# MEDICAL STATISTICS FROM GRAUNT TO FARR

By MAJOR GREENWOOD

## INTRODUCTION

Under the Fitzpatrick Trust, a Fellow of the Royal College of Physicians of London is chosen annually by the President and Censors to deliver two lectures in the College on 'The History of Medicine'. I had the honour of being chosen for this office in 1940 but, for obvious reasons, the lectures were not delivered, and it may be safely assumed that some years will pass before a medical audience will have time to attend to the history of a subject the modern practice of which does not make a strong appeal to physicians.

The nature of the intended audience inclined me to stress the medical rather than the purely statistical aspects of the story and I have trodden ground over which a greater man passed some years ago. I hope that Karl Pearson's studies of some or all of these old heroes will eventually be printed, and I know that my slight essays can ill sustain a comparison. But, precisely because they are slight and linger over small traits and human oddities, they may, in these times, wile away an hour or two. I have eliminated some explanations which no statistician or biometrician needs and the medical technicalities are few. Perhaps a note on the London College of Physicians as it was in the days to which these studies relate should be added.

The College was more than a century old when John Graunt was born, and the corporation consisted wholly of physicians who were Doctors of Medicine of Oxford or Cambridge; these were the *Fellows*. Physicians not Doctors of Medicine of Oxford or Cambridge were admissible only to the grade of *Licentiate*, and it was not until the nineteenth century, when Farr was a young man, that the exclusive privilege of the senior universities was abolished. It was not until Farr was a middle-aged man that the College had any direct contact with general practitioners of medicine and began to examine persons who did not seek to practise solely as physicians. In modern usage the College licence, L.R.C.P. (now only granted jointly with the membership of the Royal College of Surgeons, M.R.C.S.), is a diploma obtained by a large proportion of general medical practitioners in the South of England. Down to Farr's time, the L.R.C.P. was a 'specialist' diploma and could not have been taken by a general practitioner (the apothecary of those days) at all. The old L.R.C.P. is represented by the M.R.C.P. of our own time but with this distinction. Now, Fellows (F.R.C.P.) are normally chosen from the body of M.R.C.P.'s. In the past only Doctors of Medicine of Oxford or Cambridge could be Fellows, and before election but after examination were known as 'candidates', not licentiates. The great physician

Sydenham was never more than a licentiate. He graduated M.B. at Oxford and, for some unknown reason, never proceeded M.D. until near the end of his life, when he took the higher degree not at Oxford but at Cambridge.

## I. THE LIVES OF PETTY AND GRAUNT

It is always rash to assign an absolute beginning to any form of intellectual effort, to say that this or that man was the very first to fashion some organon which has proved valuable. All we are justified in saying is that this or that man's work can be shown to have so directly influenced the thought of his contemporaries or successors that from his day the method he used has never been forgotten. It may be that the lost works of the school of the Empirics Galen despised anticipated the numerical method of Louis—some words of Celsus are consistent with the hypothesis. It may be that in the long succession of parish clerks who for more than a century transcribed the London Bills of Mortality, one or two suggested that these figures might have some other use than that of warning His Highness of the need to move into Clean Air. But we do not know. We do know that out of the casual intercourse of two Englishmen in the seventeenth century was produced a method of scientific investigation which has never ceased to be applied and has influenced for good or ill the thought of all mankind. In that sense at least we may fairly hold that John Graunt and William Petty were the pioneers not only of medical statistics and vital statistics but of the numerical method as applied to the phenomena of human society.

John Graunt and William Petty were both of Hampshire stock. Petty was of Hampshire birth, born on Monday, 26 May 1623, and was three years younger than John Graunt, who was born at the Seven Stars in Birchin Lane on 24 April 1620.

Materials for writing Petty's life are abundant; indeed a good biography of him was written nearly fifty years ago by his descendant Lord Edmond Fitzmaurice, and since then much of the material used by Lord Edmond has been printed. Sources for Graunt's biography are scanty, the most valuable John Aubrey's brief life of him.* Graunt and Petty became acquainted in or before 1650. The circumstances of that first acquaintance are interesting to those who meditate upon the perepeteia of human fate. It was the contact of client and patron.

