

# The 'Dental Institution' in London, 1817–21. A prototype dental school: the vision of Levi Spear Parmly

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This paper explores Levi Spear Parmly's vision for the education of dentists in the early nineteenth century and how his work impacted on Anglo-American dental schools.

## INTRODUCTION

Nearly 200 years ago, while in London, the American Levi Spear Parmly (1790–1859) proposed and advertised a visionary dental institution that would have no connection with the Barbers or Surgeons Companies, (separated since 1745), or with apprenticeship, and would fulfil the needs and aspirations of students of the science and profession of dentistry. The approach taken to their own education, careers and involvement in the Baltimore College means that the Parmly brothers' prototype school in London should be seen as an important trial, identifying many of the features that were eventually adopted in Anglo-American dental schools.

## LEVI SPEAR PARMLY'S VISION FOR THE EDUCATION OF DENTISTS

What Levi Parmly sought was; 'a great improvement of this department of surgery... Nothing can tend so much to accomplish this object, as an institution for the exclusive promotion of dentalogical science. The wants of society, as well as the disposition of the present enlightened period, so favourable to the universal diffusion of knowledge, demand such an institution; and such, we flatter ourselves, we are authorised shortly to anticipate, when this noble art will be rescued from that degraded state in which it has long remained'.

This appears in his second publication,<sup>1</sup> *A practical guide to the management of the teeth*, dedicated to the artist Benjamin West (1738–1820), an Anglo-American and the

second president of the Royal Academy. The work was popular enough for several copies to have survived, and in all editions, English and American, the following appears in the preface; '[L. S. Parmly] undertakes to initiate the youth of both sexes, without any laborious process, in the dental art, so as to enable them to preserve these important organs in a perfectly sound and healthful state, to the most protracted period of life'. While this could refer to education in dental care aimed at the public at large, in all but one of the London editions, (but not the American) the following unambiguous notice is also presented; 'Mr Parmly, anxious to render the benefits of his System as extensive as possible, is willing to receive Pupils, with a view of affording them a Dental education, thus qualifying them to exercise their profession on enlightened and scientific principles' (Fig. 1a).

## Applications received at the Dental Institution, No. 9, Buckingham St, Adelphi

In his third publication, *Lectures on the natural history and management of the teeth* published in 1820,<sup>2</sup> a full advertisement (Fig. 1b) for his 'qualifying' course appears, although now limited to 'Gentlemen'.

London was seen as favourable to the development of dentistry as a speciality, and in the American edition of the *Lectures* Parmly quotes from the *Medico Chirurgical Journal* or *London Medical and Surgical Review* of April 1820; 'The importance which is now attached by the public to DENTAL pathology, is sufficiently evinced by the great segregation from the [medical] body of the profession, and the concentration of talent and respectability in this exclusive line of practice... The general expression of public feeling would appear to indicate that division of labour in the medical, as well as in every other art, tends to accelerate its progress towards perfection'.

## IN BRIEF

- Describes Levi Spear Parmly's vision for dental education.
- Reports how close Levi Spear Parmly's dental institution in London came to being the first dental school.
- Highlights the high standards early dentists expected of their profession.
- Suggests that the Parmlys were prime movers for educational reform in England and America.

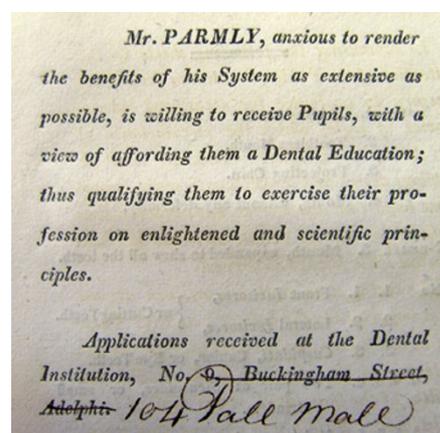


Fig. 1a The first advertisement, from *A Practical guide*, 1818. Courtesy of the BDA

