

THE
LIVES
OF THE
PROFESSORS
OF
GRESHAM COLLEGE

To which is prefixed
The LIFE of the FOUNDER

Sir THOMAS GRESHAM

By JOHN WARD

A FACSIMILE OF THE LONDON EDITION OF 1740

The Sources of Science, No. 71

JOHNSON REPRINT CORPORATION

New York and London

1967

VII.

ISAAC BARROW, whose descent was from an antient family in Suffolk, was the son of Thomas Barrow a citizen of London, and Anne daughter of William Buggin of North Cray in Kent esquire; nephew of Dr. Isaac Barrow, bishop of Man, and afterwards of St. Asaph; and grandson of Isaac Barrow esquire, born at Gazeby in Suffolk in 1563, but afterwards of Spiny abbey at Wickham in Cambridgeshire, where he was a justice of the peace forty years. His father, Philip Barrow, who was also of Gazeby, published *A method of physic*; and was brother of Isaac Barrow, doctor of physick, and a benefactor to Trinity college in Cambridge, where he had been a fellow, and tutor to Robert Cecil, earl of Salisbury, and lord treasurer in the reign of king James the first. They were the sons of John Barrow of Suffolk, and grandsons of Henry Barrow^b.

ISAAC, the son of Thomas, was born at London, in the month of October 1630, according to Mr. Hill's account. But Dr. Pope says, that neither of these dates is right; for he had often heard Dr. Barrow himself say, he was born upon the 29 of February, which could not be in 1630, that not being a leap year^c. He was sent first to the Charter house school, for two or three years, where he discovered more of a natural courage, than inclination to study, being much given to fighting, and promoting it in others, so that he made little or no proficiency in learning. His father finding no good was to be expected from him there, removed him to Felsted in Essex, where to his agreeable surprise he received such a turn, and pursued his studies with that diligence and success, that his master appointed him tutor to the lord viscount Fairfax of Emely in Ireland, who was then his scholar. During his stay at Felsted he was upon the 15 of December 1643 admitted a pensioner of Peter house in Cambridge, in the fourteenth year of his age, under his uncle Mr. Isaac Barrow, then a fellow of that college. This date of his admission agrees very well with the time of his birth, as given by Mr. Hill, and likewise with his epitaph, which was written by the information of his father; but is wholly inconsistent with Dr. Pope's account, the two nearest leap years to 1630 being 1628 and 1632, which will fix his admission at Peter house either to the twelfth or sixteenth year of his age; whereas the words of the college register are very express, *annum agens decimum quartum*. I am therefore inclined to think, that Dr. Pope was mistaken, who might possibly thro forgetfulness ascribe that to Dr. Barrow, which he had heard of some other friend. He removed to Cambridge on the 25 of February 1645, and was admitted a pensioner in Trinity college, his uncle (who with Mr. Seth Ward, Peter Gunning, and John Barwick, had written against the covenant^d) having the year before been ejected from Peter house. And his

^a Hill's *Life of Dr. Isaac Barrow*, prefixed to his *English works*.

^b Mr. Worthington.

^c *Life of Seth, L. Bp. of Salisbury*, page 129.

^d *Life of Dr. John Barwick*, p. 36, English ed.

father, whose estate was impaired by adhering to the king's interest, being by that means unable to do much for him, his chief support at first was from the generosity of Dr. Henry Hammond; for which he afterwards expressed his gratitude, in a very florid epitaph, consecrated to his memory^a. In 1647 he was chosen a scholar of the house, and tho he was kindly treated by the master, Dr. Hill, and screened by him from the resentment of some of the fellows on account of his principles; yet he continued such a royalist, that he would never take the covenant. But afterwards having subscribed the engagement, he repented of what he had done, and went back to the commissioners to declare his dissatisfaction, and got his name rased out of the list. In the year 1648 he took the degree of batchelor of arts, and the year following was chosen fellow of the college. But as those times were not favourable to men of his sentiments, after his election he designed the profession of physick, and for some years bent his studies that way, and particularly made a great progress in anatomy, botanics, and chymistry; tho afterwards thinking that profession not well consistent with the oath he had taken, when admitted fellow, he quitted medicine, and applied himself chiefly to divinity. While he read Scaliger on *Eusebius*, he perceived the dependence of chronology upon astronomy, which put him upon the study of Ptolemy's *Almagest*; and finding that book and all astronomy depend on geometry, he applied himself to Euclide's *Elements*, and from thence was lead to the other antient mathematicians, till he had conquered all the difficulties of that noble science by the force of his own genius and indefatigable labour, Mr. John Ray being then the companion of his studies^b. In the year 1652 he commenced master of arts, and upon the 12 of July the following year was incorporated in that degree at Oxford. When Dr. Duport, the Greek professor at Cambridge, resigned the chair, he recommended his pupil, Mr. Barrow, for his successor, who justified the character given of him by an excellent performance of his probation exercise. But not having interest enough to carry the election, Mr. Ralph Widdrington was chosen; and that disappointment is thought to have been the reason, which induced Mr. Barrow to travel.

