

## GEORGE SOROCOLD AND SIR GODFREY COPLEY.

By W. H. G. ARMYTAGE, M.A.

ON page 91 of Frederick Williamson's article on George Sorocold, the pioneer of water supply, printed in No. LVII of the *Journal of the Derbyshire Archaeological and Natural History Society* (1936) occur the following words "It is true that Thoresby does not mention Sorocold in connection with the water engine at Sprotborough, but there is a possibility if not a probability that it was his work, and possibly further information may come to light." This note records that such further information is now available, and can be found in two separate manuscript collections — the Stowe and the Sloane Papers — now in the British Museum.

Sir Godfrey Copley first mentions Sorocold in a message for his friend Thomas Kirke (1650-1706) the noted virtuoso, who was elected to Fellowship of the Royal Society in 1693, two years after Copley himself. Writing to Cyril Arthington from London on September 12th, 1695, he said:—

"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."<sup>1</sup>

He then added, after a personal note: "I have writ to *Saracole* but I believe my direction is not good." In another letter to Dr. 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."<sup>2</sup>

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 patented the rising and falling waterwheel, for on June 4th, 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 wheelles wth 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 *Mathemat.* & *Bookish.*"<sup>3</sup>

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 October 4th, 1697: —

"Our Water affairs will I think do very well but one of our strong Iron force rodde was plucked by ye crank out of ye barrell and twisted crooked like a willow stick, wee are very busy."<sup>4</sup>

That the pumps were 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, seven years after he had met Sorocold and Hadley, Sir Godfrey Copley's waterworks at Sprotborough had advanced so far that he gathered three of his friends, Ralph Thoresby, Thomas Kirke and Cyril Arthington, all Fellows of the Royal Society, to see them. Thoresby tells how they 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 cornmill, thence he can go to Coningsburgh Castle on one hand, or Doncaster on the other."<sup>5</sup>

Even his absence in London as M.P. for Thirsk (in which capacity he had unsuccessfully promoted a bill for rendering the River Don navigable) did not distract him

from his hydrostatic projects, and when he returned to Sprotborough that year he was able to tell Kirke on September 4th:—

“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 and see Chatsworth.”<sup>6</sup>

Perhaps the most notable of the improvements which Sorocold inspired was the bath. Constructed in 1707, it was thus described by Sir Godfrey Copley in a letter written to his friend Sir Hans Sloane on September 7th of that year:—

“I have succeeded past my expectation in making such a bath for pleasure & convenience as I think no one in this kingdome 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 itt 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 agreable & there is roome enough for four or five to swim up and down very well. I have gone in severall 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 followd by some who perhaps may be willing to outdo me in making one 3 times as large.”<sup>7</sup>

#### REFERENCES.

- <sup>1</sup> Stowe MSS British Museum Add MSS 747 f. 53.
- <sup>2</sup> Sloane MSS British Museum Add MSS 4058 f. 178.
- <sup>3</sup> Stowe MSS British Museum Add MSS 747 f. 66.
- <sup>4</sup> *ibid.* 747 f. 79 (not listed in catalogue).
- <sup>5</sup> D. H. Atkinson, *Ralph Thoresby, The Topographer* (Leeds, 1887) ii 60.
- <sup>6</sup> J. Nichols, *Literary Illustrations of the Eighteenth Century* (1812-3) iv 74.
- <sup>7</sup> Sloane MSS British Museum Add MSS 4041 f. 12.