SIR GODFREY COLEY, F.R.S., 1653-1709

SOME TERCENTENARY GLIMPSES THROUGH LETTERS TO HIS FRIENDS

By W. H. G. ARMYTAGE

University of Sheffield

[Plates 1 and 2]

THE name of Sir Godfrey Copley is closely associated with the Royal Society because in his will dated 14 October 1704, and proved in the Prerogative Court on 11 April 1709, he bequeathed one hundred pounds in trust to the Society 'for improving natural knowledge, to be laid out in experiments, or otherwise, for the benefit thereof, as they shall direct and appoint'. The interest was given to J. T. Desaguliers, Curator of the Society, for various experiments made before the Society, and not until 1736 did the Council decide to convert the value of the legacy into a medal which was to be awarded to the author of the most important scientific discovery, or contribution to science, by experiment or otherwise.

The list of recipients of Copley awards and medals provides an interesting commentary on the history of science. The first award was in 1731 to Stephen Gray, the first to divide substances into electrics and non-electrics. After 1736 the medallists include, amongst others, Stephen Hales (1739), Benjamin Franklin (1753), Joseph Priestley (1772), Count Rumford (1792), Michael Faraday (1838), Charles Darwin (1864), T. H. Huxley (1888) and Lord Lister (1902).

Though Weld declared that there was no Fellow of the Royal Society whose name was more generally known than that of Sir Godfrey Copley (1), neither he nor any of the succeeding historians of the Royal Society have done anything to remedy the fact that beyond his name, very little else is known about him. The notice in the Dictionary of National Biography does not even give the year of his birth. Local historians and antiquarians have done very little either, and the one person who was engaged on the pedigree of the Copley family died before it was completed (2).

There is good evidence for supposing that Godfrey Copley was born in 1653, for in Dugdale's visitation of Yorkshire, he is described as being thirteen years old on 19 April 1666 (3). His father, after whom he was christened, was described as 'a fine gentleman of good credit in his county.
SIR GODFREY COLEY, F.R.S.

An engraved portrait by John Smith, after John Zachary Kneller. This print is wrongly described in the British Museum Catalogue of Engraved Portraits as being after Sir Godfrey Kneller, for the inscription clearly gives I. Kneller (i.e. John): an error duplicated in the Dictionary of National Biography.
This engraving of Sprotborough Hall, by B. Lens after Adrian van Diest, shows the fountain described by Sir Godfrey Copley in his letter written on 4 September 1703 to Thomas Kirke.
and of excellent natural parts, and a good justice of the peace’ (4). He was also related to the Lord Treasurer, Danby. Indeed, it was through the good offices of Danby and Sir John Reresby, squire of nearby Thrybergh, that he succeeded his father as High Sheriff of Yorkshire on 15 February 1677/8, and was soon active in the local politics of Yorkshire, becoming M.P. for Aldborough from 1678 to 1681. He succeeded his father as second baronet in 1684, and was again elected to Parliament, this time for Thirsk, in 1695, and continued to sit for the next ten years, until 1705. He was elected F.R.S. in 1691. He died on 9 April 1709.

His inheritance was a country estate at Sprotborough, near Doncaster, which, as we shall see, he did a great deal to improve. A relation of his, Lionel Copley, had ironworks at Wadsley Forge, Rotherham Mill and Chapeltown, and was a commercial rival of a seventeenth century Sitwell of Renishaw (5). His circle of friends embraced most of the Yorkshire virtuosi: Ralph Thoresby, Robert Molesworth, Cyril Arthington, John Dyneley of Bramhope and Thomas Kirke of Cookridge.

Of these friends, Thomas Kirke seems to have been the closest, to judge by the number of letters which have survived. He was a Yorkshire virtuoso who amassed, not only a fine library and museum, but whose estate was set out with exacting taste. Thoresby, another close friend, described ‘the ingeniously contrived walks’ in his wood as ‘the most curious of that nature I ever beheld’ (6). Kirke had, with Martin Lister, John Lambert (son of the old Lord General), and Francis Place, formed a club of virtuosi at York. Kirke was elected F.R.S. in 1693, and for the rest of his life seems to have been supplied with news of the Royal Society by Sir Godfrey Copley. Kirke was a restlessly active country squire, a J.P. and an inveterate exhibitor of his Roman remains and gardens. Thoresby described him as having ‘the Pleasure, or Fatigue shall I say, of almost all Foreigners, and Gentlemen of Curiosity of our own Nation, that travel into the North, and afterwards can as little conceal their Admiration, as before they could their desires to see it’.

The purpose of this paper is to provide some glimpses of Copley’s life, outlook and interests as a Fellow of the Royal Society as exhibited in his letters to Thomas Kirke and Hans Sloane. It begins in the year 1695, when Copley, now forty-two years old, began to serve in Parliament for a second time, and was therefore in London for long periods. Being in London, he attended meetings of the Royal Society (to which, as we know, he had been elected in 1691) and participated in its government. He also took the opportunity to pick up some interesting devices for improving his estate at Sprotborough.
In the very first session (1695-1696) of his period of service as M.P. for Thirsk, in the third Parliament of William and Mary, the House of Commons was preoccupied with the task of reforming the currency. This was imperative, since the clipping of coins, often resulting in the halving of their value, seemed in no way to have abated by the introduction of milled edge coins. For the latter were either hoarded, melted down, or exported abroad, and the former complicated the trade and taxation of the country. A date was fixed (4 May 1696) after which old coins were not to be accepted in payment of taxes, and the cost of the recoinage was put, by Parliament, upon the State. Writing on 15 February 1696 (twenty-five days after the Re-coinage Act received Royal Assent) Copley lamented to Kirke:

‘I have had such a cold with sitting up att Comittees of Elections till 1 & 2 in ye morning that I have been forced to bleed twice to save me from the honour of Dying in my countreys service. I am as apprehensive as any body can be of ye want of money in ye countrey & of the vast mischiefs and ill consequences of ye high value of Ginneas, we have labourd as for life, to have had mints in ye countrey, & cannot obtain it as yet. That very thing alone would cure both Evills and all ye ill consequences depending thereon, but wee are overpowered by ye Traders in money and Ginneas & those who send out silver and import Gold who are afraid they shall not cheat ye Nation six months longer. I will remember yr commands to ye Society but for other matters I cannot turn my mind to anything but what relates to Parlmt’ (7).