IN order to execute this design he was obliged to sell his books. And about the beginning of June 1655 he left England, and went for Paris. There he found his father attending the English court, and out of his own small stock made him a seasonable present^c. The same year his *Euclide* was printed at Cambridge, which he had left behind him for that purpose. He continued in France the following winter, and sent the master and fellows of Trinity college an account of his voyage in a poem, and some curious and political observations in a letter, both written in Latin, and dated February the 9 the same year, which have been since published in his *Opuscula*^d. The ensuing spring passing

^a *Opuscula*, pag. 301.

^b Dr. Worthington's *Letter to Mr. Hartlib*, Feb. 14, 1654. *Mss.* Mr. Worthington.

^c *Id. eid.* June 5, 1655. I mention this the rather, because both Mr. Hill and Dr. Pope place it in 1654. But in that letter Dr. Worthington says, "I hope Mr. Barrow by this time is

"safe in France." *Mss.* And agreeably to this Mr. Barrow himself, in a Latin letter written by him to the master and fellows of Trinity college, Cambridge, dated at Constantinople 1 Aug. 1658, says, *Ultimo restat, ut a vobis veniam implorem absentiae ultra justos triennii limites excurrentis.*

^d Pag. 317, and 351.

king's interest,
 their support at
 for which he
 h, consecrated
 house, and tho
 reened by him
 his principles;
 e the covenant.
 ented of what
 clare his disfa-
 e year 1648 he
 ing was chosen
 able to men of
 ion of phytic,
 ularly made a
 tho afterwards
 he had taken,
 himself chiefly
 received the de-
 upon the study
 onomy depend
 d from thence
 conquered all
 own genius and
 npanion of his
 and upon the
 agree at Oxford.
 , resigned the
 successor, who
 rmance of his
 carry the ele-
 appointment is
 row to travel.

ell his books.
 and went for
 court, and out
 e. The same
 had left behind
 owing winter,
 unt of his voy-
 ons in a letter,
 e year, which
 spring passing

and agreeably to this
 latin letter written by
 s of Trinity college,
 tinople 1 Aug. 1658,
 is veniam implorem
 imites excurrentis.

thro

thro France he came to Ligorn, with a design to proceed to Rome, but
 stoped at Florence; "where he had the favour, and neglected not the
 " advantage, to peruse many books in the great duke's library, and ten
 " thousand of his medals, and to discourse thereon with Mr. Fitton
 " (an English gentleman^a) the fame of whose extraordinary abilities in
 " that sort of learning had caused the duke to invite him to the charge
 " of that great treasury of antiquity^b." While he was thus in pursuit
 of knowledge, but straitened in his circumstances, providence interpos-
 ed in his favour, by means of a young merchant in London, Mr. James
 Stock, to whom he afterwards dedicated his edition of Euclide's *Data*.
 This gentleman very generously furnished him with money to support him
 in his travels^c. By this unexpected supply he was probably encouraged
 to enlarge his views; so that he not only continued in Italy that summer,
 but being prevented from visiting Rome (the place of all others he most
 desired to see) by reason of the plague, which then raged there, and
 not being willing to stay the whole winter at Florence, he went back
 to Ligorn, and from thence set sail for Smyrna, November the 6,
 1656. In this voyage they were attacked by an Algerine pirate, and
 during the ingagement he kept his post at the gun, to which he was
 appointed. By this he discovered, that his natural courage continued the
 the same, tho his disposition for fighting had been long altered; and
 that he dreaded nothing so much, as slavery, the most shocking prospect
 to a brave and generous mind. Therefore Dr. Pope sais, when he asked
 him, "Why he did not go down into the hold, and leave the defense of
 " the ship to those, to whom it did belong?" He replied: "It con-
 " cerned no man more than my self. I would rather have lost my life,
 " than to have fallen into the hands of those merciless infidels^d." At
 Smyrna he met with a kind reception from the English merchants, and
 particularly consul Bretton, upon whose death he afterwards wrote a
 Latin elegy^e. From thence he sailed up to Constantinople, where the
 like civilities were shewed him by Sir Thomas Bendish, the English
 embassador, and Sir Jonathan Daws, with whom he contracted a freind-
 ship, which ever afterwards continued. This voyage from Ligorn to
 Constantinople he has described in another Latin poem yet extant^f.
 Constantinople had been the see of S. Chrysostom, whom he prefered
 before any of the other fathers, and read over all his works during his
 continuance there, which was above a year, and longer than he would
 have chosen, had not the circumstances of his affairs obliged him to
 it. This appears from his letter to the master and fellows of Trinity
 college in Cambridge, dated from thence August the 1, 1658, to which
 I have refered above; and with which he sent them another Latin
 poem, but unfinished, as he said, concerning the Turkish religion,
 which may also be seen in his *Opuscula*^g. In that letter he acquaints

