hospital, the Chelsea Hospital for Women, and a London undergraduate teaching hospital, Guy's. I have compared the figures of 1968 with those of 1963. Here we see the total number of terminations, with a noticeable increase in the number being done in 1968. Tables V and VI give the figures for abdominal hysterotomy and vaginal termination, respectively, while study of the age distribution of cases at Chelsea Hospital for Women (Table VII) shows again that the majority fall into the normal child-bearing age group.

TABLE VI.—*Vaginal Terminations*

	1963	1968		Increase
		7 Months	12 Months, Estimated	
Chelsea Hospital for Women	12	112*	192	16 times
Guy's Hospital	7	52	89	13 times

* 84 (75%) by suction.

TABLE VII.—*Chelsea Hospital for Women. Therapeutic Abortions*

Ages	1963	1968
15	0	4
16	0	2
17	2	3
18	0	7
19	1	11
20-24	4	44
25-29	6	32
30-34	6	21
35-39	5	19
40-44	6	5
45 and over	0	0

National Figures

From talking to colleagues up and down the country I gain the impression that the experience of the London hospitals is typical of that throughout England and Wales, with the exception of one or two isolated examples. Furthermore, this is borne out by the national figures (Table VIII).

So much for the bare facts; behind them lies a tremendous amount of clinical and social inquiry, heart searching, and mental anguish. The whole character of the gynaecologist's outpatient work has altered because he has to deal with two, three, or four requests for termination at almost every session; and often it takes longer to turn down than to accept a case.

TABLE VIII.—*Abortions Notified in England and Wales, 1968, Second and Third Quarters, According to Hospital Region and Place of Termination*

Hospital Region	N.H.S. Hospital	Approved Place	Other Place	Total
London teaching hospitals	934	0	0	934
North-West Metropolitan	768	4,378	1	5,147
North-East Metropolitan	506	1	0	507
South-East Metropolitan	568	126	1	695
South-West Metropolitan	425	9	0	434
Newcastle	705	5	0	710
Leeds	317	13	0	330
Sheffield	366	12	0	378
East Anglia	392	53	7	452
Wessex	231	0	9	240
Oxford	314	3	7	324
South-Western	310	34	0	344
Welsh	469	0	0	469
Birmingham	516	23	2	541
Manchester	642	10	0	652
Liverpool	194	0	0	194
Total	7,657	4,667	27	12,351

I cannot tell you how many requests for termination are being turned down, but my colleague, Mr. Frank Denny, tells me that at St. Mary Abbots Hospital they saw 170 women requesting termination in the six months April to September, operated on 50, and refused operation on 120. Gynaecologists are discovering that conscience can work both ways. You may feel in one case that it would be wrong to operate; but equally you may feel in another that simply for humane reasons it would be wrong *not* to operate.

Rightly or wrongly gynaecologists are doing many more termination operations than previously. And I have made no mention of the large numbers of pregnancies that are being terminated in registered nursing-homes (Table VIII) for reasons of convenience and financial gain, masquerading as legal operations under the new Act. I think that the high rate of operating, in National Health hospitals and elsewhere, will continue unless there is a remarkable change of heart by the permissive society, perhaps as the result of social education on a large scale conducted in part by the clergy and the medical profession, or contraceptive measures are universally accepted and applied. It is unrealistic to expect a small section of the community—namely, those trained to do gynaecology—to adopt within the framework of the law a moral attitude that is completely at variance with that of society as a whole.

MEDICAL HISTORY

Sir John Floyer, M.D. (1649–1734)*

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Sir John Floyer has been described as “fantastic, whimsical, pretentious, research-minded, and nebulous” (Lindsay, 1951). It is true that he would now be regarded as eccentric. But he lived in an age of change and turbulence, in which some display of eccentricity was normal among those with intellectual interests. Floyer lived at the height of the so-called “scientific revolution,” which overturned the authority in science not only

of the Middle Ages but of the ancient world. He stood at the very crossroads between mediaeval traditionalism in medicine, founded on the teachings of Galen, which had served for over a millennium, and the application of the new experimental approach to science.

Floyer was not a mere observer; he was also an active participant in the new learning. Though he had great respect for traditional authority and was still a practitioner of Galenical medicine, he became a pioneer in several fields of medical endeavour. His contributions have seldom been accorded due recognition by medical historians.