One of the projects dear to the heart of a country gentleman was a Land Bank. On 5 March 1696 the House of Commons resolved that one should be set up in order to provide the urgently needed loan for the war. The books opened in Exeter Change at the end of May, but no long list of subscribers appeared as compared to that for the establishment of the Bank of England two years previously (8). In June 1696 Copley wrote despondently to Kirke:

‘I have been endeavouring to serve some of my friends in ye Country in helping them of Wth Clipped Money, but Wee have been in expectation of a New Bank wch I think comes to Nothing & so Disapoint us, & ye Goldsmiths are in such favour that they are admitted to fill up the funds by their knavish subscriptions & by that means Cheat poor Country Gentlemen according to their old prescription time out of mind’ (9).

To these labours were added the alarms of the Jacobite plot to assassinate William and invade the country: a plot centred round the person of Sir
George Barclay (10). It resulted in the House of Commons voting to form an association to maintain the order of succession laid down in the Bill of Rights, an association which Copley joined. He wrote to Kirke in March:

‘The enclosed is perhapps wt you have not seen, there are great Discoverys of this Horrid Plott and Invasion. Ye prisoners confess all, and will be shortly brought to Tryall. News this day from Sea is that we have taken 16 Marcht Shipps of ye French & we hope for better news yet’ (11).

Yet in the midst of all this whirl of events, he kept his head, and refused to be stampeded with the rest of the Whigs into supporting the Bill of Attainder against Sir John Fenwick, who had not only insulted Queen Mary in 1691, but also had been privy to plots to assassinate William in 1695 before Barclay’s plot of 1696. Fenwick’s attainder was important, since he had been named as major-general of the troops to be raised for King James, and on his arrest, he had not only tried to bribe the men who were to witness against him, but had cast aspersions on ministerial interest in his doings. Copley made a bold speech against the Bill of Attainder, a speech which ran counter to the general current of feeling in the excited house. Amongst other things, he said:

‘I Take the Punishment of Offenders to be one of the necessary Supports of all Governments; and all Societies of Men have laid down to themselves some Rules, by which they judge whether persons accused are innocent or guilty: Therefore, in a Matter of this extraordinary Importance, it is proper to consider what Rules we have to go by.

‘It is the Custom and Law of our Nation, to require two positive witnesses to prove Treason. . . I look upon it as a fundamental Breach of those Rules, for an Accusation to be given in against any Man behind his Back, by he knows not whom, or by any with whom he is not confronted, and brought Face to Face. . . If this method of Proceeding be warranted by an English Parliament, there is an end to the Defence of any Man living, be he ever so innocent’ (12).

Copley’s arguments were in vain, for Fenwick was executed on 21 January 1697.

The excitements of this momentous session left him almost exhausted by the end of the year, so that he was forced to apologize for being more behindhand with his correspondence than was his practice when in London.

‘I confesse my attendance on ye house hath in a manner taken up all my time & yet I think it is but a slender Excuse for a man’s not writing to his
friends, especially since we are scarce able to talk of much service. We have done our Country as yet. We have this day passed a vote for Land Tax not exceeding 4d per acre. Ye Bill for ye Coinage hath been sent to ye Lds and read once there...

'I wish our Publique affairs go on Well. We stand great need of Management & good husbandry, great sums are to be payed & I doubt ye money is very hard to be found. I pray write me some contry news' (13).

He himself was keenly interested in the promotion of local trade, and on New Year's Day 1697 he wrote:

'I have asked leave to bring in a Bill to make Dun navigable & I find by a letter I received from Leeds that ye same is Intended for their River. I pray tell them I will do them all ye service I can, but I desire You would show them ye list of Members of Parliament & they would consider what friends they can make be they of what county they will & that they would not faile to write to any other of their Correspondents in town that are well acquainted with members to sollicit for them. I will engage all that are for our river to be for Both, but here is Mr. Lister of Bawtree Sollicits as if it were for his life' (14).

He presented his bill on 21 January 1687, and got leave to introduce it for the first time four days later, but on the 28th of the month, petitions were made against it by Gainsborough, Pontefract, Kirton in Lindsey and Bawtry. Gainsborough urged that, if effected, it would 'be a great decay to trade in those Parts, ruin the navigation of the River Trent, raise the price of Coals, and discourage the Exportation of their Corn'; Pontefract that it would 'take away all the Trading Part of the said Town'; Kirton that it would 'ruin the navigation of the River Trent, by forcing the Shipping to look for employ in other Parts' and Bawtry because it would damage those who lived by navigation of the Idle. These four petitions were followed by three others laid upon the table of the House of Commons on 29 January 1697 from seven parishes in the Isle of Axholme, a number of others in the County of Nottingham and a third from shipmasters on the Trent. This powerful opposition swayed the day, and when the Bill was read a second time on 1 February, it was thrown out by 202 votes to 92, Sir Godfrey Copley being a teller for the minority.