John Graunt's early life and manhood were those of the Industrious Apprentice. His father was a city tradesman, who bred his son to the profession of haberdasher of small wares. John 'rose early in the morning to his study before shop-time' and learned Latin and French, but did not neglect his business. He was free of the Drapers' Company and went through the city offices as far as

* *Brief Lives, chiefly of Contemporaries*, set down by John Aubrey, between the years 1669 and 1696, edited by Andrew Clark, Oxford, 1896, **1**, 271 *et seq.*

common councilman; he was captain and then major of the trained bands (the ancestor of the Honourable Artillery Company). At the time of the Great Fire he is said to have been an opulent merchant. Even fifteen years earlier he—and no doubt his father (1592–1662)—had city influence. At that time a Gresham professorship was vacant and a young Dr Petty was anxious to obtain it. This young man's career had been unlike that of an industrious apprentice; it had been, even for the seventeenth century, romantic. His father was a clothier in Romsey, who 'did dye his owne cloathes' in a small way of business. When William was a child, 'his greatest delight was to be looking on the artificers—e.g. smyths, the watch-maker, carpenters, joyners etc.—and at twelve years old could have worked at any of these trades. Here he went to schoole, and learnt by 12 yeares a competent smattering of Latin, and was entred into Greek' (Aubrey, Clark's edition, **2**, 140).

But the precocious lad did not find a patron in Romsey and was shipped for a cabin boy at the age of fourteen. His short sight earned him a taste of the rope's end, and after rather less than a year at sea he broke his leg and was set ashore in Caen to shift for himself. 'Le petit matelot anglois qui parle latin et grec' attracted sympathy and obtained instruction in Caen. Caen was not a famous seat of learning like Leyden or Montpellier, but the Fellows and licentiates of the College of Physicians admitted between 1640 and 1700 include the names of four persons who studied or graduated in Caen (Nicholas Lamy, Theophilus Garencières, John Peachi and Richard Griffiths). Petty, however, was not then thinking of medicine but mathematics and navigation and came home to join the navy. In what capacity he served is unknown; he merely says (in his Will) that his knowledge of arithmetic, geometry, astronomy conducing to navigation, etc., and his having been at the University of Caen, 'preferred me to the King's Navy where at the age of 20 years, I had gotten up about three score pounds, with as much mathematics as any of my age was known to have had'. His naval career was short, for in 1643 he was again on the continent. Here he wandered in the Netherlands and France and studied medicine or at least anatomy. He frequented the company of more eminent refugees, such as Pell and Hobbes, as well as that of the French mathematician Mersen. He was very poor and told Aubrey that he once lived for a week on three pennyworth of walnuts, but on his return to England the three score pounds had increased to seventy and he had also educated his brother Anthony.

At first Petty seems to have tried to make a living out of his father's business, but he soon went to London with a patented manifold letter writer and sundry other schemes of an educational character. These occupied him between 1643 and 1649 and made him acquainted with various men of science, among others Wallis and Wilkins, but were not remunerative, and in 1649 he migrated to Oxford.

Petty was created Doctor of Medicine on 7 March 1649 by virtue of a

dispensation from the delegates (no doubt the parliamentary equivalent of the Royal Mandate of later and earlier times). He was also made a Fellow of Brasenose and had already been appointed deputy to the Professor of Anatomy. He was admitted a candidate of the College of Physicians in June 1650 (he was not elected a Fellow until 1655 and was admitted on 25 June 1658). At Oxford he became something of a popular hero by resuscitating (on 14 December 1651) an inefficiently hanged criminal, who, condemned for the murder of an illegitimate child, is said to have survived to be the mother of lawfully begotten offspring.

Academically Petty rose to be full Professor of Anatomy and Vice-Principal of Brasenose. It is at this point (as usual the precise dates are dubious) that he became a candidate for a Gresham professorship and made contact with John Graunt.

Although, as I have said, the materials for a biography of Petty are abundant, all we know of his early years comes from himself or from friends of later life who knew no more than he told them. We have no independent means of judging the extent of his culture. There is good evidence that he knew more Latin than most Fellows of the College of Physicians know now; none that he was an exact scholar (indeed we have his own word, which I am not prepared to gainsay,* to the contrary). He was certainly admitted to friendship by some men, such as Wallis and Pell, who were serious mathematicians, as by others, such as Hobbes, who were not. But whether he could fairly be called a mathematician is doubtful. Of his medical knowledge we know little. He left medical manuscripts, but these are still unpublished; of his clinical experience we know nothing.

Petty told Aubrey that 'he hath read but little, that is to say, not since 25 aetat., and is of Mr. Hobbes his mind, that had he read much, as some men have, he had not known as much as he does, nor should have made such discoveries and improvements'. But it is at least certain that he made a favourable impression upon men who had read a good deal and that the young Dr Petty of 1650 was thought a promising man. Still it *had* been an odd career and one wonders what a steady business man in the city of London thought of it.