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Biographical Notes

The bare biographical details of Floyer's life do not take long to relate. He was a true native of this district. He was the third child and second son of Elizabeth Babington and Richard Floyer, of Hints Hall. Hints is a quiet village lying a short distance from Watling Street, a few miles south-west of Tamworth. In the church register at Hints there is an alteration after the entry of John's name, from 25 April to 3 March 1649. There are more interesting alterations to entries referring to other individuals in the Floyer family. When the name of John's grandfather, Ralph, appears the word "gent" has been added, and when the death of his own father, Richard, was recorded the description "Lord of the Manor of Hints" was later appended. Such was the birth of the upper middle class.

The Floyers, or Fliers, the name meaning arrow maker, were an ancient Saxon family, and held lands in Devon before 1066. In the sixteenth century a younger son, possibly turned out in disgrace by the Devon Floyers, settled in Uttoxeter and started trade there as a mercer. The business prospered, and with the profits his son acquired a handsome estate. The grandson of the migrant Floyer, who was himself the grandfather of John, bought the Manor House, Hints Hall, in 1601. Here the family adopted the style of gentry and the arms of the Floyer family. Floyers continued to live at Hints until the last century.

John Floyer as a younger son was obliged to choose a profession, and at the age of 15 he matriculated at Queen's College, Oxford, to read medicine. Before this one presumes that he was privately tutored; he is not mentioned in the list of scholars of Lichfield Grammar School. He graduated B.A. in 1668, M.B. in 1674, and M.D. in 1686. This long university training would, of course, have consisted in reading the classics, memorizing the aphorisms of Hippocrates, attending lectures and a few dissections, and writing theses and defending them in disputations.

John Floyer returned to Lichfield in about 1680, and soon became a very prominent member of the community. In 1686 he was elected a justice of the peace for life; later he was elected bailiff. The circumstances of his knighthood are shrouded in uncertainty. He was probably knighted by James II, in whose political intrigues he is usually presumed to have participated. Since he was only on the threshold of his medical career, the honour of knighthood is thought to have been conferred for political rather than medical activities. When James II visited Lichfield in 1686 Sir John was a member of the party that met

him on the outskirts of the city. But if Floyer was concerned in the intrigues of the time, his local reputation does not seem to have suffered in any way.

Whatever the high offices he occupied in local affairs, and however close his association was with royalty, it is for his medical work that he deserves recognition. During a long professional lifetime he lived and practised medicine in Lichfield, and here he wrote his many books. Contemporary information from others about Sir John's professional life and work is tantalizingly scanty. Fortunately his own medical books tell us something of his life as well as providing extensive commentaries on contemporary medical practice.

I have mentioned that the curriculum for the study of medicine at Oxford in the 1660's was unexciting and inadequate, to say the least. Thomas Sydenham, who was a medical student a few years before John Floyer, said that "one had as good send a man to Oxford to learn shoemaking as practising physick" (Dewhurst, 1966). But Floyer's residence there coincided with a period of remarkable intellectual activity, seldom equalled at any university in any period. Referring to the period of the Restoration, it has been said that "the day was drawing to a close when men could take all knowledge for their province; but the sun set in splendour" (Gunn, 1936). His youthful curiosity would have been stimulated by such intellects in science as Robert Boyle, John Locke, and John Mayow. Much was happening "to infuse life into the dry bones of Hippocrates and Galen" (Gunn, 1936). The physical surroundings of Oxford were themselves exciting. John Floyer's three undergraduate years coincided with the building of the Sheldonian Theatre, the first important architectural commission of Christopher Wren, then aged 31.

Floyer's Medical Books

Floyer's medical writings give abundant evidence both of his own insatiable curiosity and of his passion for experiment. His first book, *The Touchstone of Medicines*, was published in 1687, his declared purpose being to classify medicines for their usefulness in different disorders, according to their various tastes and smell. He did not rely entirely on his own judgement, for he says he was "obliged to divers divines, apothecaries, chyrurgeons, gentlewomen and young persons who have been my patients; whose judgement, as Galen says, is uncorrupt and unprejudiced." He goes on, "I must needs acknowledge that the palates of women are more critical than men's, who generally dull it by intemperance and tobacco." He takes to task some physicians "who cause their patients to swallow what they dare not taste themselves," and says, "I cannot believe I have received any prejudice by tasting—though I have often blistered my mouth and disordered my stomach."