His impending contest at Thirsk in 1698 prompted him to write on 21 July from Boroughbridge:

'I am going now to Thirsk, where we are not without contest. We suppose the precepts will speedily be delivered; but, however, we shall have four or
five days’ time to turn us in, and to give you notice whose company I must beg as being a boroughman, so that this is chiefly to give you some warning, and to know where you will be to be found. I am not yet certain till I am sure of the precepts, whether I shall stay at Thirsk or here till the Elections;—which is all at present. . . Mr. Arthington and Mr. Batty are both here; they give you their service, and would be glad to see you. If you can let Mr. Grover also know, and fix your time together, it may not be amiss’ (15).

In this new Parliament (the fourth of the reign), he was busier than ever. In 1699 he was a leading member of the Commons Committee about the price of Gold and the value of Guineas, and on 16 February reported their resolution to the House (16). Then on 13 June 1700 he married for the second time, his wife being Miss Carew. On 17 June 1701 he was appointed, with six others (including Robert Byerly and Henry St John), to be a Commissioner of public accounts (17). He lamented to Kirke:

‘I have not had time to go to any meeting of the Royal Society this good while, nor really to answer letters out of the country in relation to my own business. Two of our Commissioners of Accounts have failed us this Session, one having lost a wife, and the other a near relation; and our countryman Colonel Byerley hath been much taken up with my Lord Wharton’s cause, so that a great share of business hath fallen upon the rest; and the House hath, for fear we should want employment, given us the examination of the whole account of the twelve Commissioners of the Irish forfeitures, which consists of abundance of volumes, and multitudes of vouchers; and we must report to the House how we find it.

‘I desire you will let Mr. Thoresby know that I have now got from Mr. Lowndes an account of the ancient standards of gold and silver, and the dates of several indentures and establishments of the Mint, which I shall keep for him, unless you would have me send it down to you, who will take care he have it.—I thank you for yours of the 12th, and I hope to write oftener for the future’ (18).

So that it was not surprising that we find no more letters from him till 1703, when he apologized to Kirke on 17 June:

‘I must own my friends may well think they have good reason to complain of my Silence, or rather Rudenesse to ym, I have failed writing to every body. My Mistresse (if I may be allow’d to have any) I mean my Burrow would have reason to blame me, unlesse shoe would call to mind that I am every day pretty sore employ’d in her service, & I believe it will be very
visible in divers places about Sprotbry: how much I have been forced to
neglect what I love to take care on’ (19).

His parliamentary duties tended to increase rather than to diminish, for
on 25 April 1704 he became Comptroller of the Accounts of the Army.
Four days after his appointment, Copley wrote:

‘I begin now to consider what I shall say to my good friend when I see
him in the country, in excuse for writing so seldom. I doubt I shall be hard
put to it; but I have yet a fortnight in town to consider of it. Pray let me hear
from you speedily, if I can do any thing for you before I come down. I promise
myself a good deal of pleasure this summer in the country, and to stay near
half a year. I should be glad to hear how the Register bill goes on; and that
you will give my service to that immortal uncle of yours’ (20).

Sir Godfrey Copley’s stay in London during the Parliamentary sessions
from 1695 onwards also afford us a number of informal glimpses of the
Royal Society during that period, since he usually managed to include some
items of news about it in his letters to Thomas Kirke, who was most interested,
having been, as we have seen, elected F.R.S. in 1693.

These glimpses are especially interesting, as they show the revival of the
Society under Sloane’s Secretaryship. The earliest mention occurs in a letter
which Copley wrote to Kirke on 29 December 1695:

‘There will be some meetings of ye Society after Christm. & then I will
give you what acct I can; I desire you will give me some further Instructions
if I can do anything for you here, for I have mislayed yr Letter’ (21).

He was as good as his word, for in June 1696 he was writing:

‘As for Philosophical News, I see our Virtuosos who are divers of them
yr. servts & wee meet as usuall. Mr. Halley and Mr. Middleton are to sett
out this sumer to run round ye Globe to find ye Variation of ye Variation of
ye Needle to discover longitudes and ye Terra Australis &c. Hally is made
Captain of ye Vessell. And he hath great encouragement from ye Admir-
alty’ (22).

Then on 14 December 1697 he described the election of officers on
St Andrew’s Day:

‘Sr.

‘As to Acctt what was done att ye Royal Society on St Andrews day
which I never had time yet to Transcribe, it was thus
Dr. Hutton ye Ks Physitian, Mons. Moivre, Dr. Bentley, Mr. Bird, Mr. Stepney, Mons. Bauvall & Mr. Thoresby were ballotted and Elected. Then ye votes were Collected for ye eleven to be continued of ye Councell & are as follows. For Mr. C. Mountaque (now Lord Halifax added) 24, Sir R. Southwell 33, Sr. G. Copley 28, Mr. Evelin 25, Mr. Henshaw 21, Mr. Hill 33, Sr. Jo: Hosking 33, Mr. Pitfield 19, Dr. Sloan 31, Mr. Waller 27, Dr. Harwood 16.

Mr. Montaque, President 22.
Mr. Hill, Treasurer 19.
Dr. Sloan, Secretary 24.

As to yr Books ye must let me know yr Leeds Carriers Inne here and ye dayes of his setting forward. And as to yr direction for letters, ye ought to name whether by Ferry-bridge or Tadcaster.

'I perceive ye have lent your ruler to Mr. Sterne (23) who will be a great master. I should bespeak another & have written to Mr. Carver, but have not seen him' (24).