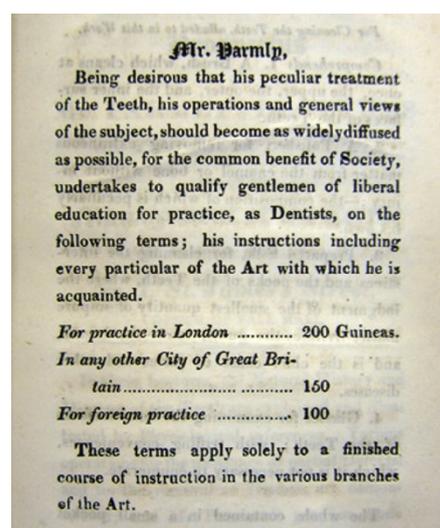


Fig. 1b Advertisement from *Lectures*, 1820. Courtesy of the BDA

## THE PRINCIPALS AND THEIR OWN DENTAL EDUCATION

Levi Parmly studied in Boston in 1812 as an apprentice to an English dentist, Dr Petrie, who returned to England after a year. He then continued until 1815 with Dr John Randall, physician and dentist.<sup>3</sup>

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**Fig. 2** Buckingham Street. Edmund John Niemann (1813–1876) 1854. No 9 is on the right, a couple of doors down from the butcher's shop. (Street lights and the Hungerford Suspension Bridge later than 1818.) ©Museum of London; Image Number 002223



**Figs 2b and c** No. 9 today



Eleazar (1797–1874), who joined Levi in 1819, was taught first by his elder brother, and then extended his training by spending time in Paris with Maury, (J. C. F. Maury [1786–1840]) dentist to the household of the King of France. In 1847 Eleazar wrote an autobiographical poem with footnotes containing invaluable information about his stay in London,<sup>4</sup> studying the work and lifestyle of the best dentists of the day, Waite, Cartwright and Bell.

## THE BUILDINGS

The Dental Institution was a concept not a building. However, a look at the premises where the Institution was advertised anchors the project in reality. Only Levi's first address still stands, at 9 Buckingham Street, Adelphi (Fig. 2). Although once in fashionable London<sup>5</sup> (its water-gate to the Thames is magnificent) fashion had moved West. Also the windows, though generous, face east and the lighting would have been less than adequate for dentistry in an age with little artificial lighting (Fig. 2a).

Levi then moved West himself, probably in 1819, to 104 Pall Mall (Fig. 3). This would have been a considerable improvement, the windows at the back on the south side looked over the gardens of Carlton House, the palace in all but name of the Prince Regent (King George IV from 1820).

Several copies of the *Practical guide* have the Adelphi address crossed through and the new one neatly written in. No. 104 was the former home of a 'beauty' of the eighteenth century, the Countess of Dysart (Louisa Manners, 1745–1840) and Sir John Soane

remodelled it for her in 1793.<sup>6</sup> The Reform Club now occupies the site.

The next move, to No. 1 St James's Street (Figs. 4a, b and c), was made by February 1820, when Levi advertised two public lectures in the *Observer*.<sup>7</sup> This was possibly the most suitable building for the purpose of dental operations in the whole of London. The photograph<sup>8</sup> (Fig. 4a) does not do it justice. Having dual aspect, the windows on the south, Pall Mall, side (Fig. 4b) looked out over the broad plaza-like space in front of the Gate House of the Palace of St James (Fig. 4c). The St James's Street windows face west and so good lighting would have been available all day. As for easy access for fashionable patients, along St James's Street itself were the Clubs, Boodle's, White's, Brooks's, next door was the celebrated firm of Berry Brothers, and below, the shop of William Raymond Sams, 'Book and Printseller to the Royal Family'. The premises made way in 1882 for the imposing Norman Shaw building still occupying the site.

## ENTRY REQUIREMENTS

Parmly asked for a 'liberal education' in his pupils. The strict definition of such an education had existed for centuries, comprising the seven liberal arts of grammar, rhetoric, dialectic, logic, arithmetic, geometry, astronomy and music.

The Yale Report of 1828 stated, 'By a liberal education, it is believed, has been generally understood, such a course of discipline in the arts and sciences, as is best calculated, at the same time, both to strengthen and enlarge the faculties of the mind, and to

familiarise it with the leading principles of the great objects of human investigation and knowledge. A liberal is obviously distinct from a professional education. A professional education requires an understanding already cultivated by study, and prepared by exercise for methodical and persevering efforts.'<sup>9</sup>

In effect, Parmly asked pupils starting their professional education with him to be of University entry standard, and it may be assumed, to come from a better educated and perhaps older group than that of the dental apprentice.