^a *Athen. Oxon.* V. 11, c. 352.

^b This is Mr. Hill's account, which Dr. Pope
 has so mistaken, as to say, that upon the recom-
 mendation of Mr. Fitton the duke invited Mr.
 Barrow to accept of that office, *Life of Seth L.*
Bp. of Salisbury, p. 134.

^c Dr. Worthington *eid.* August 5, 1656. *Mf.*
 Mr. Worthington.

^d *Life of Seth, L. Bp. of Salisbury*, p. 136.

^e *Opusc.* p. 302.

^f *Ibid.* pag. 211. But the time of his sailing
 from Ligorn is at the head of that poem, thro mis-
 take, printed Nov. 6. anno 1657 for 1656. O-
 therwise he could not have staid above a year in
 Turkey, as Mr. Hill tells us he did, and is mani-
 fest from his own letter cited above.

^g Pag. 227.

them,

them, that he had disposed of his affairs in a proper manner for his return, and hoped to be with them in about a year's time^a. Accordingly he went to Venice by sea, where, so soon as he was landed, the ship took fire, and was consumed with all the goods, but none of the persons were hurt. Leaving Venice he made the tour of Germany and Holland, and so came back to England in the year 1659, as he proposed. The time being now come, at which the fellows of Trinity college are obliged either to take orders, or quit the college (which is seven years after they have taken the degree of master of arts) he got himself episcopally ordained by bishop Brownrigg. And soon after the restoration he was chosen Greek professor at Cambridge, without any competitor, upon the resignation of Mr. Ralph Widdrington. His oration spoken on that occasion is preserved in his works^b. When he first entered upon this province, he designed to have read upon the *Tragedies* of Sophocles, but altering his intention he made choice of Aristotle's *Rhetoric*^c. Those lectures were afterwards borrowed by some friend, who never returned them; otherwise they might probably have been published. The year following, which was 1661, he took the degree of batchelor in divinity.

THE death of Mr. Rooke, which had been a great loss to learning in general, and particularly to Gresham college, was happily made up there by Mr. Barrow, who was chosen to succeed him, as geometry professor, on the 16 of July 1662, by the recommendation of Dr. Wilkins. In his Latin oration, previous to his lectures (which is published in his *Opuscula*^d) after an handsom encomium upon the founder of the college, Sir Thomas Gresham, he has given a very just and commendable character of several of the former professors^e. While he continued in this station, he not only discharged the duty of it with great diligence and approbation; but likewise officiated for Dr. Pope, the astronomy professor, during his absence abroad. Among other of his lectures, several were upon the projection of the sphere, and, as Mr. Sherburne says, prepared for the press^f; but these also having been lent out, were never afterwards recovered. The same year, 1662, he wrote an *Epithalamium* upon the marriage of king Charles and queen Catharine in Greek verse^g. And about this time he was offered a living of good value; but the condition annexed, of teaching the patron's son, made him refuse it, as too like a simoniacal contract. Upon the 20 of May 1663 he was elected a fellow of the royal society, in the first choice made by the council after their charter. And July the 15 insuing his unkle, Dr. Isaac Barrow, to whose advice and direction in his younger years he had always recourse, being now created bishop of Man, he preached the consecration sermon at Westminster abbey, which may be seen among

^a As by the assistance of that letter I have been enabled to settle the course of his travels in a clearer manner, than has been done heretofore; I shall for that reason insert it in the *Appendix*, N. x. tho it has been published already by Dr. Derham, in the *Philosophical letters between Mr. Ray and his correspondents*: London 1718. octavo.

^b *Opuscula*, p. 100.

^c Dr. Worthington to Mr. Hartlib, Oct. 21, 1661. *Mss.* Mr. Worthington.

^d Pag. 90.

^e See it in the *Appendix*, Number x.

^f *Appendix to Manilius*, p. 112.