Why the anatomy professor who had resuscitated half-hanged Ann Green should be made a professor of music is not obvious, and if the Gresham appointments were jobs, why should the job be done for Petty? The modern imaginative historian might suggest various reasons. For instance, that Petty made a

* If No. 88 of *The Petty Papers* (**2**, 36) is a typical example of Petty's Latin Prose style, there is not much to be said for it. Here is an example: 'An dulcius est humanae naturae permultos suam potestatem in unum quendam et in perpetuum transferre, id est pendis amittere quam ipso puel deindem servare, vel paulatium et in breve tempus irogare, a seipsis demo reformendam et disponendam alioquin pro ut, mutato tam rerum quam animi indies suaserit?' Some of the gibberish may be due to the editor's failure to decipher the handwriting, but no emendation could twist this into unbarbaric prose.

conquest of Graunt, perhaps had Hampshire friends who were friends of the Graunt family, perhaps talked about political arithmetic. We have no evidence at all. If the Gresham Professor of Music *had* duties, Petty did not perform them; about the time of his appointment he obtained leave of absence from Brasenose and within a year (in 1652) had left for Ireland, where he was to be very busy for some time to come and to make, or found, his material fortunes.

Macaulay (chap. III) says that at the end of the Stuart period the greatest estates in the kingdom very little exceeded twenty thousand a year.

> The Duke of Ormond had twenty-two thousand a year. The Duke of Buckingham, before his extravagance had impaired his great property, had nineteen thousand six hundred a year. George Monk, Duke of Albemarle, who had been rewarded for his eminent services with immense grants of crown land, and who had been notorious both for covetousness and for parsimony, left fifteen thousand a year of real estate, and sixty thousand pounds in money, which probably yielded seven per cent. These three Dukes were supposed to be three of the very richest subjects in England.

In 1685 Petty made his Will. This Will is a curiously interesting document, because it is also an autobiography. It is rich in arithmetical statements and, like much of Petty's arithmetic, the statements may be optimistic. Petty's final casting of his accounts is in this fashion: 'Whereupon I say in gross, that my reall estate or income may be £6,500 per ann. my personall estate about £45,000, my bad and desparate debts, 30 thousand pounds, and the improvements may be £4000 per ann., in all £15,000 per ann. *ut supra*.'

The details of the calculation are perplexing enough; still if the above cited dukes *were* the richest subjects of the king and if (Macaulay) 'the average income of a temporal peer was estimated by the best informed persons, at about three thousand a year', Sir William Petty, of the year 1685, had travelled as far from the young Oxford professor of 1650 as that budding physician from the little English cabin boy who spoke Latin and Greek, in Caen, in 1638. The details of the fortune-building are not our concern. The shortest account is Petty's own in his Will. He says that by the end of his Oxford career he had a stock of four hundred pounds and received an advance of one hundred more on setting out for Ireland.

> Upon the tenth of September, 1652, I landed att Waterford, in Ireland, Phisitian to the army, who had suppressed the Rebellion began in the year 1641, and to the Generall of the same, and the Head Quarters, at the rate of 20s. per diem, at which I continued, till June, 1659, gaining by my practice about £400 per annum, above the said sallary. About September, 1654, I, perceiving that the admeasurement of the lands forfeited by the forementioned Rebellion, and intended to regulate the satisfaction of the soldiers who had suppressed the same, was most insufficiently and absurdly managed, I obtained a contract, dated the 11th. of December, 1654, for making the said admeasurement, and by God's blessing so performed the same as that I gained about nine thousand pounds thereby, which with the £500 above mentioned, my sallary of 20s. per diem, the benefit of my practice, together with £600 given me for directing an after survey of the adventrs lands, and £800 more for 2 years sallary as Clerk of the Councell, raised me an estate of about thirteen thousand pounds in ready and reall money, at a time, when, without art, interest, or authority,

men bought as much lands for 10s, in reall money as in this year, 1685, yield 10s. per ann. rent above his *Maties* quitt rents (*The Life of Sir William Petty*, by Lord Edmond Fitzmaurice, London 1895, p. 319).

No one would willingly rake over the embers of Irish history—still glowing after nearly three hundred years. Petty believed himself to be a good man struggling against adversity and a public benefactor treated with gross injustice to the day of his death. Lecky (*History of Ireland*, vol. 1, chap. 1, p. 111 of popular edition) took a less favourable view. Even if the subject were relevant to my undertaking, which it is not, I have not the training in historical research to justify me in writing about it. There are, however, some points of psychological interest.