In 1697 appeared *An Enquiry into the Right Use and Abuses of the Hot, Cold and Temperate Baths in England*, known in later editions as *The History of Cold Bathing*. From his convictions, amounting almost to an obsession, concerning the value of cold bathing he was able to persuade "worthy and obliging gentlemen" to contribute towards erecting a cold bath at Lichfield. In fact two baths were built, an upper ladies' bath and lower men's bath, both fed by the very cold spring water at Abnalls, a mile or so outside the city. By thermometer readings he had previously checked that this spring water was the coldest of any in the district. He did not underestimate the human frailties of his patients when he said: "Physicians oft find it a difficult task to conquer the aversions of nice patients and to persuade them to use those medicines to which they have not been accustomed, until they have first convinced them that their medicines are both safe and necessary. I expect to find the same aversion to cold bathing."

Patients who were not seriously ill probably felt invigorated after a cold bath; others may have claimed an improvement lest Sir John persisted with further courses of treatment. Many

contemporaries soon recognized that Floyer was pressing his claims for the beneficial effects of his hydrotherapy too hard. He records that he was insulted by the ridicule of many learned men. *The Tatler* in 1709 published a scathing satire on the subject of cold bathing. There is even a fatality recorded by a diarist (Bodleian Library, 1720), who wrote of a deceased clerical friend: "His death was chiefly owing to an infirmity caused by his throwing himself, about midnight in winter time, into the river, upon reading Sir John Floyer of Cold Baths."

Asthma

The next book written by Floyer, *A Treatise of the Asthma*, appeared in 1698 only a year after the controversial publication on bathing. This has stood the test of time better than any of his other writings, and should be regarded as a classical work on the subject. Floyer had good reason to be an expert on bronchial asthma, for he was a life-long sufferer himself. He did not neglect the opportunity of making detailed observations on his own symptoms and how they were influenced by environment and seasons, as well as by treatment. He writes: "I cannot remember the first occasion of my asthma, but I have been told that it was a cold when I first went to school. As my asthma was not hereditary from my ancestors, so I thank God neither of my two sons are inclined to it, who are now past the age when it seized me. . . . I never had any considerable fit in Oxford for twelve years that I lived there. But, as oft as I came into Staffordshire, into my native air, I was usually visited with a severe fit or two." Nevertheless he is able to remain optimistic about his own condition: "I have met with some asthmatics who have been so for fifty years, as they informed me, and yet in tolerable health without any considerable decay of their lungs . . . which I oft reflect on to encourage my patients and myself, who yet can study, walk, ride and follow my employment, eat, drink and sleep, as well as ever I could."

There is no doubt that at times the asthma did interfere with his ordinary life. In the preface of *The Touchstone of Medicines* he mentions "the long and frequent interruptions I have had by a country practice and ill health." This book was published in two volumes. From an advertisement inserted by the publishers at the end of the first volume an excuse is given for certain errata, the correction of which was not possible because of the author's "late desperate illness . . . in his recovery from which, [as] he himself has reaped the benefit of his own art."

In advancing our understanding of asthma Floyer made two special contributions. He thought that spasmodic asthma was in part due to constriction of the bronchi; and he gave the first detailed description of emphysema from a dissection he performed on a broken-winded mare, relating his findings to human disease. In his quest for a better understanding of asthma he would dearly have liked to prove that there was the human counterpart of broken-winded horses. Unfortunately he was not able to overcome the prejudices of the Lichfeldians of his day. He wrote to a colleague in 1710: "If I could have procured the dissection of such persons as have died of this disease in my neighbourhood, you should have had that evidence too; but my country-men are averse to such practices, though designed for their good. But I must leave this part of this subject to the young practicers in London, to look for the air-bladders in asthmatics."

