of the Society passed a resolution on debates, which stated that any motion or question to be balloted had to be put in writing and signed by at least six fellows and delivered to a secretary. It would then be posted in the common room at the next meeting and be balloted on at the meeting after that. At the next council meeting, Maty moved that the opening words of the resolution be deleted: "That the Meetings of the Society may not be wasted by unprofitable debates contrary to the intent & meaning" of the statutes of the Society. He was voted down.[30]

The new statute requiring all motions to be announced in advance did not produce the desired calm. Duly announced was a motion to reinstate Hutton in his office. It and motions

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[26]*Narrative*, 26–77. *Supplement*, 9. Despite charges to the contrary, in the Royal Society at this time the physical sciences were active and appreciated. At the St. Andrews Day meeting for elections on 1 Dec. 1783, Banks gave a discourse on two Copley Medals, one awarded to John Goodricke for his paper on the variation of the star Algol, the other to Thomas Hutchins for his experiments on freezing mercury, which Cavendish directed. 1 Dec. 1783, JB, Royal Society 31.
[27]*Narrative*, 30, 70.
[28]Charles Blagden to Claude Louis Berthollet, 13 Jan. 1784, draft, Blagden Letterbook, Yale. 31:265, 268–271. On 27 Nov. 1783, the reading began of John Michell's paper (1784).
[29]Paul Maty to Joseph Banks, 15 Jan. 1784; Joseph Banks to Paul Maty, 15 Jan. 1784, BL Add Mss 33977, 257 and 257(2).
[30]22 and 29 Jan. 1784, Minutes of Council, Royal Society 7:154, 157 (University Publications of America microfilm edition).

to restrain Banks's interference with elections led predictably to renewed debates in late January and February.[31] At a meeting in March, Maty gave a speech and then went on to read papers, as was his duty. Horsley was at that meeting but few of his supporters came, and Banks took encouragement.[32] Maty, who had "distinguished himself by his violence against Sir Jos: Banks," in Blagden's words, resigned as secretary of the Society.[33] Banks sent another card to all members of the Society on 29 March to inform them of the vacancy and to say that "at his desire," Blagden had declared himself a candidate for the office. Banks's opponents took fresh offense, referring to Banks's card as his permission to elect, or as they put it, the "President's Congé d'Elire."[34]

Following the row over the election of Maty's replacement, new contingency plans were laid, with Cavendish again taking part and for the same reason. On Monday, 5 April, Blagden told Banks that Cavendish and his friend Alexander Dalrymple had accompanied him home that evening to determine the "proper measures for preventing a few turbulent individuals from continuing to interrupt the peace of the R.S." Cavendish was willing to join a committee or to call a meeting to form a plan of action and draft appropriate resolutions. The general idea was that the committee would present the resolutions to a much larger meeting of members, the composition of which was to be decided by the committee. If the resolutions were acceptable to those members, they would be expected to vote for them at such times as the dissensions again interrupted the scientific work of the Society. From a list of members, Cavendish selected seven as being "proper" for drafting the resolutions. Heberden was one of them, and when Blagden said that Heberden probably would not join them, Cavendish offered to go to Heberden the next morning to try to persuade him. Cavendish had nothing against taking the lead except for his general "unfitness for active exertion."[35] That evening Cavendish wrote to Blagden: "It is determined that Mr Aubert & I shall go to Dr Heberden & see what we can do. If it is to no purpose a larger meeting will be called & very likely some resolution similar to what you mentioned proposed to them."[36] To "render the R.S. more peaceable," Blagden wrote to Banks, Cavendish called not only on Heberden but also on Francis Wollaston and Alexander Aubert, and he was going to write to William Watson, all of whom were on Cavendish's list of seven. He called for the meeting to take place in his house and settled on a time for it.[37]

That is the last we hear of Cavendish's efforts to restore peace in the Royal Society. One month later the Society voted for the secretary to replace Maty. Hutton, the deposed foreign secretary and still the primary rallying cause for Banks's opponents, ran against Banks's man, Blagden. The vote was again not close, 139 to 39, roughly 3 to 1 in favor of Blagden. Given that Banks had endorsed Blagden, and that Blagden had served throughout the stormy times as his proxy, Banks in effect had made the election of the secretary a vote of confidence in his presidency.[38]

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[31] Weld (1848, 2:162–164). *Narrative*, 79–134.

[32] Joseph Banks to Charles Blagden, 6 Mar. 1784, Blagden Letters, Royal Society, B.26.

