

Jonathan Pereira (1804–1853), the father of pharmacology

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Pereira (Figure 1) was born in Shoreditch on 22 May 1804. The family, properly known as Lopes Pereira, was of Jewish-Portuguese extraction and had immigrated many years before. Jonathan, however, seems to have had no involvement with the Jewish community in East London¹⁻⁷.

His father, Daniel Lopes Pereira, an underwriter at Lloyd's and a London merchant, lived in the parish of St Leonard's, Shoreditch, where Jonathan was born. Daniel died on 2 April 1853 in King Street, Finsbury Square, at the age of 86 – a few months after Jonathan's death. He had two sons, Jonathan and Jeremiah, of Aldersgate, also a doctor (LSA 1830). Jeremiah's son was the Right Reverend Henry Horace Pereira DD, Bishop Suffragan of Croydon. Dr S D Clippingdale had personal contact with the bishop, so that he was able to report many personal details in his memoir on Jonathan Pereira in the *London Hospital Gazette*⁷.

Jonathan Pereira lived in Artillery Place in 1838 and then moved to 47 Finsbury Square in 1842, where he remained until his death.

At the age of 10, Pereira attended a classical institute at 10 Queens Street, Finsbury, where he stayed for five years. Then, at the age of 15, because his father had developed financial difficulties, the result of unsuccessful speculations, he was articled to an apothecary, Mr B Leatham in the City Road (or Upper Holloway) and to a naval surgeon (possibly Charles Waller)⁸ in Aldersgate Street. Mr Leatham developed a mental disorder, so Pereira became a pupil at the general dispensary, 36 Aldersgate Street (Figure 2). At the dispensary he studied chemistry and materia medica under Dr Clutterbuck, natural philosophy under Dr Birkbeck and botany under Dr W Lambe.

At this time the dispensaries were important centres of medical teaching. Although there were medical schools attached to hospitals, many were still not fully operational and, if the *Lancet* (under Thomas Wakley's editorship) is to be believed, were hardly fulfilling their responsibilities for teaching⁹. The only other sources of medical instruction in the capital at the time were private



Figure 1. Jonathan Pereira (1832). Engraved by D Pound from a daguerrotype by Mayall. (Reproduced by permission of the Royal College of Physicians.)

lecturers, of whom there were many, and a few private medical schools, both of which sources lacked clinical material. The Aldersgate was the pioneer dispensary founded in 1770 by the physician John Coakley Lettsom (1744–1815), who even at that time foresaw that dispensaries could provide valuable places for medical teaching^{10,11}. (Previous dispensaries, started by the Royal College of Physicians between 1695 and 1727, had petered out and the one started by John Wesley in 1758 did not offer medical training.)

Teaching at the dispensary (and at other dispensaries) seems to have been mainly directed to the LSA examination. Candidates from the Aldersgate dispensary and later from the

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Figure 2. The Aldersgate dispensary. (Detail from an engraving by TH Sheppard, 1839.)

Aldersgate school sat the examination (as judged by certificates⁹) from 1816 to as late as 1841, when the hospitals acquired the dominant role in teaching and the dispensaries lost their importance. In 1836 the Board of Examiners for the LSA required candidates to study at a recognized hospital medical school or an establishment linked to it, with the result that the dispensaries lost their status as places for teaching^{12,13}.

Although it is said that Pereira^{1,2} in 1822 attended St Bartholomew's Hospital, he is not recorded in the list of students at that date and he did not use the name of the hospital on his attendance certificate for the LSA examination. It seems to be a feature of the time that students had access to lecturers (at a price) at institutions other than their own, and popular teachers attracted large audiences, so that Pereira could well have attended lectures at Barts¹⁴.

In 1823 Pereira passed his LSA examination, at the age of 18, as recorded on his certificate (Figure 3), which also gives details of the courses he attended⁶. The Apothecaries Act of 1815 had empowered the apothecaries to practise medicine (originally against the will of both the physicians and surgeons) and they had for the first time introduced some order and system into the examinations¹². These were still oral but at least candidates had to show that they had attended a regulation number of courses and been signed up for them. On passing the examination Pereira was appointed as apothecary to the dispensary at £120 a year.

At the Aldersgate dispensary^{10,11}

The medical staff at the dispensary at the time consisted of three visiting physicians, two surgeons

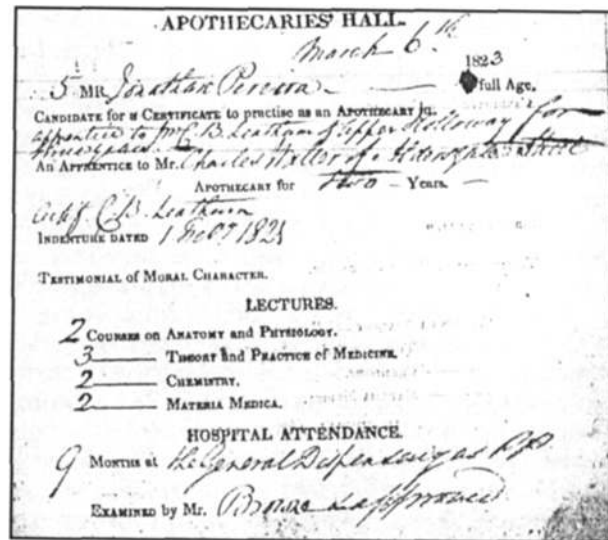


Figure 3. Certificate presented to the Society of Apothecaries for the LSA examination, 6 March 1823. (Guildhall Museum Library; reproduced by permission of the Worshipful Society of Apothecaries.)

and one apothecary. The physicians and surgeons saw only outpatients, who were required to present a letter from one of the governors of the dispensary. (This was the usual arrangement at most dispensaries at this time.) The medical posts were much sought after as they often led to appointment at one of the hospitals. These appointments were decided by a ballot of the governors. (It was the conducting of these ballots which gave rise later to the dispute between the governors and the medical staff - see below.)