On 17 August 1699 he gives a picture of a formal visit to the Society by the Lord Chancellor:

'I was yesterday att the Royall Society where my Ld. Chancellour (Ld. Somers) came with his mace &c. in his Coach to Gresham Colledge and took his place as President. Walked in the Library & view'd the Curiositys of the Repository, saw an Experiment Tryed, Heard Dr. Sloan read a lecture, had divers other rarities also shown him & stayed till towards 7 a clock & adjourned the society according to custome att this time of the year till the middle of October. Mr. Halley also by a large map gave my Ld. an account of his last Voyage he hath been lately past the line, & he sets forward within this month for a new voyage to ye Southerne Continent where he goes by ye K's Comand to make new discoverys' (25).

He describes his quest for objects of virtu and the last days of the brilliant Robert Hooke:

'We often remember you at Pontack's. Dr. Hooke is very crazy; much concerned for fear he should outlive his estate. He hath starved one old woman already, and I believe he will endanger himself to save sixpence for any thing he wants... I have laid out in prints, the best I could send for, near seven score pounds. I have had little time to look after any Mathematical Instruments, though I have attempted to get made a set of Napier's Bones, and am angry to see more skill in making a pair of Dice than they will shew in making the Bones.
I will not say a word of State Affairs, nor the Public Accompts. You are better employed in Planting and Walling, and other country diversions, and you have all the little lampoons of the Golden Age, and the Golden Age reversed, &c.; and there is to come out in print, when the Lords please, a most severe something upon us poor Commissioners of Accompts’ (26).

And his death:

‘March 4, 1702-3.

‘Your old Philosopher is gone at last, to try experiments with his ancestors. He is dead, they say, without a will; had only a poor girl with him, who, seeing him ill, went to call somebody; and he was quite gone before they came. Thus departed the great Dr. Hook.—We are told there is like to be a great promotion of New Peers, which signifies not much to you nor me’ (27).

He was assiduous in forwarding any communication from Kirke to the Royal Society, and, in telling him, so, would return news of the Society. In the year 1703, he seemed particularly busy, as the following three letters, written 19 February, 29 April and 17 June, show:

‘Sr.

‘I have onely time to tell yu that I receivd yrs & performd yr desires to ye Coll. Wee remember you on a Wednesday or a Friday. I have enclosed you a specimen of a new way of sealing a £ wch is not easy to be counterfeited because you can take of no impression. I am in some haste’ (28).

‘I have little to write of our friends, whom I contrive, if possible, to see once a week, if it be but two hours. The Society have warning to remove. The poor Corporation of London stand in need to make some profit of the ground of Gresham College. I wonder old Dr. Hooke did not choose rather to leave his £2,000l. to continue what he had promoted and studied all the days of his life (I mean mathematical experiments), than to have it go to those whom he never saw or cared for. It is rare that Virtuosos die rich, and it is pity they should if they were like him. I know you are employed in your Wood, which now you have brought to perfection, but pray let me know how Mr. Arthington employs his time; he is as good a correspondent to me from the country as he was to you from London; and I am as bad as he. We drink your health at Pontack’s. Dr. Sloane and Mr. Halley bade me remember their service to you ’ (29).

‘I have performd yr Comands to Dr. Sloan & some others of your friends yesterday, but for R.S. news I can tell little, I was at ye Colledge, & a Parson of Mr. Townleys acquaintance told us he had lately observed a great spot in
the Sun & ye Revolution of it, of which he presented a small draught: There was also some new Books shewn with Cutts & discoveries of Exotick Plants, wch Occasion’d some pleasant discourse between Rough Diamond & Woodward, about the liberty some Doctors take in trying Experiments (for ye good of ye rest of Mankind) upon their own Patients in discover the Vertues of a new Herb or Medicine. I have lately got a Rarity of Dr. Hooks wch was made & given him by some Northern Virtuosi, he was so choice of it as I was told that for many yeares he that made it could scarce get a sight of it; I pray if you see Mr. Thoresby give my service to him & thank him for his letter & as soon as I can make any return he shall hear from me. Mr. Pettifor hath sent over into Holland & got 10 or 12 large plates engrav’d of Insects & hearbes wch are finely done, as a specimen of a Book of ye like nature wch Will att three subscriptions cost 30s. Wee paid four or 5 of us 10s apiece for ye first but cautious Sr. Jo: H. said he would have a book but cared not to advance his half piece without security of performance. . . I have got a very pretty Camera obscura that throws ye figures erect & fit to be drawn upon a half ground glasse plate. I believe you are well tired with reading this, & it is time for me to conclude’ (30).

After a quick visit to Sprotborough in September of this year, he wrote back on the 24th: ‘Dr. Sloan is well. I have been very busy and I dine with the Gimcrack Merchants tomorrow’ (31).

Though, as we have seen, his public duties increased at this time, he was no less solicitous on Kirke’s behalf. On 29 April, four days after he had been nominated as Comptroller of the Accounts of the Army, he told Kirke:

‘I have been enquiring about an air-pump; and it is not to be had under 7 or 8£. Your lodestone is mended, and I gave it to Mr. Arthington, who mends apace, and goes abroad a little now’ (32).

Thomas Kirke died on 24 April 1706 and on 26 September of that year, Sir Godfrey Copley, in a letter to Hans Sloane, wrote:

‘I lament very much ye losse of Mr. Kirk who was very acceptable to all his friends and acquaintance. His sonne I doubt will spend all he can come att, & amongst divers valuable things he left his wood, wch farr excells all that ever I saw or heard of for beauty and curiosity, will be destroy’d’ (33).

Copley was not far wrong, for the son soon sold some of the Cookridge land to Arthington, who found yet further Roman remains buried in them, an account of which was published in the *Philosophical Transactions* (no. 316) for July and August 1708 (34).
Copley's own interests lay in the fields of hydrostatics, mainly for the improvement of his own estate. He was very interested by the work of Edme Mariotte, published in 1686, entitled *Traité du Mouvement des Eaux et des Autres Corps Fluides*, and reviewed in the *Philosophical Transactions* no. 181. He wrote to Hans Sloane: 'If any of ye french book sellers have it or can get it I beg you will buy it for me' (35).