[33] Charles Blagden to le comte de C., 14 May 1784, draft, Blagden Letterbook, Yale. 1 Apr. 1784, Minutes of Council, Royal Society 7:160 (University Publications of America microfilm edition).

[34] Weld (1848, 2:165). *Supplement*, 12.

[35] Charles Blagden to Joseph Banks, 5 Apr. 1784, BM(NH), DTC 3:20–21.

[36] Henry Cavendish to Charles Blagden, Monday evening [5 Apr. 1784]; in Jungnickel and McCormmach (1999, 586).

[37] Charles Blagden to Joseph Banks, 6 Apr. 1784, BM(NH), DTC 3:25–26.

[38] Weld (1848, 2:165–166).

The turmoil of the Society was reflected in the *Philosophical Transactions*, the printing of which was held up, and volume 73 for 1783 was a mass of "confusion." Cavendish's paper on Hutchins's experiments on the freezing of mercury was printed out of order because Hutchins's own paper was mislaid by the secretary Maty. When after much delay Hutchins's paper was found, it was paginated with asterisks and then, unaccountably, inserted in the middle of Cavendish's paper. Different copies of the journal had different mistakes. Two years later Blagden was still picking up the pieces.[39]

Yet after the event, the dissensions seemed hardly more than a tempest in a teapot to Blagden. He was surprised that foreigners took such interest in that "foolish & trifling affair, as it really was with us."[40] He wrote to a foreign correspondent that the disaffected members of the Society had not only failed to unseat Banks but in the end had planted him in his seat more firmly than ever.[41] Most important, science had not stopped: to a friend, Blagden wrote that "notwithstanding the interruption given to our business in the Royal Society by some turbulent members [...] several valuable papers have been read, and some discoveries of the first magnitude announced," adding that "of these, the most remarkable was made by Mr.Cavendish."[42] Banks received a letter from abroad at this time, beginning with the observation that the Royal Society's dissensions had "made a good deal of noise on that Continent" and that Banks's report that the troubles were "nearly quelled" was welcomed, observing that Cavendish's discovery of the production of water from air was "one of the greatest steps that have been made" towards understanding the elements.[43]

The dissensions did not flare up again, but smoldering resentments continued to the end of Banks's long presidency. In late 1785 Blagden informed Banks about an alternative to the *Philosophical Transactions*, an "opposition Transactions," in which Maskelyne was involved, though Maskelyne denied that it had anything to do with the "late opposition." As far as Blagden had been able to learn, it was a work Hutton had undertaken to publish twice a year, and it would not be confined to mathematics. Blagden took to calling it the "*seceding Transactions*."[44] From 1784 there is evidence of a mathematical club that convened at the Globe Tavern on Fleet Street every other week on Fridays, not on Thursdays when the Royal Society and Royal Society Club met. To judge by its membership, which included Hutton, Maseres, and Maskelyne, it was an opposition dining society.[45] Some dozen years after his dismissal as foreign secretary, Hutton gave a bitter description of the Royal Society in his *Mathematical and Philosophical Dictionary*: "This once illustrious body," the meeting hour of which had been adjusted to the convenience of "gentlemen of fashion," now consisted mainly of honorary members, who did not usually communicate papers, and those members who did were discouraged "by what is deemed the arbitrary government of the society," and in consequence the *Philosophical Transactions* had "badly deteriorated."[46]

[39]Charles Blagden to le comte de C., 2 Apr. 1784, draft; Charles Blagden to John Michell, 13 Sep. 1785, draft; in Russell McCormmach (2012, 395–400).
[40]Charles Blagden to Joseph Banks, 9 Aug. 1788, BL Add Mss 33272, 50–51.
[41]Blagden to le comte de C., 2 Apr. 1784.
[42]Charles Blagden to Charles Grey, 3 June 1784, draft, Blagden Letterbook, Yale.
[43]Henry Cavendish (1784a, 119–169); in *Sci. Pap.* 2:161–181; read 15 Jan. 1784. The Abbé Mann to Joseph Banks, 4 June 1784, published in Ellis (1843, 426–427).
[44]Charles Blagden to Joseph Banks, 23 and 30 Oct. 1785, Banks Correspondence, Royal Botanic Gardens, Kew 1:213–214.
[45]Derek Howse (1989, 161).
[46]Miller (1981, 289). Charles Hutton (1795–1796, 2:399–400).