The apothecary was to "constantly reside at the Dispensary, to compound and dispense the medicines prescribed by the physicians and surgeons". He had to keep the accounts of the tradesmen's bills. He was in charge of the "medicines, utensils and other effects of the Dispensary". He was allowed one or more persons to assist him in his business as the dispensary's monthly committee judged proper. He could not absent himself from the dispensary without leaving "a note where he may be found" nor be absent for "one day or night" without permission and leaving an approved person in charge. "He is not to practice as an apothecary except in the business of the charity." (This last rule makes it virtually impossible for Pereira to have had an appointment at St Bartholomew's Hospital.)

In 1825 Pereira passed the MRCS examination; there is no record of this event, but LSA-MRCS was a common qualification at the time, allowing the holder to carry out most procedures in medical practice. Even at this time he had started lecturing to supplement his income and undertook private instruction of students. It was during this period that he translated the *London Pharmacopoeia* from Latin into English in 1824. He also published: *Selecta e Prescriptis* in 1824 (the eighteenth edition of

which was published in 1890; there were also numerous editions in the USA); a manual for medical students in 1826; a general table of atomic numbers, an introduction to atomic theory, in 1827. Appendix A gives further details of his publications.

In 1826 he was appointed lecturer in chemistry and in 1828 he was appointed lecturer in *materia medica* to the dispensary and in the same year a fellow of the Linnæan Society. His routine lectures at this time (1829 – as recorded in the *Lancet*¹⁵) were “General and pharmaceutical chemistry and *materia medica* including medical botany. Course fee – 2 guineas. Examinations will be held during the progress of the course”.

The year 1832 brought a change in his life: he married Louise Ann Lucas, resigned his post as apothecary to the dispensary in favour of his brother, and set up in practice as a surgeon in Aldersgate Street. On leaving the dispensary he was presented with a silver salver by the governors.

It has been suggested that he had other motives for resigning, as it was at this time that a dispute arose between the governors and the medical staff. This resulted from the fact that appointments were made by a ballot of the governors and it was possible to become a governor by paying a fee up to three days before an election. This brought very welcome funds to the dispensary but allowed a candidate or other persons, by suitable bribes, to rig the appointment. The medical staff felt that a governor should have been appointed for six months before being entitled to a vote. There were meetings of protest by the medical staff and the upshot was that the medical staff resigned en bloc in September 1833. The staff moved to the school of medicine at 58 Aldersgate Street, which had been started in 1807 by Tyrrell. Pereira resigned from the dispensary 12 months before these events and so avoided the row. The *Lancet* carried many reports on the affair and Wakley^{16,17} was indignant about the dispensary. However, it seems to have survived and continued to provide teaching with a new medical staff and eventually recovered its popularity. At the same time Pereira was appointed lecturer in *materia medica* at the school in 1832 and he became professor on the retirement of Dr Clutterbuck.

In 1833 a vacancy occurred as lecturer at the London Hospital on the retirement of Dr Gordon and Pereira was appointed in his place. The *Lancet* records¹⁸ that there was determination among lecturers to do away with the nepotistic mode of election which prevailed at many hospitals at this time and Pereira, who had no connection with the London Hospital, was selected to the clinical chair solely on the score of competency. At this time, therefore, his routine of lectures was: at the London Hospital, chemistry on Monday, Wednesday and Friday at 10 a.m., and *materia medica* on Tuesday, Thursday and Saturday at 3.30 p.m.; and at the

Medical School, 58 Aldersgate Street, *materia medica* on Monday, Wednesday and Friday at 4.30 p.m., and chemistry on Tuesday, Thursday and Saturday at 10 a.m.^{19,20}

His lectures are reproduced in the *London Medical Gazette* (1835–7) – there were some 74 of these²¹. The lectures were so popular that Pereira was said to earn £1000 a year, which allowed him to initiate the building of a new lecture theatre at the school, to which he contributed £700. The success of the lectures was the result of the fact that while the medical profession on the whole was concerned only with therapeutics (the use of drugs in the treatment of disease) he managed to cover the history of a drug's use, its discovery, natural state, preparation, properties, physiological effects on animals and humans, administration and toxic effects. He succeeded in making this interesting, which provided a unique attraction to a wide audience. This is evidenced by the fact that his name appears on certificates presented to USA candidates from dispensaries and medical schools over a wide area of London⁵. The lectures were translated into German and republished in India. They formed the basis for his magnum opus, *The Elements of Materia Medica*, which he was preparing at this time.

His success is obvious, for in June 1836 (recorded in a transcript of the medical staff minutes of 22 June 1836) he was approached by the medical staff of St Bartholomew's Hospital with a view to being appointed there as lecturer in chemistry²². This led to an exchange of letters between Pereira and the medical staff of the hospital; these provide an insight into Pereira's character. He wanted to know, first, the number of entries and fee income from the post (he was always careful about his fees); and secondly, he was concerned about the size of the theatre in which he would be required to lecture. He had been “obliged to build a new one at the Aldersgate School holding 180 to 200 (and this one was often crowded)”. It would not be possible to “deliver a course of lectures in a theatre holding only 110”. Negotiations continued and Pereira was eventually offered the post of lecturer in chemistry, and it was agreed that he could continue to lecture at the London Hospital. Pereira accepted but he wanted his conditions in writing (a “careful man”, commented Sir Girdling Ball, the transcriber). These involved the enlargement of the theatre and his right to continue at the London Hospital; that he had “a negative” on his co-lecturer in toxicology; and that his pupils from the Aldersgate school be allowed to attend; “That I am not to be liable to any expenses of the Bartholomew's School save and except a share of the advertisements”.