## FEES

The fees required from pupils (Fig. 1) were high; 200 gns (£210) for practice in London equates to something over £9,000 today, (National Archives Currency Converter), but can be put into context by some comparisons. In 1950 the fees for Guy's Hospital were £559 (6s 9d), for BDS (six year course) and LDS £472,<sup>10</sup> equivalent to £12,700 and £10,700 in 2005. For 2013/14 the fees for the dental course (five years) at Kings (GKT) are £9,000 per annum.<sup>11</sup> (The first New York edition<sup>2</sup> gives the fees in dollars; '...practice in London: \$1,000, In any other city of Great Britain or America, \$700, for foreign practice, \$500.)

Although Parmly's fees equate reasonably with the Guy's fees 130 years later, and both seem extremely modest when compared with the £45,000 of today's tuition, the potential pupil was only comparing them with the cost and historical custom of an apprenticeship with a dentist. For this the apprentice paid a premium for three to five years.<sup>12</sup> Articles

for Thomas Bell drawn up in 1816 are frustrating, since the amount is not written clearly but may be 40 guineas, to be paid to Marshall Purland for instruction in 'the Art and Mystery of making and fixing artificial teeth'. The term is not stated.<sup>13</sup>

In relation to potential lifetime earnings the Parmlly fees were minute. In Canada in 1815, Levi charged 'For a full set of teeth, with gold springs, up to 100 dollars... for mending of a tooth with foil one dollar, gold, etc. [sic] ...teeth made white and polished, price depends on the state and number of the teeth; from one to five dollars;' (advice and some extractions, gratis).<sup>14</sup>

Both Levi and Eleazar enjoyed financial success in line with their professional reputation. Levi used his wealth to become a philanthropist, offering free dental treatment to children.<sup>15</sup> Eleazar acquired 'over a hundred properties in New York, New Jersey, and Ohio, a handsome townhouse, patents on several significant inventions for oral surgery, and good investments. When he died he left a fortune of \$7,000,000 (at least \$206,000,000: MeasuringWorth.com. As with the National Archives Converter, value and purchasing power vary largely, depending on circumstance used for the calculation). Eleazar knew the Vanderbilts, the Roosevelts, the Astors.'<sup>16</sup>

## THE 'CURRICULUM'

Parmlly's curriculum was concise 'his instructions including every particular of the Art with which he is acquainted'<sup>12</sup> and this can be expanded from his publications. 'The study, the duties, the practice, and the qualifications of a Dentist, who, by the alteration of the whole, may bring credit to himself by the alleviation of pain and suffering'.<sup>2</sup> As for the instructors themselves Levi gave the requirements in the 1821 New York edition of the *Lectures*;

'It is of importance to Society to know what the qualifications of the instructor ought to be, for enabling him to do justice to this particular art. In the first place, he should be an anatomist, to understand the structure of the mouth and teeth, and the art of preserving their original regularity and soundness. Secondly, a surgeon, to know their diseases, and the mode of treating them. Thirdly, a good mechanic, to supply the defect, or loss of parts; and should, further, understand the art and effect of colouring, so as to imitate nature with all possible correctness.

Thus, the acquirements requisite for the Dentist, in the management of the Mouth and Teeth, constitute, of themselves, an important professional education, and should be studied and acted upon, by distinct individuals, for the benefit of mankind.'<sup>2</sup>

Levi is most noted for his accurate



**Fig. 3** 104 Pall Mall in 1814, John Coney (1786–1833); British Museum. 1857,0613.8 (detail); ©The Trustees of the British Museum



**Fig. 4a** No. 1 St James's Street (corner building on the right) undated photograph. (Before 1882)

description of the aetiology of caries, its prevention through scrupulous cleanliness, and for both brothers the insistence that dentistry should be a scientific subject.

Eleazar stated in his own *Essay* in 1821, dedicated to Richard Rush (1780–1859) American Ambassador to the Court of St James from 1818–1825; 'It is to be hoped that those who intend to practise the profession of dentist, will hereafter pay particular attention to the acquirements which are so essential to its success, by which it will... be regarded as a scientific profession.'<sup>17</sup> This work is particularly valuable for its insight into the technical details of the dentistry the Parmllys undertook to teach, as he gives in some detail his technique for filling teeth with gold (or tin if the tooth was too weak to take the pressure needed to condense gold). He stressed the importance of successful conservation of the early detection and complete removal of decay and filling in a dry field.