Petty did not, like his contemporary Thomas Sydenham, actually take up arms against the king, but he was even more plainly a protégé of the king's enemies. Sydenham's military career was unimportant; there is no reason to believe that he ever exchanged a word with a member of the Cromwell family. Petty was the confidential adviser and close personal friend of Henry Cromwell; his services to the Commonwealth authorities were the foundation of his fortune. Like many people who have social gifts he had the gentle art of making enemies.

Pepys, Aubrey and Evelyn concur in the judgment that Petty was a most entertaining companion. Evelyn says he was a wonderful mimic. He could speak 'now like a grave orthodox divine; then falling into the Presbyterian way; then to Fanatical, to Quaker, to Monk, and to Friar and to Popish Priest'. The gift he exercised among his friends.

> My Lord D. of Ormond once obtained it of him, and was almost ravished with admiration; but by and by he fell upon a serious reprimand of the faults and miscarriages of some Princes and Governors, which, though he named none, did so sensibly touch the Duke, who was then Lieutenant of Ireland, that he began to be very uneasy, and wished the spirit layed, which he had raised; for he was neither able to endure such truths, nor could but be delighted. At last he turned his discourse to a ridiculous subject, and come down from the joint-stool on which he had stood, but my lord would not have him preach any more (Evelyn).

My lord Duke was not the first or last person to fail to relish a joke against himself.

In *The Londoners* a challenged party names garden hoes as the weapons. That was Mr Robert Hichens's fun. In real life, Petty, challenged to mortal combat by a Cromwellian soldier, pleaded his myopia and demanded that the duel should take place in a cellar and the weapons be axes.

A man like this makes friends or at least admirers, also enemies. Long before the king enjoyed his own again, Petty had a host of enemies. When the king returned, one might have expected that Petty's position would be critical. According to his own account he *did* lose something, but he was knighted and the losses, such as they were, did not seem to stay the growth of his fortune. At the Restoration he was already prosperous and he died wealthy. Perhaps the

explanation is that Petty was really as great a public benefactor as he thought he was. Perhaps the reason is personal. King Charles loved wits (in the old and new sense of the word) and Petty was a wit. The scanty specimens of what Petty's modern representative calls 'Rabelaisian' printed from the Petty papers would not have appealed to such a connoisseur in this genre as the king—we know from Halifax that the king liked to be the raconteur in this field and indeed repeated himself often—but he would have relished a good mimic. Still more important might have been their common virtuosity.

Charles was interested in experimental science, and although Petty certainly knew more than the king, he may not have known very much more. Neither Charles nor James would have been able to find more common ground with Isaac Newton than in a later age Bonaparte found with Laplace. But the ingenious Dr Petty, who had resuscitated half-hanged Ann Green (which would be a capital story if well told), invented an unsinkable ship, had a dozen plans for doubling the king's revenue, and knew something of everything, probably did more than Wilkins to interest the king in the new society of virtuosos (how the king must have relished the story of the planting of horns in Goa*), and he may incidentally have interested the king in his business affairs. This is all speculation; what is sure is that when Petty was back in London and able to renew personal intercourse with John Graunt, their relation was no longer that of client and patron. For a few years more, Graunt was to be a solid merchant, but before long Petty was the patron and Graunt the client.

At this point it will be convenient to conclude the biographical facts relating to Graunt. I take them mainly from Aubrey.

Graunt continued to be a prosperous city tradesman for many years after his first meeting with Petty. 'He was', says Aubrey, 'a man generally beloved; a faithful friend. Often chosen for his prudence and justice to be an arbitrator; and he was a great peace-maker. He had an excellent working head, and was facetious and fluent in his conversation.' Pepys thought as well of Graunt as did Aubrey, admiring both his conversation and his collection of prints—'the best collection of anything almost that ever I saw'.

From the Restoration for several years Graunt figures in London intellectual society (he was elected F.R.S. in 1663), but a material calamity was at hand. The Fire of 1666 no doubt caused Graunt direct financial loss; this might have been repaired. But, although brought up in Puritan ways, 'he fell', to quote Aubrey, 'to buying and reading of the best Socinian bookes, and for severall

* Sir Philiberto Vernatti, Resident in Batavia, had certain inquiries sent him by order of the Royal Society. The eighth question was: 'What ground there may be for that Relation, concerning Horns taking root, and growing about Goa?' This is Sir Philiberto's answer: 'Inquiring about this, a friend laughed, and told me it was a jeer put upon the Portugueso, because the women of Goa are counted much given to lechery' (Sprat's *History of the Royal Society of London*, 2nd ed. London 1702, p. 161).

years continued of that opinion. At least, about...he turned a Roman Catholique, of which religion he dyed a great zealot.'