^g *Opusc.* p. 275.

manner for his re-
ne^a. According-
s landed, the ship
none of the per-
of Germany and
1659, as he pro-
fellows of Trinity
college (which is
er of arts) he got
nd soon after the
ge, without any
ngton. His ora-
When he first
on the *Tragedies*
ice of Aristotle's
by some freind,
bably have been
took the degree

loss to learning
happily made up
s geometry pro-
of Dr. Wilkins.
published in his
r of the college,
mendable chara-
ntinued in this
t diligence and
astronomy pro-
ectures, several
ourne fais, pre-
ut, were never
e an *Epithala-*
arine in Greek
ood value; but
ade him refuse
y 1663 he was
e made by the
his uncle, Dr.
r years he had
preached the
e seen among

Hartlib, Oa. 21,
Number x.
112.

his

his printed sermons^a. The same year^b, the executors of Henry Lucas esquire having by his appointment settled a mathematical lecture at Cambridge, Mr. Barrow by the assistance of his good freind Dr. Wilkins was chosen the first professor, and entered upon that province the year following. And the better to secure the end of so generous and useful a foundation, he took care, that himself and successors should be bound to leave yearly to the university ten written lectures. He was also invited to take the charge of the Cottonian library, but upon trial a while he chose rather to settle at Cambridge; and for that end, upon the 20 of May 1664, he resigned his professorship at Gresham college.

IN the year 1669 he wrote his *Expositions on the Creed, Lord's Prayer, Decalogue, and Sacraments*, which was a task enjoined him by the college, being obliged by the statutes to compose some theological discourses; which, as he fais, so took up his thoughts, that he could not easily apply them to any other matter^c. The same year were published his *Lectiones opticae*, which he dedicated to Robert Raworth and Thomas Buck esquires, the executors of Mr. Lucas, as the first fruits of his institution. These lectures being sent to the learned Mr. James Gregorie, professor of the mathematics at St. Andrew's-in Scotland, and perused by him, he gives the following character of the author in a letter to Mr. John Collins; "Mr. Barrow in his *Opticks* sheweth himself " a most subtil geometer, so that I think him superior to any, that ever " I looked upon. I long exceedingly to see his *Geometrical lectures*, " especially because I have som notions upon that same subject by " mee. I intreat you to send them to mee presently, as they come " from the presse, for I esteem the author more then yee can easilie " imagine^d." But when his *Geometricae lectiones*, which were publish- ed in the year 1670, had been some time in the world, having heard of very few, who had read and considered them throughly, except Mr. Gregorie and Mr. Slusius of Liege, the little relish that such things met with, helped to loosen him more from those speculations, and lighten his attention to the studies of morality and divinity. For with a view to this design he had, on the 8 of November, resigned his mathematical chair at Cambridge to his learned freind and successor, Mr. Isaac Newton, master of arts, and fellow of the same college, who revised his *Optic lectures*, before they went to the press; and, as he ingenuously acknow- ledges, corrected some things, and added others^e. He likewise owns his obligations upon that occasion to another of his intimate freinds,

^a Vol. 1, Sermon. xii.

^b By a mistake of the print in Dr. Pope's *Life of Seth L. Bp. of Salisbury*, p. 135, this lecture is said to have been founded in the year 1669.

^c Letter to Mr. John Collins, dat. on Easter Eve 1669. *Mss.* Mr. Jones.

^d Dat. 29 January 1670. *Mss.* *Id.*

^e *Præf. ad. Lect. optic.* In a letter written by Mr. Barrow to Mr. John Collins, July 20, 1669, he acquaints him, that a freind of his had brought him some papers, wherein he had set down " methods of calculating the dimensions of magni- tudes, like that of Mr. Mercator for the hyper- bola, but very general; as also of resolving

" equations:" which he promises to send him. And accordingly he did so, as appears from another letter, dated the 31 of that month. And in a third letter of the 20 August following he fais, " I am glad my freind's papers give you so " much iatisfaction; his name is Mr. Newton, " a fellow of our college, and very young, being " but the second year master of arts; but of an " extraordinary genius, and proficiency in these " things." See *Commerc. epist. D. Jo. Collins et aliorum, De analysi promota*, pag. 65, 66, which was published to vindicate the author's right to this discovery, when claimed afterwards by Mr. Leibnitz: *Lond.* 1722. octavo.

T t

Mr.

Mr. John Collins, who had been very servicable to him in their publication. And indeed it was chiefly owing to the interest that gentleman had with him, that he was prevailed on to publish most of his mathematical works. From whom when he heard by a letter, that an account of his *Optic* and *Geometrical lectures* was designed to be printed in the *Philosophical Transactions*; he shews by his answer, how cautious he was, that nothing might be said to recommend them to the reader. "Concerning the character (sais he) which you speake of, of my bookes, I shall esteem myself obliged to you, if you will effect, that there be nothing said of them in the *Philosophical reports*, beyond a short and simple account of their subject. I pray let there be nothing in commendation, or discommendation, of them; but let them take their fortune, or fate, *pro captu lectoris*. Any thing more will cause me displeasure, and will not do them, or me, any good^a."