These conditions were accepted by the medical staff. However, at a full meeting the governors (27 July 1836) refused to appoint Dr Pereira, as he held a post of lecturer at another hospital and he refused to give up his appointment at the London. “Dr Pereira was very annoyed – as he had already

vacated his post at the Aldersgate School and his successor had been appointed." (It seems he did continue at the Aldersgate school for a time, at least until the next year.)

However, Pereira's career continued to prosper and he was elected a fellow of the Royal Society in 1838, a member of the Council in 1843, and the following year an examiner in materia medica at London University. Other honours which came his way were: fellow and Vice-President of the Royal Medical Chirurgical Society of London; honorary member of pharmaceutical societies of St Petersburg, Portugal and Paris as well as the Medical Society of Erlangen and the Natural History Society of Hesse. He was also very active in the promotion of popular education and took an active part in the founding of the City of London Library and Scientific Institution (later the London Institution)³⁵.

In 1839 he contemplated moving to Scotland to study for an MD but a vacancy occurred on the staff of the London Hospital. In order to apply for this he needed to get his membership of the Royal College of Physicians and, it is said, he achieved this after only a fortnight's close study. The examiners refrained from examining him in his special subject (materia medica). At this time an MD was conferred on him by Erlangen. He became a fellow of the Royal College of Physicians in 1845 and was appointed curator of the museum at the College, a post he held until his death. He was lecturing there in 1851 – in a letter of 21 March 1851 he asked Jacob Bell for a specimen for use in his first lecture³³. The lectures were evidently a memorial to John Burgess (1745–1807), whose specimens and manuscripts had been presented to the college in 1809 by Everard Brande, who had inherited them from Burgess. (The manuscripts are still in the possession of the College, although not the specimens²⁴.)

At the London Hospital

Pereira was elected as assistant physician to the London Hospital on 3 March 1841 (the other candidate was Dr P Fraser). His application was presented to the House Committee on 16 February 1841²⁵.

His clinical work there is not well documented but when he became a full physician in 1851 the discharges from his beds were recorded in the House Committee minutes and the report of a case of abscess of the lung following pneumonia with autopsy was reported in the *Lancet*²⁶. However, he played a very full part in committees and the activities of both the hospital and of the school of medicine. In January 1842 he was listed as a member of the Drugs Committee and he was responsible for the first London Hospital pharmacopoeia (in Latin), which has continued to be edited since that time, with various modifications.

His name occurs frequently in the report of the medical staff to the House Committee²⁷. On 6 January 1842, he complained of errors of dispensing in the outpatient "Apothecaries Shop". A patient was given a linctus instead of an extract of Indian hemp. It turned out that Mr Gorthwaite, the apothecary, was absent and the drugs had been supplied by a pupil. In 1847, when he complained of a "disgraceful scene" in the physicians' waiting hall, he did not blame the beadle but lack of space for the number of patients (there were 44 new patients). He says "Nervous & delicate females are terrified at the immense mob struggling for admissions". He demanded "better accommodation or to restrict the number of new patients" (as is done in some hospitals). In January 1848 he again demanded better accommodation in the outpatient department, where he had to examine severe cases of lung disease in a cold room without a fire. He requested both a fire and a bed.

In September 1849 he noted that a patient had complained that he had been cupped 16 oz instead of 6 oz as ordered and that the cupping globes had been put on by a porter named Lewis. Mr Furstall (the hospital cupper) said that cupping in the outpatient department was never under his supervision, but under that of a pupil – on inquiring it seemed that a pupil was not in attendance. Pereira requested that some official person should always superintend. He did not blame Mr Furstall, who would like to cup himself if it did not interfere with other duties.

In November 1851 he requested the purchase of a spirometer at the cost of £5 and in November 1851 he drew attention to the temperature in the wards of the hospital. He was equally active in the affairs of the medical school (which was always separate from the hospital itself). The minutes of the Medical Council of the London Hospital Medical School exist for 1846–67 (it was called the Associated Lecturers of the School up to 1847)²⁸. He took the chair on occasions when the meeting took place in his own residence and he seems to have been involved in numerous subcommittees. He was involved in the appointment of a lecturer in botany (Edwin Tuckett) and a curator of the museum (Dr Parker). In particular, he was concerned with the arrangements for providing medals for presentation to lecturers and students. The first sketch for a medal, submitted by Wyon, was of a "wretched character" and in a series of letters from August 1846 to January 1847 Pereira suggested in meticulous detail what the medical staff considered the right arrangements of lettering and so on (Figure 4). The governors did not always agree but in May 1847 he and Dr Little were asked to arrange for the medals to be struck. There were to be gold medals and silver medals and these should be given to both clinical clerks and dressers and initially would be given for medicine, surgery, anatomy, chemistry and materia medica. Drs Pereira, Frampton and Mr Luke were authorized