Once again in London, however, as M.P. for Thirsk, it was the news of a native engineer, George Sorocold (36) of nearby Derby, which seems to have stimulated him, and he wrote to Cyril Arthington from London on 12 September 1695:

'I beg of you to give my service to Mr. Kirk & when he sees Mr. Saracole to let him know I should be glad to see him here if it were but one night if his businesses will allow it & if Mr. Kirk would be so kind as to come over I should be very glad of it. I beg a line from you, how you find Mr. Saracole's work go on and succeed.'

He then added, after a personal note:

'I have writ to Saracole but I believe my direction is not good' (37).

In another letter to Hans Sloane, then secretary of the Royal Society, he wrote:

'I know not whether I writ you word that wee have an engineer come into this country whose profession is raising of water. He hath performed well at Derby & Leeds & he is just now come to Doncaster & they are driving a bargain for ye service of that town & if that go on I will see what he can do for me' (38).

Unfortunately, this latter letter, though written from Sprotborough, is undated.

We know that Copley was an enthusiastic witness of Sorocold's efforts to supply water to London in association with John Hadley, the engineer who in 1693 had patented the rising and falling waterwheel, for on 4 June 1696 he wrote to Kirke:

'I have been this day and am to meet tomorrow Mr. Saracole and Mr. Hadley. I have seen his Engine consisting of 3 mill wheeles with small cranks att each end of ye Axletree wch raises Tems water & are all carried with one stream of Kennell water one Wheele being under another. I do think it ye best piece of work I have seen & I find Hadley to be a man of Mathematic & Bookish' (39).
Sixteen months later, he was still immersed in the business of the London Waterworks in St Martin's Lane, for, as he wrote to Kirke on 4 October 1697:

‘Our Water affairs will I think do very well, but one of our strong Iron force rods was plucked by ye crank out of ye barrell and twisted crooked like a willow stick, wee are very busy’ (40).

That the pumps were so successful in the end is obvious enough from the description of them by Edward Hatton in his New View of London (1708) and by Stephen Switzer in his Hydrostatics and Hydraulicks (1729), to say nothing of Henry Beighton’s description of them in the Philosophical Transactions of 1731.

By 1703, Sir Godfrey Copley’s hydrostatic projects at Sprotborough had advanced so far that his friends Ralph Thoresby, F.R.S., Thomas Kirke, F.R.S., and Cyril Arthington (also, since 1701, F.R.S.) assembled there on 15 February and, in Thoresby’s words, occupied themselves ‘in taking a level for the new canal, that is now making from the water engine (which is very curious and conveys water to a large cistern upon the roof of the hall, a vast height from the foot of the hill) to the corn mill, thence he can go to Coningsburgh Castle on one hand, or Doncaster on the other’ (41).

But duty called, and Copley had to go back to London to attend at the House of Commons. Yet in the midst of his duties he could still, in a long letter dated 17 June 1703 about the Royal Society, find time to remark:

‘I am glad the Canalls and Ponds go on so well, but I am told great lakes are now ye mode. Vanbrook set out one for ye D. of Newcastle to front his new house of 40 acres’ (42).

Three months later, on his return to Sprotborough, Copley could exult to Kirke on 4 September 1703:

‘I Have done my fountaine in ye Court & shall bring ye Water in on Monday or Tuesday next. I should have been glad Mr. Arthington would have seen how our jet would rise, & if he would go & see Chatsworth. I go to Chesterfield on Satturday and will see Chatsworth on Sunday & go on Munday in Nottingham Coach, & if You can let him know this I pray do’ (43).

Copley’s account of his visit to Chatsworth followed three weeks later on 24 September 1703:

‘I lay at Chesterfield on Monday, and went over the Moors to Chatsworth. I spent near two hours in the gardens, where my Lord, I find, hath laid out a

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good deal since you and I were there. He hath pulled up the cascade, with design to make it much larger. If he would bring it down in broken water and froth from the top of the hills amongst those stones, and then let it turn into a smooth sheet when it comes into his garden, it would be very fine, and outdo Marli. He hath made on the back of the house a fine green-house, and square pond before it, with a sort of island and fountain in the middle. But his chief work hath been leveling a hill which faced the old front, by which he hath opened a distant prospect to the blue hills, and made on the same level with his house and garden a canal, something broader than my new river, but not quite so long. One side of this canal, which goes from the bowling-green, is supported by a tarras walk on the right hand; and the ground under on that side being very low and marsh-like, is intended to be cut into water, and islands, &c. for ducks. But one of my Lord’s chief designs, as I am told, will be a great one; it is to take the current of the river Darwent half a mile above, and turn it into his great canal, which is below the house and hath a bridge over it, and then let it fall in a great cascade, and go again into its own course below the house.

‘From hence I got, with much ado and the assistance of my needle, over the Moors, late to Nottingham; and with pretty good company in coach, hither on Friday, 17th. I have been very busy. Dr. Sloane is well, and I dine with the Gimcrack Merchants tomorrow. Pray give my service to Mr. Arthington: my wife sent me his letter, for which I thank him’ (44).

By the time he returned to Sprotborough again, a number of improvements had been effected. As he told Kirke on 29 May 1704:

‘There are severall pieces of Work done here since I went to London on ye west side of ye house, but I am att a stand & cannot tell what to do. I cannot tell how to go forward with ye new ground between ye canall & the brink of the hill, but I shall destroy the view of ye New river from ye great dining room dore which I would not do, if I could avoid it & all my work stayes for my resolution in this point & it goes much against my mind to alter it before I have the favour of yr good company to advise me in a matter that I think of so great consequence & that requires so sudden a resolution’ (45).