UPON quitting his Lucasian professorship he was only a fellow of Trinity college, till his uncle, then bishop of St. Asaph, gave him a small sine cure in Wales; and Dr. Ward, bishop of Salisbury, who highly esteemed him, a prebend in that church: the profits of both which he bestowed in charity, and parted with them, so soon as he became master of his college. In the year 1670 he was created doctor in divinity by mandate, and upon the promotion of Dr. John Pearson, master of Trinity college, to the see of Chester, he was appointed to succeed him in his mastership by the king's patent, bearing date the 13 of February 1672, and was admitted the 27 of the same month. When his majesty advanced him to this dignity, he was pleased to say, *he had given it to the best scholar in England*; which character of him was not taken up by report, but the doctor being then his chaplain, the king had often done him the honour to discourse with him; and in his facetious way used to call him *an unfair preacher*, because he exhausted every subject, and left no room for others to come after him. The patent having been drawn for him, as it had for some others, with a permission to marry, he got that clause erased, thinking it not agreeable with the statutes, from which he desired no dispensation^b. Being thus settled to his mind, and the height of his wishes, he concerned himself with every thing, that might be for the interest of the college, excused some allowances made to his predecessors, and earnestly promoted the affair of building a library, which was begun in his mastership^c. And in the year 1675 he was chosen vicechancellor of the university. In the mean time he abated nothing of his studies in order to increase his stock of sermons, and finish his treatise *Of the pope's supremacy*, in which he was then engaged. "He understood popery (as the ingenious writer of his life sais) both at home and abroad; he had narrowly observed it militant in England, triumphant in Italy, disguised in France; and had earlier apprehensions, than most others, of the approaching danger, and would have appeared with the forward-

^a Dat. 23 April 1670. *Mss.* Mr. Jones.

^b Dr. Pope sais, he chose rather to be at the expense of double fees, and procure a new patent without the marrying clause. *Life of Seth, L. Bp. of Salisbury*, p. 165. But this is a mistake,

the original patent, which is now in the hands of the earl of Oxford, having a blank occasioned by the erasure. Mr. Baker.

^c Camden's *Britann.* p. 484, ed. 1620.

in their publi-
that gentleman
t of his mathe-
er, that an ac-
o be printed in
how cautious
to the reader.
ake of, of my
ill effect, that
orts, beyond a
t there be no-
; but let them
ing more will
y good^a."

fellow of Tri-
ve him a small
y, who highly
ooth which he
e became ma-
ctor in divinity
son, master of
o succeed him
13 of Febru-
a. When his
to say, *he had*
er of him was
plain, the king
ad in his face-
he exhausted
er him. The
others, with
it not agree-
tion^b. Being
concerned him-
e college, ex-
ftly promoted
s mastership^c.
the university.
der to increase
supremacy, in
as the ingeni-
; he had nar-
Italy, disguis-
ost others, of
the forward-

now in the hands
a blank occasioned
r.
4, ed. 1620.

GEOMETRY PROFESSORS. 163

" est in a needful time." But being invited to preach the *Passion ser-
mon* on the 13 of April 1677 at Guildhall chapel, he never preached but
once more, falling sick of a fever, of which he died on the 4 of May
insuing, and was buried in Westminster abbey; where his freinds erect-
ed a monument to his memory, in the south wing, against the west
wall, with his bust of white marble on the top, and the following in-
scription on the front, drawn up by his much esteemed freind, Dr.
John Mapletoft.