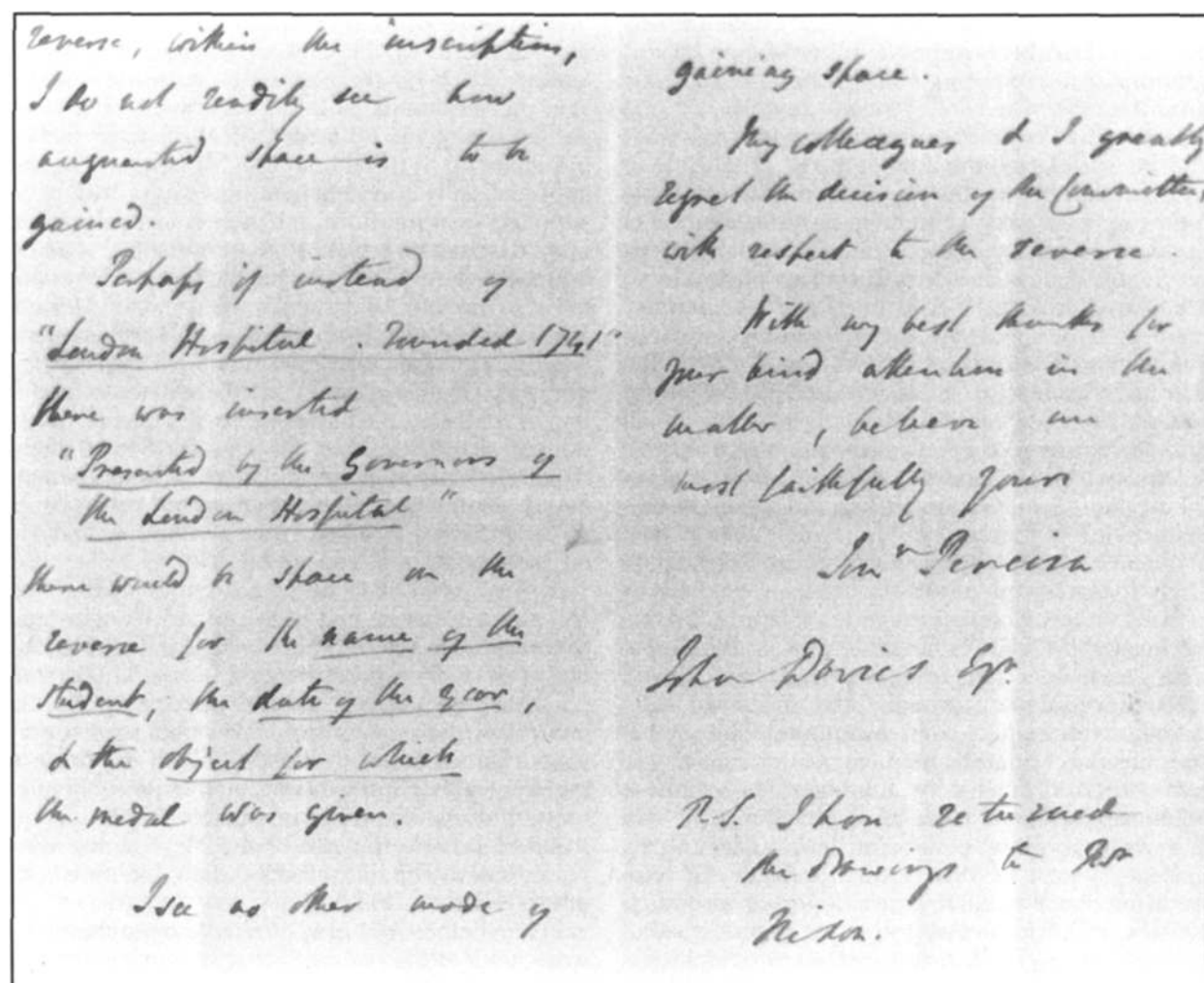


Figure 4. Letter from Dr Jonathan Pereira to John Davies concerning Benjamin Wyon's designs for hospital medals, 9 January 1847. (Reproduced by permission of the London Hospital Medical College Archives.)

to consider who should qualify to receive them; they were first presented on 18 May 1847.

Pereira was also a member of a subcommittee with Dr Cobb to consider plans for the extension of the museum and lecture theatre, and he reported his meetings with the Building Committee and surveyor. He was elected to the Library Committee in 1848. In 1844 Pereira had given up part of his lecturing sessions to Dr Letherby and on 25 June 1849, in a letter to the committee, he announced his resignation from the chair of materia medica. The committee received this with great regret and wished him continuing good health (one wonders whether even at this time he was having some cardiac trouble). He was asked to help in the appointment of his successor and he attended a few more meetings of the Council. Although he seems to have given up his statutory lectures, he said in his letter of 3 February 1852 to Bell that he still had a commitment to a weekly clinical lecture at the hospital²⁹.

After his resignation, he transferred his collection of specimens to the Pharmaceutical Society's property at 17 Bloomsbury Square, for which a special room was built. They were later transferred to the keeping of Kew Gardens, where they now form part of their collection³⁰. After his death in 1853 the House Committee recorded an appreciation of his work, not only of his literary, scientific and professional achievements but also of his "marked urbanity of manner and amiability of disposition which endeared him to those with whom he met in professional and private life". At the same meeting Dr Letherby requested that a sermon be preached in his memory by the hospital chaplain, and this was agreed.

Pereira and the Pharmaceutical Society

Pereira's relationship with the Society can be followed in his letters to Jacob Bell (one of the

founders of the Society and the first editor of its journal). The letters are in the library of the Royal Pharmaceutical Society at 11 Lambeth Road, London³¹, and they have been analysed and annotated in a most scholarly manner by Cloughly, Burnby and Earles in *My Dear Mr Bell*²⁹. They not only review the letters but, in the introduction, provide a background to the times and affairs of the Society. Initially the letters are formal but later a friendship developed between the two and we learn much about Pereira himself and his home life. It has been noted that they are written in a colloquial style quite different from the rather stilted language often found in Victorian letters.

Pereira's first contact with the Society was when, in 1842, he was asked to give two lectures to the Society at 17 Bloomsbury Square. These were the "Modern discoveries in materia medica"³² and the "Elementary composition of food" (later included in his *Treatise on Food and Drink*)³³. These so impressed the members of the Pharmaceutical Society Committee that although this could not take place immediately (there were already three professors) he was elected the first Professor of Materia Medica to the Society in 1843. He continued to lecture there until 1851–2. He gave three lectures on polarized light (the first in the UK) as well as on the "Natural history and chemical character of drugs with therapeutic and medical properties". He later agreed to carry on with his lectures for only 200 guineas because of his "anxiety to see the Society prosperous" and his gratitude to the Council (letter dated 11 August 1848³⁰).