His hydrostatic improvements around the estate led to one material comfort being added to Sprotborough; a bath. How much he enjoyed this can be gathered from a letter to Hans Sloane on 3 September 1707:

‘I have succeeded past my expectation in making such a bath for pleasure & convenience as I think no one in this kingdom hath ye like. It is between
34 & 35 foot long & about 16 foot broad with a convenient pair of stairs to go down the bottom & sides lined with lead & holds water six foot and four inches deep, but when wee use it for bathing and swimming wee fill it but to 4 foot & half, which the water engine will do in less than 5 houre. Two or three faggots and a sack of Coales doth warm it equall to ye heat of your body but we can make it hotter if wee please. I never met with any bath more agreeable & there is roome enough for four or five to swim up and down very well. I have gone in several times, & it is very pleasant in an evening or morning. My wife and some Ladys of her acquaintance have gone in together & are much delighted with it. I am sure this fancy of mine will be followed by some who perhaps may be willing to outdo me in making one 3 times as large' (46).

5

For the Secretary of the Royal Society, Hans Sloane, Copley cherished a particular regard. As he told Kirke 'Dr. Sloane takes abundance of pains for the Society: he hath now one of, if not the finest collection of rarities in any private person’s hands in Europe, by the addition of Mr. Charleton’s to his own’. He asked Sloane to forward copies of the *Philosophical Transactions*, books of various kinds, recipes, and advice on his ailing wife. Thus on 6 February 1694, Copley wrote

‘my wife hath been a considerable time very much indisposed by a great sicknesse and a foule stomach paines in ye back & ureters as I conceive frequent vomiting & not keeping anything but seldom on her stomack being sometimes very hungry & yet loathing her meat. She voided a little stone a little bigger than half a Barley Corne. we are advised by our Dr. at Doncaster, Dr. Neale to send for Bottles of ye German Spaw for her to Drink. my desire to you is that you will order a dozen of these bottles to be carefully packed up in a Hamper & directed for me and sent to ye Red Lion in Aldersgate Street, they may be sent on Satterday next or early on Monday morning; but Satterday is ye surer. I should be glad to know something of your opinion as to this water & what you think may be good for her’ (47).

and on 7 July 1694:

‘I give you thanks for ye Acctt you were pleased to give me of what passed since my coming down, & you will oblige me further in sending me anything wch is new & ye Transactions. I had all nine Volumes wch I bought when I came down & ye last is for ye month of December 93 & is number 206 & hath ye Generall Index at ye End. When you send me anything Direct not for
me but rely on Mr John Marshall Barber in Doncaster & send it to Doncaster Carrior at ye Red Lion in Aldersgate Street upon a Satterday or Early on Monday. . . I wish Mr Middleton and my friend Halley safe on English ground again. I think if ye Effect be good ye f'rench man takes ye best method for giving nauseous medicines. Mr Kirk is here & is your servant. he will have a surveying wheele shortly for Sir Rob. Southwell (48) & I believe it will be a very good one. however we will make tryall of it to be sure. I wish you thought York, or Hull or our Northern Spaws or Allom Works or Wonders of ye Peak worth ye forbearance of one fortnight or 3 weeks taking money in Town. I should be glad to review what I have seen in so good company. Pray give me service to Sir J. Hoskins (49) and Sir Rob. Southwell’ (50).

We have already encountered him asking Hans Sloane for Mariotte’s treatise on waterworks in a letter dated 3 November 1694. In this he also said:

‘Since I find my own affairs and countrey business will detain me here this winter, I must begg of you if it is not too much trouble to send me ye Transactions & if once in a month or two I can hear from you it will be very acceptable. My wife gives you her service & she beggs you will send her ye receipt of making Bacon like yt of Westphalia. . . I have diverted myself this sumer past with building and surveying in wch last I have done a great Deale & had I any neibours that were lovers of that wch is curious to assist me I would make a much more exact map of this part wch should be 10 or 12 mile square, then any I have seen.

‘I was ye other day upon ye poising of a large Wild Duck in my hand considering ye waight & ye strength of such a wing wch appeared to me small for so heavy a bird. to be better satisfied I measured ye Area of Both Wings expanded wch I found to be as near 140 sq. Inches as I could compute & the bird wanted 2 ounces of 3 lb haverdupoiz whence I conclude that a square foot of Wings will support & carry 3 × weight at least. I pray give my service to Sir R. Southwell & Sir J. Hoskins & let me know what is become of my friend Halley’

and then as a postscript:

‘I should be glad to know what ye new books are you received from beyond sea’ (51).

January 1695 finds him still asking for back numbers of the Philosophical Transactions:
"I give you thanks for yours, & for ye Transactions. of ye last you sent me was for ye months of March & Aprill 94 & was number 209. I want all since and no more. if Camden’s Britannia be come out I desire you will buy it and send it, I would have it lettered on ye back. pray remember Marriot’s book of Waterworks & if there be any new things that relate to Mathematicks, or history, or state affairs you will oblige me in sending them, and whatever you lay out for me I will upon ye least line from you send you a Bill for, or if your bookseller send me any Bill allowd by you I will send it him."

He offered his lodgings in the Inner Temple to any of Sloane’s friends—‘an entire story besides kitchen and sellers’—and gave him directions for obtaining the key (52).

It is in a period just after this that we can place an undated letter in the Sloane MSS.:

‘The continuance of yr correspondence will be very agreeable & I am glad you have found that Book of Marriottes I had written to Mr. Moult to get it me & I beg you will by pony post let him know you have sent me to save him ye trouble of further enquiry for it. I had a visit ye other day from a young gentleman my Coz: Copley’s sone who was Governor of Maryland. he tells me that Country abounds much with all sorts of Snakes & that there is a sort of black snake wch is some six or 7 feet long wch is very bold & will upon small provocation sett upon a man & follow him a great way but his teeth are not venomous, he saith they have vast quantitys of Partridges but they are something lesse than ours here’ (53).