Under Banks's presidency the Council of the Royal Society was dominated by aristocrats and gentry,[47] and we might expect Cavendish, as an aristocrat if not for other reasons, to have been on the Council during the dissensions. Before Banks became president in 1778, Cavendish had frequently been a member, but in the years following, 1778–84, he was a member only once. Had he been on the Council then, the charge that Banks ignored mathematical fellows would have been substantially weakened. Banks would not repeat that mistake; never again would he leave Cavendish's name off the house list. In 1785, the year after the dissensions, Cavendish was elected to the Council, as he was every year after that to 1809, just before his death.[48]

As an ordinary member without office, Cavendish had attended the meetings of the Society at which the debates took place. He seconded, undoubtedly by prearrangement, the motion approving Banks's presidency. He did nothing more during the debates, but that was all that was needed from him. First, he owed nothing to, and needed nothing from, Banks, and for him to act from reasons of personal gain would have been seen as acting out of character. Second, he was universally respected for his achievements in physical science, and he was also known to be a good mathematician. If Cavendish had sided with Horsley and his friends, mathematicians who styled themselves as the genuine scientific element of the Society, Banks's credibility would have been damaged. Blagden understood this, a reason why Cavendish was a key to his stratagems to save Banks's presidency, as his letters to Banks show. Cavendish's endorsement of Banks by seconding the crucial motion was a *scientific* answer to Horsley's characterization of Banks's men as feeble amateurs.

According to his critics, Banks showed favoritism to natural history, and considering that Cavendish worked in natural philosophy, he might be expected to have joined the opposition if he took any side at all, but if we look at Cavendish's actions in the Society, we see that he had always supported natural history. His many recommendations of voyagers of discovery for membership in the Royal Society were a show of support for natural history as much as for natural philosophy. He brought as his guest to the Royal Society Club Daniel Solander, a natural historian, who organized the natural history collection at the British Museum, and who worked as Banks's librarian.[49] For his part, Solander was a refutation of Banks's critics: he "takes an interest in all the sciences," Playfair said, "and is not of the number of those naturalists who, while they count the scales of the salmon, or inspect the wings of a butterfly, despise the labors of the moralist or the astronomer."[50] On many occasions, Cavendish brought as his guest to the Royal Society Solander's successor as Banks's librarian, the natural historian Jonas Dryander.[51] Cavendish himself worked in natural history from the side of the physical sciences as a collector of stones and minerals.

Blagden, in a letter of 2 April 1784 in which he referred to the politics of the Royal Society, wrote of the wider political scene: "our internal operations in politics, & the consequent general election, have set the whole kingdom in a ferment; it is a very interesting scene which the wisest & steadiest among us contemplate not without emotion."[52] Scientific politics and general politics were often compared in the course of the dissensions, one side

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[47] Miller (1981, 49).

[48] Cavendish was elected every year, and we assume that he was on Banks's lists.

[49] Archibald Geikie (1917, 117). Roy A. Rauschenberg, "Solander, Daniel Carl," *DSB* 12:515–517.

[50] Rauschenberg (1975, 515–517). Playfair (1822, 1: Appendix, no. 1, "Journal," lxxxii).

[51] 13 Dec. 1781, JB, Royal Society 30; 16 Jan. 1783, ibid. 31. "Dryander, Jonas," *DNB* (1st ed. 6:64).

[52] Blagden to le comte de C., 2 Apr. 1784. Writing to Banks three days later about the dissensions, Blagden added a postscript concerning the elections in London.

complaining of the "ruins of liberty," the other side of Englishmen "apt to be mad with ideas of liberty, ill understood."[53] The one side spoke of the "leveling spirit and impatience of all government which infects the present age," the "great evil and disease of the time." The other side spoke of the Royal Society as a "Republic," according to which all laws decided by the Council are debated by the entire membership whenever a mover and a seconder wish it.[54] The one side urged a democratic solution to the abuses of the Society, while the other warned of illegal "democratic infringements on the principles of the Constitution," which was "very much like what was passing in another place."[55] The analogy between the Royal Society and Parliament was made explicit. When speakers against Banks were shouted down and the question was demanded, Maskelyne protested that he had been at other meetings that modeled their debates after Parliament, and the question was not put until everyone had had a chance to speak.[56] The favorite analogy was between Banks as president of the Royal Society and the king or some high official. Horsley described Banks's call upon the members to elect Blagden as their secretary as a "nomination by the president, *as their sovereign*, of the person he would have them chuse which is exactly similar to the proceeding of the king in the nomination of a new bishop."[57] Horsley's colleague Maty said that he viewed the presidency of the Royal Society as a "presidency of bare order, like that of the Speaker of the House of Commons, and in Council the President ought not to lead more than any other person."[58] Banks's opponents spoke of his despotism, of his dictatorial ways, of his wish for dominion, and of his blindness to the reality that the age of absolute monarchs was past. But the supporters of Banks did not wish for an absolute monarch any more than his detractors did, and no one was more definite on the subject than Henry Cavendish.