Perhaps Pereira's main contribution to the Society was through the *Pharmaceutical Journal*. Although Pereira's position was unofficial he often met Bell and, with Theophilus Redwood, formed a sort of editorial board. Pereira's advice was not always accepted, but apart from the articles he submitted under his own name (there were some 35 of these) there were many unsigned articles, and he did a great deal of work in proof reading and so on. For example, "Dr Ure's paper, when castrated, is worth publishing" (22 June 1848); "I find the printer has reversed the headings atomic weights and Equivalents"; "tell Whiting to send with the proofs to me Fortunes book" (12 November 1847). His sense of humour is obvious, for when he feels the journal is in trouble and neglected he chaffs Bell for being in love and says "when shall we three [Pereira, Bell and Redwood] meet again?". Articles which were reprinted as separate pamphlets included "The grains of paradise"³⁴ (1842) and "Potato starch" (1843)³⁵.

Apart from his work for the journal, Pereira exerted a great deal of influence on Bell in the formulation of the Pharmacy Act of 1852. At this time there were no qualifications or examinations which entitled a person to practise the profession of pharmaceutical chemist. The Apothecaries Act of

1815 had excluded pharmacists. Pereira had addressed a meeting of the Pharmacological Society on 2 June 1844 advocating the establishment of a scientific committee to consider the advancement of pharmaceutical knowledge and in a letter to Bell (10 August 1844) he comments on and suggests names for members of such a committee. He believed that pharmacists and medical men should unite to get a bill to restrict the practice of medicine and surgery to qualified practitioners, and also to restrict the practice of pharmacy to qualified persons. He considered that some general practitioners might hold a double qualification and practise medicine as well as pharmacy. Bell, in fact, wanted pharmacy to be an entirely separate profession from medicine. (Wakley wanted apothecaries to revert to pharmacy.) Several petitions to Parliament for a bill had already failed and, in order to facilitate success, Bell sought election as a Member of Parliament. This he achieved in 1850 at St Albans. Unfortunately a scandal arose about his election and the Commission of Enquiry found that some £2000 had been spent in bribery and that Bell was aware of this. He continued as an MP but eventually had to seek re-election, which he did at Great Marlow in 1852 and Marylebone in 1854 (but failed in both attempts)³⁶.

While Bell had been preparing the bill, Pereira offered his advice and urged a more scientific approach to pharmacy—he set out what he considered the desirable subjects for study and the range of the examination. The bill eventually passed both Houses of Parliament in a rather modified form; the select committee had been concerned to protect the interests of the various professional bodies involved and this resulted in the pharmaceutical chemists failing to obtain the sole right to prepare drugs. Pereira had attended the speakers' gallery (21 May 1852) for the final debate and offered his congratulations to Bell, adding that the "Pharmaceutical Society will be ever indebted to you". On 9 August of that year Pereira commiserated with Bell on his failure to get re-elected as an MP.

Pereira and Bell also cooperated in the preparation of an exhibit for the Great Exhibition of 1851. Originally it was intended to present a wide range of materials from British pharmacy but this project evidently lacked support and the "London Druggist Exhibit" was of limited scope.

In addition to the Pharmacy Act, much of Pereira's correspondence with Bell involved discussion and advice about drugs. Of particular interest perhaps is the letter of 14 January 1847, which describes a patient at the London Hospital with a compound dislocation of the ankle which required amputation. He was given ether and became "gloriously drunk". In what was probably the first use of ether at the hospital, the inhalation apparatus had failed to work owing to a faulty valve, which had been replaced with a finger.

(Liston had first used ether at University College Hospital in December 1846.) On 18 November 1847 Pereira drew Bell's attention to Professor Simpson's pamphlet on the use of chloroform as a substitute for ether and urged him to publish the report. There followed a discussion on whether Scottish chloroform was different from English chloroform. Other drugs discussed were ergot, colchicum, quinine, balsam and gutta serena.

Among the other matters which concerned Pereira and Bell was the purification of drinking water. In a letter of 23 February 1850, Pereira commented on an article in the *Lancet* of 22 February on the horrifying list of animal and vegetable matter found in drinking water. However, he considered that the main factors in contamination of the Thames were a few rather larger ones (animals), namely *Homo*, *Canis*, *Felix* and *Mus*! He was anxious to visit the filtration plants serving the capital and asked Bell to arrange for this. He wrote an article on the subject³⁷.

Pereira's relationship with the Society became soured when his lectures began to appear in another journal, the *Chemical Record and Drug Price Current*, without his permission. An advertisement appeared in the *Times* of 9 October 1851 to the effect that "Dr Pereira's lectures on *Materia Medica* delivered at the Pharmaceutical Society. Also Professor Tennant's lecture on Mineralogy appear every Saturday in the *Chemical Record* - price 5d"³⁸.

A few members of the Council of the Pharmaceutical Society evidently felt that Jacob Bell was becoming too autocratic as editor of the journal, and they had started this new journal - the *Chemical Record and Drug Price Current*. Pereira had anticipated this schism and had pledged Bell his support. However, he was incensed when this new journal published his lectures and wrote to Bell asking for his help. He was further angered when, in the issue of 16 October 1851, the *Chemical Record* published an anonymous letter describing Pereira as illiterate and lacking linguistic skill in dealing with foreign drugs. He considered legal action but was persuaded that such a course was unbecoming to one in his position, although it was suggested that he suspend his lectures as a protest (letter, 23 October). He wrote to Bell asking to "have a chat with him about it" (he said that he would not call at his home). At the same time he wrote to the Council. This letter was considered at the Council meeting of 15 October 1851. The correspondence was published in the *Pharmaceutical Journal*³⁹. He complained that the Council did not have the power to authorize anybody to publish his lectures without his consent and that nobody should take notes during his lectures with a view to publication. In a further letter, Pereira claimed that the offending journal now intended to collect his lectures and publish them as a book.