ISAACVS BARROW

S. T. P. REGI CAROLO II A SACRIS

VIR PROPE DIVINVS ET VERE MAGNVS SI QVID MAGNI HABENT
PIETAS PROBITAS FIDES SVMMA ERVDITIO PAR MODESTIA
MORES SANCTISSIMI VNDEQVAQVE ET SVAVISSIMI
GEOMETRIAE PROFESSOR LONDINI GRESHAMENSIS
GRAECAE LINGVAE ET MATHeseOS APVD CANTABRIGIENSES SVOS
CATHEDRAS OMNES ECCLESIAE GENTEM ORNAVIT
COLLEGIVM SS. TRINITATIS PRAESES ILLVSTRAVIT
IACTIS BIBLIOTHECAE VERE REGIAE FVNDAMENTIS AVXIT
OPES HONORES ET VNIVERSVM VITAE AMBITVM
AD MAIORA NATVS NON CONTEMPSIT SED RELIQVIT SECVLO
DEVVM QVEM A TENERIS COLVIT CVM PRIMIS IMITATVS EST
PAVCISSIMIS EGENDO BENEFACIENDO QVAM PLVRIMIS
ETIAM POSTERIS QVIBVS VEL MORTVVS CONCIONARI NON DESINIT
CAETERA ET PAENE MAIORA EX SCRIPTIS PETI POSSVNT
ABI LECTOR ET AEMVLARE
OBIIT IV DIE MAII ANN. DOM. MDCLXXVII AETAT. SVAE XLVII
MONVMENTVM HOC AMICI POSVERE.

He was but low of stature, lean, of a pale complexion, and somewhat
short fighted; but very strong, healthy, and brave. He could never
be prevailed on to fit for his picture; but some of his freinds found means
to get it taken without his knowledge, while they diverted him with
such discourse, as ingaged his attention^a. I mention this circumstance
the rather, because I perceive it escaped Mr. Hill, who sais: "His
picture was never made from the life, and the effigies on his tomb
does little resemble him." One remarkable instance of his strength,
as well as courage, is this: Going out of a freind's house one morning,
before an huge and furious mastif was chained up, as he used to be all
day, the dog flew at him; but he caught the dog by the throat, and
after much struggling bore him to the ground, and held him there, till
the people could rise, and part them. A neglect of his person and drefs
always continued with him, and he was very free in the use of tabacco,
which he used to call *παραέμακον*, beleiving it helped to compose and
regulate his thoughts. But doubtless the sedateness of his mind, close
attention to his subject, and unwearied pursuit of it, till he conquered
all its difficulties, joined with a great natural sagacity and solid judge-
ment, were the true secret, why he thought so justly, and wrote with
that great accuracy and clearness. He transcribed his sermons four or
five times over, his greatest difficulty being always to please himself.

^a This picture was painted by Mrs. Beale, and is now in the possession of James West esquire.

And therefore Monsieur Le Clerc, speaking of his sermons, fais : *Les sermons de cet auteur sont plutôt des traités, ou des dissertations exactes, que des simples harangues pour plaire à la multitude. Si l'on n'avoit résolu de se tenir dans les bornes de simple historien, on diroit, que l'on n'a point encore vu de sermonnaire comparable à cet auteur*^a. But they need no other encomium, after the character given of them by the learned and judicious editor^b, in his preface, that "their own excellency and eloquence will praise them best." He took a large compass in his studies, and had not only gained a general acquaintance with all parts of solid learning, but particularly excelled in the mathematics. So that a very good judge fais of him : "He may be esteemed, as having shewn a compass of invention equal, if not superior, to any of the moderns, Sir Isaac Newton only excepted^c." Nor did he neglect the study of philology, being exceedingly well skilled in the Greek language, and much inclined to Latin poetry, with which he frequently diverted himself, many performances of that kind being extant in his *Opuscula*. But for satyrs, he wrote none; his wit was pure, and peaceable; and he was a great enemy to the modern plays, thinking them a principle cause of the debauchery of those times^d. But notwithstanding the course he had taken himself, he gave it as his opinion, that general scholars did more please themselves; but those, who prosecuted particular subjects, did more service to others. And indeed his unfixed state, for a good part of his life, did in a manner necessarily carry him to a variety of pursuits, till at length he came to settle in divinity. And for this his temper of mind, as well as inclination, seemed more particularly to suit him. For he was calm and sedate, always contented with his condition, not depressed by adversity, nor elevated in prosperity; steady and constant in his devotion, beneficent to the necessitous, could reason coolly with the learned, and suit his discourse to the less knowing; and was very communicative to all, who desired his assistance, which unhappily proved in some instances a prejudice to the public, by the loss of many of his papers, that were lent and never returned. Among which, besides those already mentioned, may be reckoned his *Perspective lectures*, which in a letter to Mr. John Collins^e, he tells him, that he had then sent him to peruse. He left little behind him, but books; which were so well chosen, that they sold for more, than they cost. The manuscripts of his own composing were intrusted to the care of Dr. John Tillotson (afterwards archbishop of Canterbury) and Abraham Hill esquire, with a power to print such of them, as they thought proper. And in how faithful a manner this trust was executed, may be seen by the preface before his English works. He printed only two sermons himself, namely, *The duty and reward of bounty to the poor*^f; and another, *Upon the passion of our Blessed Saviour*^g, which he did not live to see published. But several mathematical treatises written by him were printed during his life, as will appear by the following account of his works.