In explaining Cavendish's behavior to Banks, Blagden drew the appropriate parallel between Cavendish's position in science and that of his relatives in politics. "The sum is," Blagden wrote to Banks, "that like his namesakes elsewhere, he [Cavendish] is so far loyal as to prefer you to any other King, but chooses to load the crown with such shackles, that it shall scarcely be worth a gentleman's wearing."[59] With regard to Cavendish's "grievance" against Banks, Blagden wrote again to Banks, "It is exactly the old story of an absolute Monarchy, whereas he [Cavendish] thinks the Sovereign cannot be too much limited." Putting a positive light on Cavendish's position, Blagden wrote to Banks after a meeting with Cavendish, "The utmost consequence will be, some diminution of power, but none of dignity."[60] That reassurance was important to Banks, who wore the red ribbon of the Order of the Bath to

[53] J. Glenie's speech on 8 Jan, quoted in *Narrative*, 70. Blagden to Berthollet, 13 Jan. 1784.
[54] Blagden to Banks, 28 Dec. 1783. Letter written by Michael Lort to Bishop Percy, 24 Feb. 1784, at the height of the dissensions, quoted in Weld (1848, 2:169). Lort to Bishop Percy, 24 Feb. 1784.
[55] Anguish's speech on 12 Feb., quoted in *Narrative*, 112.
[56] Maskelyne's speech on 8 January, quoted in *Narrative*, 62. The Royal Society and Parliament were occasionally joined in the same person. C.J. Phipps, Lord Mulgrave, who was active both in the debates of the House of Commons and in the debates of the Royal Society, spoke with Blagden on the subject of the dissensions as much as "his present political agitation would allow." Mulgrave strongly urged Banks and his supporters against temporizing, since discontented men were "never made quiet by coaxing." Blagden, who used the analogy himself, thought that Mulgrave carried the analogy of "H[ouse] of C[ommons] ideas to our Society" further than was justified. Blagden to Banks, 23 Dec. 1783.
[57] Horsley's speech on 1 Apr., quoted in *Supplement*, 12.
[58] Maty's speech on 12 Feb., quoted in *Narrative*, 99.
[59] Blagden to Banks, 22 Dec. 1783.
[60] Blagden to Banks, 24 Dec. 1783.

meetings of the Society because he believed that the office he held deserved the utmost dignity.[61]

Cavendish exercised authority within the Society, but as we have seen in the episode of the dissensions, he did so unobtrusively. We take as an example a more routine disagreement. In 1793 William Charles Wells, an American-born physician then practicing in London and soon to become physician at St. Thomas's Hospital, was a candidate for membership in the Royal Society. There was a party against Wells, and Blagden asked members about him, finding that there was little in his favor and little against him. Blagden looked at Wells's book on vision published the year before, satisfying himself that the candidate was not a "man of mean understanding" nor one who had "confined his attention solely to medicine." That was the "state of things" when at the Royal Society Club Blagden "consulted" Cavendish and also another senior member, both of whom said that no opposition should be made, and "on their authority" all intention of soliciting votes against Wells was "given up."[62]

Nation

Henry Cavendish's political arena was the Royal Society as his family's was Parliament, but apart from the setting his political behavior was the same as theirs. We may compare him with an older first cousin William Cavendish, fourth duke of Devonshire, who in the political diary he kept revealed "complete self-assurance as to his place in the order of the world. He sits in [Privy] Council as naturally as at his dining-room table. ... No maker or unmaker of ministries, he advised Kings about ministers, though his main concern was always to preserve harmony amongst His Majesty's servants." He had no intimate friends in political life. "This detachment was natural to him and inevitably confirmed his exalted station. Here however lay the key to Devonshire's usefulness, recognized by everyone. He was the supremely objective man, never led away by passion." Devoted to work and duty, everything he did he did well.[63] The characteristics of William—self-assured, conscientious, dispassionate, withdrawn, competent, and supremely objective—were those, by and large, of the Cavendish family including the member who distanced himself farthest from the active political life of the nation, Henry Cavendish. The family motto *Cavendo tutus*, a play on words meaning "safe by being cautious," was William's guide through life, as it was Henry's.