The Council agreed to support him and collected some 60 signatures of students attending Pereira's lectures to the effect that they would do their best

to protect him from further interference. The Council then wrote to him asking him to resume his lectures. Pereira had some doubt as to whether this was unanimous, as the Council contained people who he believed were responsible for the situation and there were a few signatures missing from the letter of support.

In any event, Pereira seems to have continued his lectures for a while at least, but the course was taken over by Robert Bentley after 1 May 1852 and Pereira was appointed Honorary Professor in *Materia Medica*. His friendship with Jacob Bell seems to have been only temporarily affected, for in a letter to him of 3 October 1851 he invites him to spend the day with him and his wife - "we shall be alone and have a 'plain joint'. We dine at 4 and take tea at 6". In January 1852 he asked Bell, an authority on the arts, with his own large collection of pictures, to look at two stained-glass windows in the Old Curiosity Shop with a view to buying them to put in his drawing room.

On 3 February 1852 Pereira wrote to Bell saying that he wished to withdraw from his official relationship with the *Pharmaceutical Journal*. He said that he was too busy with the latest edition of *Elements of Materia Medica* and that his new appointment as full physician to the hospital and giving a weekly lecture increased his workload and was "injurious to his program as a physician and distracting from practical matters". He added that the decision was less painful in view of the "contentiousness of the pharmacists and the abuse he received". However, he suggested people who might succeed him.

This threatened withdrawal from business with the journal does not seem to have been carried out, as he continued to write to Bell with advice on pharmaceutical matters. The last letter he wrote to Bell was on 7 January 1853, asking him, on behalf of Dr Martens, for "a portion of the extract made by you from the Fluid Socotrine Aloes some months ago".

Further family matters

His marriage in 1832 to Miss Louisa Ann Lucas (of the well known Hampshire family) took place on 1 September at St Thomas' Church, Winchester. There were no children. Winchester was presumably his wife's home and she seems to have visited there fairly frequently - he speaks of visiting her there when she was ill and he owned three freeholds and one leasehold property there⁴⁰. It is clear that it was a happy marriage. There are many references to her in his letters and she entertained with him at his home in Finsbury Square when they invited Jacob Bell (she saw the stained-glass windows which he had asked Bell to advise on). They travelled abroad together (Clippendale says only occasionally); they went to Switzerland in June 1850 (when Bell was invited to join them),

visited Paris in August 1851 and Cologne in May 1851 (where Jonathan was disgusted that he was sold perfume which was not the genuine eau de Cologne). His humanity and commitment to medicine are illustrated by the fact that, when horse riding in the Alps, a German gentleman followed and asked Pereira to see an English lady 60 miles away. This meant Pereira had to return to Rigi and was unable to visit Chamony and St Bernard's Pass (letter, 31 July 1850).

He was very fond of children, so it is sad that he had none of his own. However, when his wife's sister died in France (letter, October 1850), his brother-in-law was left with five children, and when they visited England in 1851 Pereira obtained tickets for them to visit the Great Exhibition.

Although he is supposed to have had little recreation, he attended the races at Epsom on Derby Day in May 1848.

Health and death

Pereira was reputed to have an "iron constitution", probably because of his ability to work long hours. He rose at 6 a.m. and did not retire to bed until midnight. He had a very retentive memory, made copious notes and his lectures were full of reminiscences and anecdotes. He was said to suffer from attacks of "slight epilepsy"³, but there are no details of these. He says he is near-sighted and preferred not to drive his phaeton at night (letter, September 1847). In 1851 he suffered from an illness, the nature of which can only be speculated about. In a letter of 21 May he says he is suffering from a cold and rheumatism and had difficulty in working, and again, on 8 November, he says he has been ill for the last three days, with either a fever or rheumatism, which prevented him from lecturing (were these attacks the cause of his heart disease?).

It was while he was visiting the Hunterian Museum of the Royal College of Surgeons (to discover the fishy source of isinglass) that he slipped and (according to official diagnosis) ruptured the quadriceps muscle in both legs. (This is a very rare lesion and there must be some doubt about the diagnosis.) In a letter to Bell written on 18 December 1852, Pereira says he has suffered more pain in his knees in the last 24 hours than ever before. "There is effusion (Luke says) into my left knee joint and this joint pains me more than the right one whose tendon is ruptured." (Did he really suffer from an attack of acute arthritis?)

Whatever the lesion, he had to rest in bed and while recovering needed a wheelchair. In transferring from this to his bed he was seized with a "throbbing pain in the praecordial region". He announced to the three doctors called to his bedside, "Gentlemen, you can do nothing. I have broken something near my heart". He died within 20 minutes, at 10.30 p.m. on 20 January 1853⁷. No postmortem was carried out but the cause of death