Graunt's path to Rome was similar to that of young Edmund Gibbon, but the results on the career of a city tradesman in the days of Oates *triumphans* were more serious than a visit to Lausanne. Graunt became bankrupt. His name dropped out of the list of the Royal Society after 1666, and in 1674 he died. There is evidence that in these last years of worldly misfortune, when the wheel had come full circle since Graunt had secured the Gresham professorship for Petty, Petty helped Graunt. When Petty was in Ireland, Graunt acted in some sort as his London agent, and Petty conceived a plan of settling Graunt in Ireland. But (we have, of course, only Petty's word for this) Graunt was not an easy man to help; it is possible, of course, that he may have resented Petty's admonitions. 'You have done amiss in sundry particulars, which I need not mention because you yourself may easily conjecture my meanings. However we leave these things to God and be mindful of what is the sum of all religion, and of what is and ever was true religion all the world over.' This is an extract from a letter of January 1673 to Graunt (*The Petty-Southwell Correspondence*, p. xxix) printed by the late Marquis of Lansdowne. If Lord Lansdowne was right (the whole letter is not printed) in thinking this a reference to Graunt's conversion (or perversion) 'of which', says Lord Lansdowne, 'Petty seems to have disapproved on temporal rather than spiritual grounds', it might have hurt a sensitive man.

Graunt died on Easter Eve 1674 and was buried the Wednesday following in St Dunstan's church in Fleet Street. 'A great number of ingeniose persons attended him to his grave. Among others, with teares, was that ingeniose great virtuoso, Sir William Petty, his old and intimate acquaintance, who was sometime a student of Brasenose College.' Sir William outlived his friend thirteen years and lies in Romsey Abbey. Until a descendant in the nineteenth century (the third Marquis of Lansdowne) erected a monument, 'not even an inscription indicated that the founder of political economy lay in Rumsey Abbey' (Fitzmaurice, p. 315).

Graunt had a son who died in Persia and a daughter who, according to Aubrey, became a nun at Ghent. Nothing is known of descendants.

Petty's widow was raised to the peerage and her elder sons, Charles and Henry, died without issue. But the title was revived in favour of John Fitzmaurice, the second surviving son of Thomas Fitzmaurice, Earl of Kerry who, as his grandson remarked, had 'married luckily for me and mine, a very ugly woman who brought into his family whatever degree of sense may have appeared in it, or whatever wealth is likely to remain in it'. This ill-favoured woman was Petty's daughter Anne, to whom her father wrote:

> My pretty little Pusling and my daughter Ann
> That shall bee a countesse, if her pappa can.

The cynical grandson was George III's prime minister and afterwards his *bête noire*, 'The Jesuit of Berkley Square' and first Marquis of Lansdowne.

Of the two friends, one has left an intellectual monument only; descendants of the other have been famous in English history.

Of these, best known are the first and third Marquises of Lansdowne, William (1737–1805) and Henry (1780–1863). Of the first marquis, much better known as Lord Shelburne (the title created for Lady Petty), every schoolboy—not only Macaulay's schoolboy—has heard; the quarrel between Charles Fox and Shelburne, the party split, the coalition ministry and so on. Schoolboys who have reached the sixth and Lecky's *History of England in the Eighteenth Century*, know a little more. Shelburne, who had much more than a tincture of his great-grandfather's ability and applied himself to economic studies, was one of the earliest to appreciate the importance of Adam Smith and was highly thought of by two good judges of scientific ability, Benjamin Franklin and Jeremy Bentham.

As a public man, no parliamentary statesman before or since obtained so universal a dislike, a positive hatred shared by those who knew him and those who did not.

> There is certainly nothing in the actions of Shelburne to justify this extreme unpopularity. Much of it was, I believe, simply due to an artificial, overstrained, and affectedly obsequious manner, but much also to certain faults of character, which it is not difficult to detect. Most of the portraits that were drawn of him concur in representing him as a harsh, cynical, and sarcastic judge of the motives of others; extremely suspicious; jealous and reserved in his dealings with his colleagues; accustomed to pursue tenaciously ends of his own, which he did not frankly communicate, and frequently passing from a language of great superciliousness and arrogance to a strain of profuse flattery (Lecky, **5**, 136).