Henry Cavendish worked in committees, in agreement with his understanding that power should be exercised by councils of serious men of independent judgment. No "maker or unmaker" of presidents of the Society, he was ready to assist presidents as a call of duty, always in the interest science. This is seen in his participation in the events of 1783–84, which also shows that he had a clear-sighted understanding of political behavior; he was an objective observer of men as well as of nature.

Blagden, in his capacity as secretary of the Royal Society, wrote to a correspondent in 1789 that there was no science to report, that "everybody's attention seems turned to politics."[64] The next year he wrote that science throughout Europe was languishing and that the Royal Society had heard nothing important since William Herschel's paper on the

[61] Cameron (1952, 158, 200).
[62] Charles Blagden to Joseph Banks, 8 Nov. 1793, BL Add Mss 33272, 127–128. William Dock, "Wells, William Charles," *DSB* 14:253–254.
[63] P.D. Brown and K.W. Schweizer (1982, 19–21).
[64] Charles Blagden to William Farr, 24 Jan. 1789, draft, Blagden Letters, Royal Society 7:206.

rotation of Saturn's ring, "the minds of men being turned to greater interests."[65] Two years later on a visit to France, Blagden was mobbed and nearly hanged. Banks wrote to him that in England "minds are much heated" by the "dreadful state into which reform has placed France," and he trusted that the English people would learn a lesson from it.[66]

Wilson's sources on Cavendish missed a side his nature he occasionally revealed. Kirwan wrote to Banks, "Mr.Cavendish talks politics," which surprised him because Cavendish had been "silent" during "Ld North's Rump Parliament, in wh his family were so much engaged," and which had "agitated the whole Nation."[67] Blagden wrote in his diary that at the George & Vulture, Cavendish was "freer than usual," saying that "minister & measures" had to be changed and that they "should have confidence in Fox."[68] Like his family, Henry stood by the brilliant and flawed Charles Fox, whose political address was, in effect, Devonshire House in London. Present during a conversation in which there was talk of war the sooner the better, Cavendish "said he could scarcely refrain from bursting out."[69] Blagden recorded a number of Cavendish's observations about war in his diary, and though in each instance the note is brief, they give us an idea of Cavendish's view of nations in conflict. Blagden laid out the arguments for setting on Prussia while holding out peace. "Never was a nation so mad," Cavendish responded.[70] The only possibility of a combined resistance to the French was by a "fair intelligence" between Prussia and Austria, Cavendish said, to which Blagden replied "impossible" because Austria's goal was to swallow up Prussia.[71] On the report of a new war with America, Cavendish said that the Americans were "now more moderate than their predecessors." Blagden disagreed on the grounds that Americans would hold onto their places at any cost, to which Cavendish "assented & looked in agitation." Blagden said that England had best turn into a nest of Pirates and war against all the world, and that England was likely to be at war soon with Russia. "To all this [Cavendish] sadly assented."[72] To Blagden's remark that all mankind had gone mad together, Cavendish "thought there was a great diminution of common sense in the world."[73] Taken together, these and other comments by Cavendish point to a man who looked to reason in human affairs and did not always find it.

If one looks at the dissensions of the Royal Society as a kind of experiment of the Enlightenment, a test of its core beliefs, the outcome is subject to interpretation. But it seems clear that through it all, Cavendish acted consistently upon certain of those beliefs. He trusted that disputes can and ought to be settled by discussion between men who are fair, moderate, informed, and willing to exercise their reason. In the eighteenth century, as in any other, a person who held that expectation of human nature was liable to disappointment from time to time.

[65] Charles Blagden to William Farr, 31 July 1790, draft, ibid. 7:429.
[66] Charles Blagden to Joseph Banks, 5 Sep. 1792, BL Add Mss 33272, 107–108. Joseph Banks to Charles Blagden, 19 Feb. 1793, Blagden Letters, Royal Society, B.41.
[67] Richard Kirwan to Joseph Banks, 10 Jan. 1789, BM(NH), DTC 6:122–124.
[68] 16 Mar. 1795, Charles Blagden Diary, Royal Society 3:50(back).
[69] 20 Dec, 1795, ibid. 3:82(back).
[70] Ibid.
[71] 30 Nov. 1804, ibid. 4:286.
[72] 15 May 1806, ibid. 4:442.
[73] 3 April 1804, ibid. 4:217. This exchange on the unreason of people may not have had to do with politics, but it would apply.