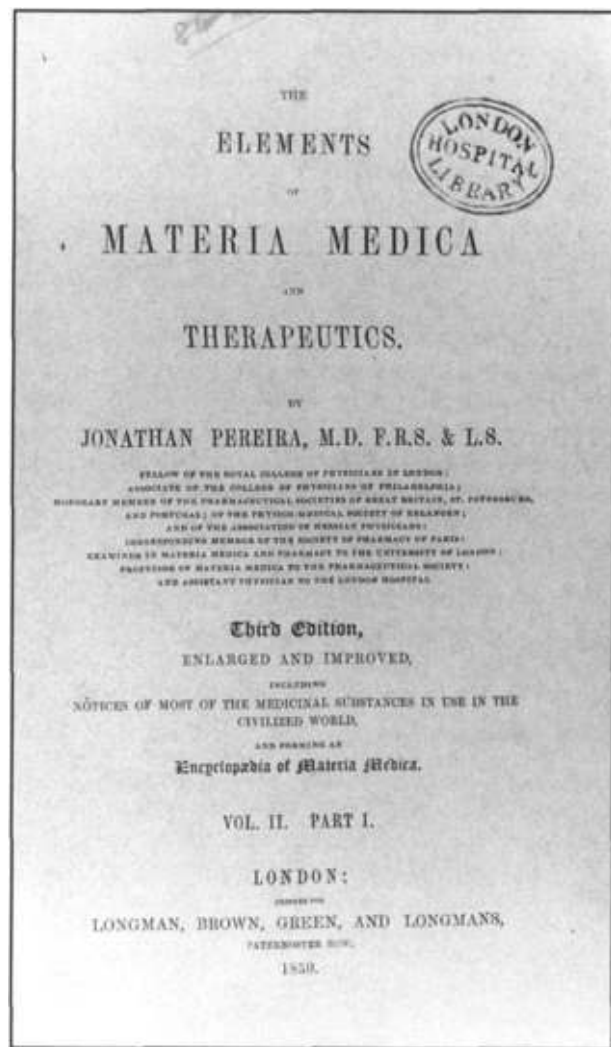


Figure 5. Title page of *The Elements of Materia Medica and Therapeutics* (3rd edn, vol. II, part I, 1850). (London Hospital Medical College Library, reproduced by permission of the Royal London Hospital Archives.)

was stated as "Rupture of Blood vessel near the heart". Obituaries appeared in many journals, medical as well as non-medical. One indicated that he suffered from "attacks of palpitation" which might have contributed to his death and another (in the *Athenaeum*) says that he seems to have had a "long standing condition of the heart". (It seems likely that his death was due to either a cardiac infarction, a pulmonary embolism or a ruptured aortic aneurysm.) The *Athenaeum* also recorded that he had "raised therapeutics from the chaos of hypothesis and absurdity and placed it on a true scientific basis. . . . To such men humanity is largely indebted and the name of Pereira will occupy a prominent place in the history of science in the nineteenth century"⁸.

The *British Medical Journal* spoke of portly bearing, good humour and frankness of manner⁴



Figure 7. Medals by Wyon for the Royal Pharmaceutical Society (1853). (Reproduced by permission of the Museum of the Royal Pharmaceutical Society of Great Britain.)

although the two committees were to remain separate, they would assist each other. The Pharmaceutical Society recommended that a medal be struck by Mr Wyon to be awarded for proficiency in examination: a silver medal for students and a gold medal for original contributions from associates of the society and discoveries in materia medica (Figure 7)⁴⁴.

The bust was completed but cannot be traced today – a plaster cast of it is in the offices of the *Pharmaceutical Journal* (Figure 8). The portrait and an etching by Pound from a daguerreotype by Mayall also seem to have disappeared, although there are a number of reproductions available (Figure 1).

His arms were incorporated in a window of the London Hospital Medical College⁷ Library, but were removed during World War II. The pear tree (Poinier) is evidently an example of “canting” or allusive heraldry “Arms parlantes”.

Appendix A. Pereira’s publications

Pereira’s major work was the *Elements of Materia Medica*. This was prepared during the period of his appointment at the Aldersgate School and ran to five editions (apart from editions in the USA). The first edition, based on his lectures at the dispensary and the London Hospital, was published in 1839–40. There were two volumes: “Action and classification of medicines, mineral and materia medica”; and “Vegetables and animal materia medica”.

The second edition, published 1842, was expanded to include the use of diet, climate, heat and electricity as therapeutic agents. The Wellcome Library holds Pereira’s own copy of this edition with many of his inscribed notes.

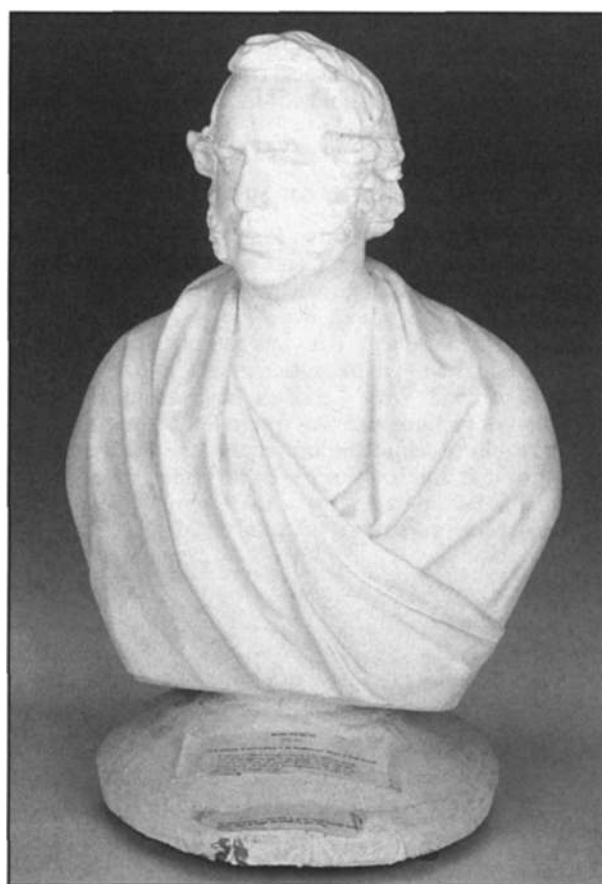


Figure 8. Plaster cast of the marble bust executed by Mr Macdowell RA (1853). (Reproduced by permission of the Museum of the Royal Pharmaceutical Society of Great Britain.)