Floyer and the Johnsons

However original and important were the observations on asthma made by Floyer, they of course contributed nothing to effective therapy. When Dr. Samuel Johnson was aged 75 and Floyer had been dead some 40 years, Dr. Johnson borrowed a

copy of *A Treatise of the Asthma* from the library of Lichfield Cathedral in the hope that he might learn something to afford help in his own suffering. He wrote to a medical friend: "I am now looking into Floyer, who lived with asthma to almost his ninetieth year. His book by want of order is obscure; and his asthma, I think, not of the same kind with mine. Something however I may perhaps learn." (Boswell, 1791.)

It is worth mentioning that neither did the first professional contact with Sir John Floyer at the other extreme of Samuel Johnson's life result in a therapeutic triumph. It was on Floyer's advice that the infant Samuel with scrofula was taken by his mother to receive the Royal Touch of Queen Anne at Westminster. In Johnson's case abscesses and ulceration followed and left extensive scarring.

Floyer had his fifty-ninth birthday in the year that Samuel Johnson was born, so that he belongs to an earlier generation—to the Lichfield of Johnson's father, the bookseller Michael Johnson. John Floyer and Samuel's father would have met on frequent occasions. Michael Johnson published the first books that Floyer wrote; they were churchwardens of neighbouring parishes; and they both held office in important posts in the local government of Lichfield. Along with those of many contributors, both names appear in a list of subscribers to an appeal by the Dean and Chapter for money to recast the cathedral bells damaged in the disturbances of the Civil War. John Floyer gave £1 1s. 6d. and Michael Johnson 10s., each a respectable sum, particularly when neither benefactor had long been established in his profession or trade (Harwood, 1806).

Physician's Pulse Watch

At about the same time as the Johnson family were consulting Sir John about their ailing infant Samuel his next book was published. Since writing *A Treatise of the Asthma* Floyer's energies had not diminished, and in 1707 and 1710 were published the two volumes of *The Physician's Pulse Watch*, together amounting to over a thousand pages of observations, commentaries, charts, and tables relating to the pulse, the first volume of the massive work being dedicated to Queen Anne. It is impossible to summarize this work adequately. Amid exhaustive references to his favourite ancient authors and his fascination with Chinese medicine, accounts of which had recently been brought back by missionaries, important original research is recorded. The significance of the work is his insistence on the value of accurate measurement of pulse rates, so that, as he says, "We may know the natural pulse and the excesses and defects from this in diseases."

Floyer was the first physician to time the pulse in his routine clinical practice, and he records scores of observations in which he tried to establish relationships between pulse rates and many other measurements, such as respiration rate, temperature, barometric readings, age, sex, and season, and even the latitude where the readings were taken. To begin with, for his timing device he used either the minute hand of a pendulum clock or a sea minute glass. He then asked Samuel Watson, a watch and clock maker who started his career in Coventry and then moved to Long Acre in London, to adapt a watch for the purpose of timing the pulse. The physician's pulse watch incorporated a second hand and also a special lever by means of which the mechanism could be stopped. Both these devices were horological innovations. Floyer used this watch as a precision instrument for clinical measurement, checking that it remained accurate by comparing it with the minute glass which he kept at home as his standard.

Many other experimental observations were recorded by Floyer in addition to his pulse counting, and a few examples may be given. He made very accurate calculations on the ratio between blood and body weight. In another experiment, by using the ileum of a cow and a handpump, he constructed a

model to imitate the pulse and circulation. He demonstrated, to use his own words, that: "The force of the water injected protruded the gut, and the annular fibres, by their natural restitution, promoted the motion of the water and kept the stream from any interruption, though the injection was made by intervals" (Floyer, 1707).

Sanctorius, the celebrated Paduan professor of medicine, who lived from 1561 to 1636, had an important influence on Floyer. Among the books that Floyer bequeathed to Queen's College was *Ars de statica medicina*, in which Sanctorius described his metabolic balance experiments and the discovery of insensible perspiration. Floyer must have copied the weighing machine and used it in Lichfield, for he reports on the weighing of an asthmatic, as he says, "after Sanctorius's manner." He describes the subject of his observations as an asthmatic, between 40 and 50 years old, and the dates when the studies were made are given as 2-6 May 1698 (Floyer, 1726). There can be little doubt that he himself was the subject for these experiments.

Geriatrics

For the next twenty years after his books on the pulse he continued to write, but he turned his thoughts from medicine to the realms of history, philosophy, metaphysics, and theology. The further he travelled from observations on his patients to ethereal speculations and prophecies, the more obscure he became.