How far some of these characteristics may be recognized in Shelburne's ancestor, we shall inquire in due course.

The contrast between Malagrida* and his son Henry is shattering. It is *this* Marquis of Lansdowne of whom nearly everybody thinks when he sees the title in a book, and rightly so. Walter Bagehot wrote:

> You may observe that when an ancient liberal, Lord John Russell, or any of the essential sect, has done anything very queer, the last thing you would imagine anybody would dream of doing, and is attacked for it, he always answers boldly, 'Lord Lansdowne said I *might*'; or if it is a ponderous day, the eloquence runs, 'A noble friend with whom I have had the inestimable advantage of being associated from the commencement (the infantile period I might say) of my political life, and to whose advice,' etc., etc., etc.—and a very cheerful existence it must be for 'my noble friend' to be expected to justify—(for they never say it except they have done something very odd)—and dignify every aberration. Still it must be a beautiful feeling to have a man like Lord John, to have a stiff, small man

* Malagrida was an Italian Jesuit settled in Portugal who was burned in 1761. The supposed jesuitical propensities of Shelburne led to the name becoming his popular title. Hence Goldsmith's unintended *mot*: 'Do you know that I never could conceive the reason why they call you Malagrida, for Malagrida was a very good sort of man.'

bowing down before you. And a good judge (Sydney Smith) certainly suggested the conferring of this authority. 'Why do they not talk over the virtues and excellencies of Lansdowne? There is no man who performs the duties of life better, or fills a high station in a more becoming manner. He is full of knowledge, and eager for its acquisition. His remarkable politeness is the result of good nature, regulated by good sense. He looks for talents and qualities among all ranks of men, and adds them to his stock of society, as a botanist does his plants; and while other aristocrats are yawning among stars and garters, Lansdowne is refreshing his soul with the fancy and genius which he has found in odd places, and gathered to the marbles and pictures of his palace. Then he is an honest politician, a wise statesman, and has a philosophic mind', etc., etc. Here is devotion for a carping critic; and who ever heard before of *bonhomie* in an idol? (Bagehot, *Works*, **2**, 64–5).

Of the father, Atticus (an alias of 'Junius') wrote:

The Earl of Shelburne had initiated himself in business by carrying messages between the Earl of Bute and Mr. Fox, and was for some time a favourite with both. Before he was an ensign he thought himself fit to be a general, and to be a leading minister before he ever saw a public office. The life of this young man is a satire on mankind. The treachery which deserts a friend, might be a virtue compared to the fawning baseness which attaches itself to a declared enemy (*Letters of Junius*, Wade's edition, **2**, 248).

Naturally justice was no more to be expected in eighteenth-century newspaper diatribes than in the twentieth century, but a clever caricaturist does not represent Charles Fox as a living skeleton. Those who attacked the son—there were such people—took a different line, as Bagehot hints. Perhaps even in his very different character something of the ancestral Petty survives. We shall try to discover what this was.

Forty years ago Hull brought out an edition of Petty's tracts in which he included Graunt's work. In 1927 the fifth Marquis of Lansdowne printed a selection from the Petty papers and in 1928 the correspondence between Petty and his wife's cousin,* Sir Robert Southwell (*The Petty-Southwell Correspondence*, edited by the Marquis of Lansdowne, London 1928).

We shall have to examine in detail both the 'works' and the 'papers', but, as a light upon the character of Petty, the Southwell correspondence is the strongest we have. Southwell himself was some generations farther away from adventuring than Petty. He came of an 'undertaker' stock—the adventurers in Ireland of Queen Elizabeth's time—and his father was vice-admiral of Munster before him. He was born in 1635 (died in 1702), regularly educated (Queen's College, Oxford and Lincoln's Inn), knighted in 1665, for some time Clerk of the Privy Council, in the diplomatic service, held other offices, was a member of parliament and eventually settled in a country house near Bath. He was President of the Royal Society 1690–5. He might be described as a lesser William Temple; better educated and less selfish, not so able, but with the same cool, cautious judgment; a psychological antithesis of his correspondent.

* Petty married in 1667 Lady Fenton, widow of Sir Maurice Fenton and daughter of Sir Hardress Waller who, knighted in 1629, fought for the Parliament and was one of the King's judges; he was a major general in Ireland in 1650–1 and a patron of Petty there.