There is a mention of Levi Parmlly's trial of porcelain teeth while in London in William Rogers' *Encyclopédie* of 1845; 'Le célèbre Parmlly [sic] lui-même, un des plus habiles praticiens de Londres, ne put, malgré son enthousiasme pour ce nouveau système, le



**Fig. 4b** No. 1 St James's Street (corner building on the left) the Pall Mall frontage. John Coney (1786–1833) 1814; ©British Museum. 1857,0613.9 (detail)



**Fig. 4c** Looking down Pall Mall. No. 1 St James's Street, St James's Palace on the right; 1750s. Lady Lever Collection. Courtesy of National Museums Liverpool

faire adopter en Angleterre.'<sup>18</sup> Rogers also notes with approval Levi's *Practical guide* and his caution over the use of filling materials that could stain teeth.

Eleazar also reveals the pattern of routine dental check-ups in England in the early nineteenth century, and hopes that in America; 'a dentist will be here, as in England and France, considered necessary in each family to inspect the teeth at stated periods, in order, if necessary, to perform operations, or guard them against any fault which may occasion deformity or produce disease.' He advises children to clean their teeth at least twice a day, and that from the ages of 6–12 years the dentist should be consulted three or four times a year, reducing to once or twice later. He noted with approval that in London and Paris, 'the principal academies and boarding

schools are regularly attended by dentists.<sup>17</sup>

In all, the Parmly brothers stressed prevention through scrupulous attention to cleaning the teeth and regular dental attendance, conservation rather than extraction, and education not just for future professionals but of the public at large.

### LENGTH OF COURSE

The length of the course of instruction is clearly implied. 'A finished course of instruction in the various branches of the art' (Fig. 1b), in other words, as long as it takes for any given student to be equipped for practice.

It might be of interest here to note as a contrast that; 'When Nathan Smith (1762-1829) graduated from Harvard Medical School [founded 1872] in 1790 as its fifth recipient of the MB degree... he did so after following a course of study for ten weeks... of lectures, and a 'thesis'.<sup>19</sup>

### THE PUPILS

The present historical record of the Parmly Dental Institution has details of the principals, the prospectus, the fees and the buildings, but no certain record of any pupil (apart from his brother Eleazar). Eleazar did identify one likely candidate; 'Mr. John T. Edmonds, a young gentleman of considerable professional promise, who became my successor, and to whom I confided my practice, has well sustained himself and secured a respectable degree of eminence, as a man of tact and cleverness in his profession'.<sup>4</sup> This young gentleman may have been related to I. T. Edmonds of Albemarle Street (across Piccadilly from St James's Street) who is praised by Eleazar in 1821 for his skill as a technician in making gold and silver palates.<sup>17</sup>

The 1841 Post Office Directory<sup>20</sup> lists two dentists named John Edmonds, working close to each other. John Thomas Edmonds (1800-1867)<sup>21</sup> at 27 George Street, (now St George Street) Hanover Square, and John Edmonds, at 38 Conduit Street, (now Tsukiji Sushi), which adjoins George Street. Six other dentists operated in George Street, one being Alexander Nasmyth FRCS, (-1848) the anatomist who described the eponymous Nasmyth's membrane, and was Surgeon Dentist to the Queen and Prince Consort.<sup>22</sup> There were also four earls, a viscount, MPs, physicians, and surgeons. Among the latter was Herbert Mayo FRS, who offered the young John Tomes a lectureship in anatomy and physiology.<sup>23</sup>

Judging by John Thomas Edmonds' age, he could have been the pupil of Eleazar, and if so, he certainly justified the 'qualification for practice as a dentist' received at No. 1 St

James's Street. He was dentist to George IV, and from 1836 until his death in 1876 he lived at Belle View, Fulham, acquiring something of a reputation for eccentricity, and keeping a pet wolf.<sup>24</sup>

Should evidence of more students be found, particularly evidence of female students, the Parmly School would take its place as the first educational establishment of its kind. Let it be thought that paucity of numbers could diminish the claims made here for the Parmly Institution, the humble beginnings at Baltimore can be noted; 'The practical inauguration of the new college presented a difficulty well known in America, when professors often outnumbered students. At length five legitimate students were found to covet the honour of the new title, D.D.S.'<sup>25</sup>