^a *Bibliothèque universelle*, Tom. III, p. 325.

^b Dr. Tillotson.

^c Pref. to Pemberton's *View of Sir Is. Newton's Philosophy*.

^d Mr. Hill in his *Life*.

^e Dat. 11 October 1670. *Mss.* Mr. Jones.

^f Preached at the Spittal upon Wednesday in Easter week 1671. See Vol. I, Sermon. xxxi.

^g See Vol. I, Sermon. xxxii.

fais : Les ser-
s exactes, que
' avoit résolu
on n' a point

they need no
learned and
ncy and elo-
fs in his stu-
h all parts of
s. So that a

ving shewn a
the moderns,
the study of
anguage, and
diverted him-
uscula. But

; and he was
iple cause of
course he had
ars did more
subjects, did

good part of
f pursuits, till
nper of mind,
im. For he

not depressed
t in his devo-
the learned,
communicative

in some in-
papers, that
those already
ch in a letter

him to per-
well chosen,
s of his own
n (afterwards
n a power to
ow faithful a

ce before his
namely, *The*
the passion of
But sever-
g his life, as

1. *Euclidis Elementa* : Cantabrigiae 1655, et saepius. octavo.

This was afterwards translated into English, and published, London 1660, etc. octavo.

2. *Euclidis Data* : Cantabrigiae 1657. octavo.

This was subjoined to the *Elements* in some following editions.

3. *Lectiones opticae* XVIII, Cantabrigiae in scholis publicis habitae, in quibus opti-
corum phaenomenon genuinae rationes investigantur et expo-
nuntur : Londini 1669. quarto.

An account of this book is published in the *Philosophical transactions*, N. LXXV, p. 2258, September 1671.

4. *Lectiones geometricae* XIII, in quibus praesertim generalia linearum
curvarum symptomata declarantur : Londini 1670. quarto.

An account of this book is published in the same *Transaction*, p. 2260 ; with *An addition of some corollaries communicated by the author, belong-
ing to the second problem of his third appendix to the twelfth lecture.* These lectures were first printed separately from the former upon optics, but afterwards in the years 1672 and 1674, they were published to-
gether, tho, I suppose, not reprinted, but only a new title page prefixed to them ; for otherwise the addition of those *corollaries* now mentioned would doubtless have been inserted.

5. *Archimedis opera*, Apollonii conicorum libri IV, Theodosii sphae-
rica, methodo nova illustrata, et succincte demonstrata : Londini 1675. quarto.

As to the *Lemmata* of Archimedes published in this volume, it is said in the preface : *Latine nunc ea leguntur ex duplici versione ; altera quidem viri doctissimi Johannis Gravii, quae cum animadversionibus pauculis Sam. Fosteri, praelectoris Greshamensis, seculi hujusce de-
vergentis anno 59 Londini prodiit ; mox altera Abrahami Ecchelen-
sis, quam suis annotatis illustravit, atque adeo Florentiae edidit, egregius mathematicus Alf. Borrellus.* An account of this work may be seen in the *Philosophical trans-
actions*, N. CXIV, p. 314, May 1675. And the copy of all the books of Archimedes published in it, except the second book *De aequiponde-
rantibus*, the two books *De insidentibus humido*, the *Lemmata*, and the book *De arenae numero*, written in Dr. Barrow's own hand, in one octavo volume, and the four books of Apollonius in another volume in quarto, are reposit in the library of the royal society^a.

These which follow, were published after his decease.

1. *Lectio, in qua Theoremata Archimedis de sphaera et cylindro, per
methodum indivisibilium investigata, ac breviter demonstrata, exhibentur* :
Londini 1678. duodecimo.

This was written in English, but soon after the author's death being turned into Latin, was subjoined to the editions of Euclide's *Elementa*
et *Data*.

2. *Mathematicae lectiones, habitae in scholis publicis academiae Canta-
brigien-
sis, an. Dom. 1664, 5, 6, etc. Londini 1683. octavo.*

These were some of his Lucasian lectures ; to which the editor, Mr. George Wells, has prefixed the author's *Oratio praefatoria*, made at the opening of them.

^a In the *Catalogi librorum manuscriptorum Angliae etc.* printed at Oxford, these two manuscripts are thus imperfectly described : *Isaacus Barrow, in Apollonii Pergaei Conica, 2 Vol. Tom. II, p. 84.*

166 GEOMETRY PROFESSORS.

3. *The works of the learned Isaac Barrow, D. D. late master of Trinity college in Cambridge (being all his English works) in three volumes; London 1683, etc. folio.*

The first volume contains,

Thirty two sermons on several occasions.