But he still had a contribution of importance to make, and once again he broke new ground. In his own twilight years he wrote the first book on geriatrics. *Medicina Gerocomica*, subtitled the *Galenic Art of Preserving Old Men's Healths*, was published in 1724. As the author of this treatise perhaps he should be regarded as the father of geriatrics. His earlier works had been dedicated in elaborate style either to the highest in the land, not excepting Queen Anne herself, the Dukes of Marlborough and Devonshire, and Lord Dartmouth, or to fellow physicians, such as Dr. Phineas Fowke, of Little Wyrley, or Dr. Gibbons, of Wolverhampton. *Medicina Gerocomica*, alone among his medical books, was given no dedication. Should we assume that he could no longer call on noble patronage or that he had outlived his medical and scientific friends? It may be fairer to suggest that that he had retired from the arena of medical controversy, and that he wrote his small book on preserving old men's health for his own satisfaction.

He begins his preface by saying that "every man is a fool or becomes a physician, when he arrives at 40 or 50 years of age." Much of the book amounts to advocacy of a common-sense approach for preservation of the ageing body, with attention to fresh air, exercise, regular diet, and temperance in all things, especially alcohol and tobacco. When discussing the treatment of certain forms of ulceration he mentions that "rest and sleep and serenity of mind procure the sooner healing." He relaxes his spartan standards now that he is 74 himself and accepts that, instead of cold baths, hot water does sometimes have advantages.

Throughout his life Sir John had stressed the importance of physical exercise in promoting health. In *Medicina Gerocomica*, after giving a long list of activities that he thought too strenuous for old men, he mentions that "these are gentle exercises, sailing, pruning trees, riding, bowling, billiards, nine-pins, fishing, walking." The old men that were able to follow his advice must have enjoyed their declining years.

We are given brief glimpses by others of Sir John himself in his old age. Dr. Johnson mentions that he panted on till 90 (Boswell, 1791). For some reason Floyer was curiously sensitive about his age. Dr. Johnson recalls that "he was not much less than eighty, when to a man of rank who modestly asked his

age, he answered, 'Go look'; though he was in general a man of civility and elegance" (Boswell, 1791). Those who cite his age incorrectly may therefore be excused. In fact, he died when he was in his eighty-fifth year, and his burial is recorded at Lichfield Cathedral. That he provided his own best advertisement for his recommendations on preserving the health of old men is suggested in a letter written by Bishop Hough, of Worcester. "Sir John Floyer has been with me some weeks, and all my neighbours are surprised to see a man of eight-five [in reality he was eighty-two] who has all his memory, understanding and all his senses good, and seems to labour under no infirmity." He continues this letter with some gossip: "He had a wife, who, I believe you may have heard, was not the most easy, or the most discreet; but he is of a happy temper, not to be moved by what he cannot remedy, which I really believe has in a great measure helped to preserve his health and prolong his days" (Wilmot, 1812).

Conclusion

How can one summarize the complicated personality of Sir John Floyer? Is it fair, as one commentator has it, to say that "he mounted his twin hobby-horses—the pulse and the bath—and rode onwards, looking neither to right nor left, as he passed through the muddy lanes of early eighteenth-century Staffordshire" (Smerdon, 1965)? Was he really so whimsical, obstinate, and tortuous, and something of a "character," as has been suggested? Neither the description of him by Dr. Johnson as "a man of civility and elegance" nor Bishop Hough's account suggests that such traits were excessively manifest. He was unquestionably a physician of remarkable energy, curiosity, and intellect, with a fascination for experimental investigation. He was admittedly gullible, and his enthusiasms sometimes obscured his judgement. But we should not underestimate a man who paved the way for the application of measurement to clinical medicine, gave the first detailed description of emphysema, and wrote the first book on medical aspects of old age. If the span of centuries could be bridged he would doubtless be a frequent contributor to these meetings. His achievements set no mean standard for those that are working in this new hospital to strive after, even if separated in time by some ten generations.

The portrait of Sir John Floyer is reproduced by kind permission of the Keeper of Western Manuscripts, Bodleian Library, Oxford (Shelfmark G.A. Staffs 4°, 8).

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