It was to Sir Hans Sloane, too, who looked after a child for him, on 5 October 1696:

‘I am much att a losse to know how or wch way to Order ye childs Removal out of Towne to a better Aire. Yet if there is any hopes of Benefit by it I would wish you would talk with Higdon & see if it may be done so that she may have good looking after & be sufficiently taken care of; it is a great difficulty if there should be need to put strangers about her in ye weak condition she is in. This is all I can say in this matter in caseshe be yet in such a condition as that you have hopes by this means of doing any good.

‘If you do find her much worse or past hopes (to wch I must submit if it be so) I would begg of you to give my man now some advice to agree wch some of those whoso Trade it is that she may be very privately and decently be interred without trouble to those who have had care of her during her sicknesse, & that they see ye Church fees &c. pay’d. & they may be sup-
plyed with what is necessary from Mr. ffowle. I have no more to say but my obligations to you & Sr. Thomas wch I must deffer till I come wch I hope will be before ye end of this month' (54).

He was eager to report any abnormality among his cattle which might interest the Royal Society. Thus, in a letter dated 1 October 1699, he wrote:

'I could wish you had some acquaintance or knowledge in our parts that I might be capable of giving you an account of something wch would relish with you, but it is ye greater charity in you wch you impart to those who can make no returne: when you are at ye Temple Coffee house I begg you will enquire whether Mr. Smith who went into France called for a Letter I left with ye little boy, & if the letter be not gone you will send it to me by ye post.

'I met with 2 animalls that I do not understand & I desire you will let me know whether it is usual or no, that is I have 2 sheep that should have been of the male kind & they have a penis that is of no use nor perforated but they have another hole more backward where their urine comes out, one of them is fatt & I shall kill him shortly. these creatures I think are not capable of Generation' (55).

It was to Sloane that he went for advice as this letter of 25 November 1700 shows:

'I well believe that when you see some of my countremen & neibours in town you ask after me that too great businesse will not allow you time to write, I intend to be in town att ye sitting of the Parlmt, but in ye meantime have a request to you in order to serve a friend of mine whom I know you wish well to, it is my Lord Derby, who is now in this Island, he hath lately parted with his Governour & is att want of one, & hath desired me to enquire for such a person as may be for his service, no such an one can be found in ye countrey in these parts I do believe, therefore I desire you would think if you can inform yr servt. of one that would accept it willingly & hath a good character. I am confident any man that hath sense & honesty to carry himself well may live very comfortable & at ease in that Government & I do believe my Ld would rely very much on yr opinion of ye person.

'I am quite ignorant of Philosop: News & do not so much as know what my friend Halley hath done by his last Voyage but I am as much as ever' (56).

The glimpses grow fewer after 1705. On 6 October of that year he wrote to Sloane:
'I should be glad before my journey to Town to hear how my Good Doctor doth, I had writ sooner if anything now had happened. I can onely give you an account that not long agoe near Conisburgh about 3 miles hence there was a small urn or Pott found full of Roman Coynes in Brasse, the pott was whole but an Ignorant Labourer who took it for Iron knocked it in pieces with his pickax, the say ye coyn is about 12 or 1300 yeares old. Mr. Thoresby hath a good Quantity of them & I have a few wch I will bring with me. My wife & Mrs Vincent present their service to you & your lady with thanks for your civility when last in Town. My Girle is also an humble servant to Misse Sloan & I am ever’ (57).

And on 26 September 1706 he wrote again from Sprotbrough:

‘You gave me a very perfect account of the Willow which grew in Mr. Arthingtons ground near his house, it hath a very sweet and pleasant smell, and I intend to get some plants of it if I can. I have been not long ago a journey between 40 & 50 miles Northward with my Wife wee were out 10 dayes wee were att Sr. Tho: Franklands Sr Wm Robinsons Sr Edw Blackets Sr Bryan Stapyltos Mr Bensons these are all builders & makers of New Gardens &c so that it was an agreable divertion to us both. I lament very much ye losse of Mr Kirk who was very acceptable to all his friends and acquaintance. his sonne I doubt will spend all he can come att, & amongst divers valuable things he left, his wood, wch farr excells all that ever I saw or heard of for beauty & curiosity, will be destroyd. We are very much pleased with ye successe of our affairs in Italy & Flanders & hope to have as good news from Spaine. We are like to have a contest for the filling of ye Vacancy of Sr Jo: Kay our Knight. my Ld Fairfax & my Ld Down are the candidates of wch the last will, as far as I can guesse, carry it. I should be glad to know if Mr Brydges be return’d out of Flanders he hazarded his person very much there, he is one I have a great esteem for wch is all my reason to enquire. As bad a year as this is for Wet I have had & have now, very ripe & sweet grapes both white & black of severall sorts: my service to our friends att Pontacks & ye Coffee House’ (58).

Even in sickness, he insisted that his wife should write to Sloane and report his symptoms, which she did, as these two undated letters show:

‘This is to acquaint you that four or five days after Sr Godfrey came to Sprotbrough, he begun to have an extraordinary sort of large red spots, or rather Dumps, rise in his head and neck, which spread in a short time all over his body, like as if he had been stung with nettles, attended with a little itching & increased to such a haight yt he hath been oblig’d to keep his Bed
this four or five dayes, & hath been very feavourish, but is this day something better his heats lesson without giving him any sickness at his Stomack his head hath keept well, notwithstanding ye Sweats & Cordialls wee were obliged to give him. Sr Godfrey presents you his Service & Desires to know what method you will advise him, after such a distemper, for wch he can asignt no cause either of heat or Cold, or any surfit he hath an inclination to drink the sulphur spaw, wch is Purgative, & hath formerly agreed well with him, but wether you will think that proper for him or anything to be done before or after it is what he desirs to know, wch with my Service to yr Lady is all from Sr

Yr Humble Servt
Ger. Copley’ (59).