The Wellcome Library also has 29 letters addressed to Pereira from England and abroad with comments, suggestions and queries on this manual.

The third edition, vol. I, enlarged and improved, was published in 1849 and vol. II, part I (Figures 5 and 6) in 1850. However, part II was incomplete at the time of his death (he had got as far as the paragraph on cinchona); it was completed in 1853 by A S Taylor and G O Rees. It was reviewed in the *Pharmaceutical Journal* of that year. The review spoke of it as “likely to be the standard work of reference for many years to come”.

A fourth edition, following similar lines, was produced by the same editors between 1854 and 1857. A fifth edition (abridged), edited by J Farre assisted by Robert Bentley and John Warrington, appeared in 1865 and a sixth edition appeared in 1874, edited by Robert Bentley and Theophilus Redwood.

Pereira additionally published a translation of the *Lectures on Physical Phenomena of Living Beings*, by Carlo Matteucci (1847).

His *Treatise on Food and Drink* of 1843 incorporated his lectures to the Pharmaceutical Society and was a major review of diet. It included not only the chemical elements of foods but discussed the diets which he considered in keeping with the time and suitable for various classes of people: paupers, lunatics, criminals, children, the able bodied and the sick. Paupers (the inmates of work-houses) should have “wholesome food not superior in quantity or quality to the labouring classes”; beer was

not permitted unless ordered by a surgeon and "tea should be confined to the aged and infirm". Soldiers, sailors and emigrants were also considered. Scurvy must be avoided. He also designated the time of day when the diets should be taken.

Appendix B. A note on Jacob Bell

Jacob Bell (1810–1859) came from a Quaker family in Cumbria, but was born in London. His father, John Bell, had founded a chemical firm in Oxford Street and Jacob Bell worked there as a young man. However, his character differed from his father's, who was a strict disciplinarian, in that he had many more social graces and charm. He travelled abroad with Landseer and acquired a fine collection of pictures and was interested in sport. He was the driving force behind the formation of the Pharmaceutical Society in 1841 and was the first editor of the *Pharmaceutical Journal*. He became a fellow of the Chemical Society, the Linnaean Society and the Zoological Society³⁶.

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References

- 1 *Dictionary of National Biography*. London: Smith, Elder & Co., 1896: vol. 45, p.1
- 2 *Munk's Roll*. London: Royal College of Physicians, 1955: vol. iv, 42
- 3 Obituary. *Lancet* 1853;i:124, 139, 237, 5811
- 4 Obituary. *BMJ* 1853;94
- 5 Obituary. *Pharmaceutical Journal* 1853;12:361, 409, 462
- 6 *The Athenaeum*, 29 January 1853:136
- 7 Clippingdale SA12. Wygone members of hospital staff. *London Hospital Gazette* 1918;22:137
- 8 Certificates of LSA examinations. Guildhall Library, GL Ms B241
- 9 *Lancet* 1834;i:69
- 10 Lettson JC. *Improvement of Medicine on the Basis of Public Good*. London, 1776
- 11 Abrahams JJ. *A Life of Lettson*. London: Heinemann, 1933
- 12 Barrett CRB. *History of the Society of Apothecaries*. London: Elliott Stock, 1905
- 13 Cope Z. *A Forgotten Health Service*. London: Wellcome Library, unpublished and undated
- 14 Personal communication, Archive Department, St Bartholomew's Hospital, London
- 15 *Lancet* 1829;i:13
- 16 *Lancet* 1833;ii 477, 821
- 17 *Lancet* 1833;i:136, 214
- 18 *Lancet* 1833;i:5, 7
- 19 *Lancet* 1834;i:9, 12
- 20 *Lancet* 1840;i:8
- 21 *London Medical Gazette* 1835–7
- 22 Transcript of medical staff minutes, St Bartholomew's Hospital, MS 15
- 23 Letter to Jacob Bell, 21 March 1851. Library of the Royal Pharmaceutical Society
- 24 Archives, Royal College of Physicians, MS 1027/1
- 25 Minutes of House Committee of London Hospital 1847–50, 1852–53. LH/A/27
- 26 *Lancet* 1852;i:519
- 27 Report of Phys and Surg to House Committee of London Hospital, 1836–67. London Hospital Archive, LH/A/17/7
- 28 Minutes of Medical Council of London Hospital 1846–67. MC/A/1/1
- 29 Cloughly CP, Burnby JGI, Earles MP. *My Dear Mr Bell*. London: American Institute and British Society, 1987
- 30 Personal communication, Royal Botanical Gardens (Kew)
- 31 Museum, Royal Pharmaceutical Society. MS 54 & 55
- 32 *Pharmaceutical Journal* 1843–4;3:231
- 33 Pereira J. *Treatise on Food and Drink*. London, 1843
- 34 Pereira J. The grains of paradise. *Pharmaceutical Journal* 1842–3;2:443
- 35 Pereira J. Potato starch. *Pharmaceutical Journal* 1843 4; 3:40
- 36 *Dictionary of National Biography*. Jacob Bell. London: Smith, Elder & Co., 1896: vol. 4, p.162
- 37 Pereira J. On the nature and effects of organic matter in drinking water. *Pharmaceutical Journal* 1850;9:408
- 38 *The Times*, 9 October 1851
- 39 *Pharmaceutical Journal* 1851–2;11:255
- 40 Will of Jonathan Pereira. *Pharm Historian* 1983;13:3
- 41 *Chemist and Druggist* 1883;25:601
- 42 *Pharmaceutical Journal* 1855 6;15:195
- 43 Wellcome Institute for the History of Medicine, Library. Western Med. 5937
- 44 *Pharmaceutical Journal* 1853–4;13:388