A brief exposition of the Creed, the Lord's Prayer, the Decalogue, and the doctrine of the sacraments.

A treatise of the pope's supremacy.

A discourse of the unity of faith.

The second volume contains,

Sermons and expositions on all the articles of the Apostles creed.

The third volume contains,

Forty five sermons upon several occasions.

These three volumes were published by Dr. John Tillotson, afterwards archbishop of Canterbury. And to the first of them is prefixed *Some account of the life of Dr. Isaac Barrow*, written by Abraham Hill esquire.

4. *Isaaci Barrow S. S. T. professoris Opuscula, viz. determinationes, conciones ad clerum, orationes, poemata, etc. Volumen quartum: Londini 1687. folio.*

This is called *Volumen quartum*, as it was printed after the three English volumes in folio. It is dedicated by his father, Mr. Thomas Barrow, to Dr. Montague the master, and the senior fellows of Trinity college in Cambridge. And the *Dissertatiuncula de sestertio*, pag. 356, was reprinted the same year in the *Philosophical transactions*, N. cxc, p. 383.

5. There are two letters written by him to Mr. Willughby, and printed in the *Philosophical letters between Mr. Ray and his correspondents*, p. 360, 362, upon the following subjects.

The former, dated March 26, 1662, contains the method, whereby *Mons. Robervell* was said to have demonstrated the equality of a spiral line with a parabola. And in that letter he signifies his intention of reading lectures upon Archimedes *De aequiponderantibus*; but whether he afterwards executed that design, or not, I cant say.

In the latter, dated October 5, 1665, he approves of Mr. Willughby's discourse, inferring the solidity of the sphere from the surface, by comparing the concentric surfaces of the sphere with the parallel arches of the cone; and acquaints him with his own method of doing it.

William Jones esquire having communicated to me several curious papers of Dr. Barrow, written in his own hand, I thought the following short account of them might not be unacceptable to the public.

1. A Latin volume in quarto, wherein are contained,

Compendium pro tangentibus determinandis.

Aequationum constructio per conicas sectiones.

Aequationum constructio geometrica.

Additamenta de curvis.

These tracts seem to have been written before the publication of his *Lectiones geometricae*.

2. *Theorema generale ad lineis curvis tangentes, et curvarum figurarum areas, per motum determinandas.* folio, half a sheet.

3. Letters to Mr. John Collins upon various mathematical subjects, from which several extracts have been inserted in the life.

Concerning parabolical conoids. Without a date.

Rectifying a mistake of Mr. Collins, concerning the parallel sections of the cubical parabolical conoid. Without a date.

Rules to compute the portions of a sphere or spheroid. September 5, 1664.

A character of Mengolus's Elementa geometriae speciosae, with whom he is displeased for his affectation of new definitions, and uncouth terms. November 12, 1664.

He thanks him for a catalogue of mathematical books, which he sent him. Gives a character of Alsted's Admiranda mathematica, which he thinks a work of no great importance. November 29, 1664.

Concerning a parabolical conoid, cut parallel to the axis. January 9, 1664.

About printing his Archimedes, Apollonius, and Theodosius; as also a new edition of his Euclide. March 3, 1665.

Concerning the area of the common hyperbola, found by logarithms. February 1, 1666.

Containing a variety of rules relating to the circle and hyperbola, with theorems concerning the curve surfaces of conoids and spheroids. March 6, 1667.

A continuation of much the same subject. March 26, 1668.

A further continuation of the same subject. May 14, 1668.

Concerning the linea secantium. With two papers: one of the figure of secants and tangents, applied to the arch, or radius; the other concerning the cissoidal space. March 13, 1668.

Concerning the publication of his Lectiones opticae. Dat. Easter Eve 1669.

Sends him some few things to be inserted in his Lectiones geometricae, which were then printing. March 29, 1670.

Concerning the publication of those lectures. April 23, 1670.

Sends him his Apollonius and Perspective lectures. October 11, 1670.

VIII.

ARTHUR DACRES^a sprang from an antient and honourable family of that name in Westmorland. One of his ancestors, Henry Dacre of Malfeild in the county of Stafford, was an alderman of London, and died in the year 1524. He was the father of Robert Dacres of Cheshunt in Hertfordshire, who was master of requests to king Henry the eighth, and died in 1543. His son, George Dacres esquire, purchased the manour of St. Andrew Le Mott in Cheshunt. He had a daughter named Margaret, who was married to the learned Sir Henry Savil^b; and departing this life in 1580 he left the manour at Cheshunt

^a OF DACRE.

^b *Athen. Ox.* V. 1, c. 468.