The second, headed ‘Saturday Morning 5 a clock’, runs:

Sr.

‘Sr Godfrey Copley has taken all yr prescriptions but before he cou’d take any rest was troubled with a violent paine in his side which has continued on him c’re since very severely. he’s free from all other paines and can swallow pretty well, this he concludes to be a fit of the Stone which your advise is immediately desired in. & was he rid of this he concludes himself well’ (60).

On 9 April 1709 he died, as Luttrell wrote ‘of a quinsey’ (61). Whether these were the overtures, we cannot, with the present evidence available, definitely decide.

Notes
(7) Stowe MSS. (British Museum) 747, f. 62. Copley took an active part in the establishing of the guinea, opposing attempts to revalue it as 24s. He acted as teller for the Noes on this occasion. Commons Journals, xi, 533.
(8) Clapham, Sir John 1944 *The Bank of England*. Cambridge Univ. Press, i, 33-4, who remarks, 'The backing was given but the horse backed never ran'.


(10) The news was brought to Parliament by William II in person on 24 February 1696, and in the excitement, bills were hastily introduced for the suspension of habeas corpus and for the continuance of Parliament after the king's death.

(11) Stowe MSS. 747, f. 63. For Copley's adhesion to the Association of 1696 see A. Browning, 1951 *Thomas Osborne, Earl of Danby*. Glasgow: Jackson, p. 201.


(13) Stowe MSS. 747, f. 56.

(14) Stowe MSS. 747, f. 84. *Commons Journals*, xii, 57, 68, 73, 77.


(16) Luttrell, Narcissus 1862 *A Brief Historical Relation of State Affairs from September 1678 to April 1714*. Oxford University Press, 4, 484; *Commons Journals*, xii, 514.

(17) Luttrell, op. cit. 4, 656; *Calendar of Treasury Books* 1704-1705 (H.M.S.O., 1938); 23 records them as receiving an allowance of £500 p.a. each.

(18) Nichols, op. cit. 4, 76.

(19) Stowe MSS. 748 f. 9.

(20) Nichols, op. cit. 4, 76. Kirke was trying to promote a public register of lands in the West Riding, and predicted to Thoresby on 20 September 1701 that it 'would be of use in future ages as well as the present'. Two years after this, an Act of Parliament was passed establishing a public Registry of Deeds and Wills in the West Riding, extended by a later Act to enrolments of Bargains and Sales. D. H. Atkinson, op. cit. 2, 57.

(21) Stowe MSS. 747, f. 56.

(22) Stowe MSS. 747, f. 56.


(24) Stowe MSS. 747, f. 82.


(26) Nichols, J., op. cit. 4, 74-5.

(27) *op. cit.* 1, 478.

(28) Stowe MSS. 748, f. 8.

(29) Nichols, *op. cit.* 4, 75.

(30) Stowe MSS. 748, f. 11.

(31) Nichols, *op. cit.* 4, 76.

(32) *ibid.*

(33) Sloane MSS. (British Museum) 4040, f. 225.


(35) Sloane MSS. 4036, f. 188. Edme Mariotte's *Regles pour jets d'eau* was published in his *Divers Ouvrages de Mathematique et de Physique* in 1693 and translated by J. T. Desaguilers in 1718 as *The Motion of Water and other Fluids*. . . . *Together with a Treatise . . . giving practical Rules for fountains and jets d'eau*. 
In composing such sort of engines (for supplying water) I think no person has excelled the ingenious Mr. George Sorocold', Thomas Savery, Miners Friend (1702). For recent studies see Rhys Jenkins in The Engineer, 18 October 1918; Henry Peet in Transactions of the Historical Society of Lancashire and Cheshire (1930), 82; and F. Williamson in Journal of the Derbyshire Archaeological and Natural History Society (1938), 63.

(37) Sloane MSS. 4036, f. 188.
(38) Sloane MSS. 4058, f. 178.
(39) Stowe MSS. 747, f. 66.
(40) Stowe MSS. 747, f. 79.
(41) Atkinson, D. H. Ralph Thoresby, 2, 69. They also met Robert Molesworth (F.R.S. 1697) who owned an estate at Edlington, four miles from Doncaster, so that on this occasion all the five members of the Royal Society were together at this time.

(42) Stowe MSS. 747, f. 11.
(43) Stowe MSS. 748, f. 7.
(44) Nichols, op. cit. 4, 75-76.
(45) Sloane MSS. 4041, f. 12.
(47) Sloane MSS. 4036, f. 206. This was Copley's first wife, Katherine Purcell, of Nantribba, co. Montgomery.

(48) Principal Secretary of State for Ireland; F.R.S., 1663.
(49) Vice-President of the Royal Society.
(50) Sloane MSS. 4036, f. 177.
(51) Sloane MSS. 4036, f. 188.

(53) Sloane MSS. 4058, f. 178.
(54) Sloane MSS. 4036, f. 268.
(55) Sloane MSS. 4037, f. 339.
(56) Sloane MSS. 4038, f. 96.
(57) Sloane MSS. 4040, f. 73.
(58) Sloane MSS. 4040, f. 225.
(59) Sloane MSS. 4058, f. 182.
(60) Sloane MSS. 4058, f. 183.
(61) Luttrell, op. cit. 6, 428.