### EQUAL OPPORTUNITY FOR MEN AND WOMEN 'TO QUALIFY AS DENTISTS'

A significant advertisement occurs in the second New York edition of the *Lectures*, where the fees are omitted, and 'moderate terms' are substituted.<sup>2</sup> Both in London and in the first New York edition of 1820, (unlike the *Practical guide*), the invitation to pupils is extended to gentlemen alone. However, in the second New York edition of 1821, 'Mr. Parmly... undertakes to qualify ladies and gentlemen for private or public practice, as Dentists...'<sup>2</sup> The first woman to qualify in the United States was Lucy Hobbs Taylor (1833-1910) in 1866, from Ohio College of Dental Surgery. The first woman to qualify in the UK, from Edinburgh, not a London school, was (Dame) Lilian Lindsay (1871-1960) and not until 1895. Here again, Levi Parmly was visionary, as he was with the important description 'to qualify... as Dentists', which first appeared in 1818 in the *Practical guide*.<sup>1</sup> Whether the significance of these words was appreciated at the time, they can be seen now to mark an entirely fresh way of looking at professional education.

### THE FATE OF THE DENTAL INSTITUTION

By 1822 both Parmlys had left England, although Eleazar was pressed to return to London and was strongly tempted to do so by the contrast between his warm friendships with the great and good in London and his cold reception in New York. But he did not do so and any further development of the Parmly Institution at St James's Street fell into abeyance.

The time might not have been right for the school in London, but the model it provided was robust, and in America the drive for a dental school overcame the difficulties placed in its path. The Parmlys were in close

contact with Chapin Harris (1806-1860) and Horace Hayden (1768-1844), who succeeded at Baltimore, where their College opened in 1840, (now the University of Maryland Dental School), just 18 years after Eleazar left London. He in turn became principal in 1847. Solyman Brown (1790-1876) an enthusiastic reformer was a close friend. (Lawrence Parmly Brown, biographer of Levi, was Solyman Brown's grandson).<sup>26,27</sup> In October 1839 Eleazar was co-editor with Chapin Harris of the world's first dental journal *The American Journal of Dental Science* and Solyman Brown was on the Publishing Committee.

In England progress was slower, although in 1840 the London Institution for Diseases of the Teeth at 10 Windmill Street (founded in 1839 by Harrison and Saunders) had started taking pupils.<sup>28</sup> The Parmly brothers had been in contact with leaders of the reform movement, most notably with the Waites, father and son, and the *Appeal to Parliament* of 1841 by George Derby Waite (1804-1880) is generally accepted as a catalyst for true educational reform in England. The independent Metropolitan School of Dental Science was set up in 1859, like Baltimore issuing its own Diploma,<sup>29</sup> but the LDS camp allied to the Royal College of Surgeons and their school, also established in 1859,<sup>30</sup> prevailed.<sup>31</sup> Not until the twentieth century and the BDS degree did the dental schools in England become as independent as their transatlantic cousins. A full account of the struggle to catch up and equal the American experience was given by Alfred Hill in 1877, and he provides the epilogue to this essay describing what might have been; 'While the dentists of this country were thus slumbering, or at any rate inactive, their brethren in America had been organising dental colleges for the purpose of properly educating the students who proposed applying themselves to the practice of dentistry. The question would force itself on the mind, 'If these things can be done there, why not similar things in our own style and after our own method here?''<sup>32</sup>

### SUMMARY

In the twenty-first century, a dental education separate from but in parallel with medicine, and in its own dedicated premises, science and practice-based, with no connection to apprenticeships, (study and practical work with general dental practitioners has been transferred to a postgraduate term) and with equal opportunity for men and women is the norm.

In the early nineteenth century, a proposition in the nature of the Parmly Dental Institution, incorporating all of these

*desiderata* in embryo, was revolutionary as well as visionary.

## NOTES ON THE BIBLIOGRAPHY

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A facsimile of Alfred Hill's *History of the reform movement* is available online at <http://archive.org/details/historyofreform00hill> (accessed January 2014).

The Parmly's London activity has been discussed briefly by Weinberger in his history of educational reform in America published in 1929,<sup>33</sup> and more recently reviewed by Sanoudos and Christen,<sup>3</sup> and Chernin and Shklar.<sup>15</sup>

*The assistance of the Museum and Librarians of the British Dental Association, the Curator of Drawings at the Soane Museum, and the librarians of the Royal Society of Medicine, the Royal College of Surgeons and the Wellcome Library, is gratefully acknowledged.*

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