Doctors and ‘Educational Overpressure’ in Nineteenth-Century Britain: A Fatigue State that Divided Medical Opinion

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Abstract

The expansion of education in the later nineteenth century led to concerns that ‘educational overpressure’ was damaging the health of children. Overpressure was an ill-defined condition which presented nosological problems and diagnostic difficulties. These were further clouded by political and sociocultural issues which included malnutrition, learning disabilities and postulated hereditable physical and mental degeneration. Uncertainty about the true nature of overpressure divided the British medical profession with a vocal minority alleging that it was common and could result in serious illness, another group who thought that the consequences were minor, and some who altogether doubted its existence. In Britain the debate was intensified by politically motivated funding decisions which put pressures on elementary schoolchildren. In continental Europe the emphasis was on secondary schoolchildren but in other respects the condition was similar, though severe symptoms were more commonly described in Britain. Comparisons with neurasthenia and similar states show that overpressure was what is now recognized as a fatigue state. Nosological difficulties are common in these conditions and often result in conflicting opinions. Disputes about overpressure temporarily damaged the British profession’s credibility at a time when some doctors were pressing for further medical involvement in the educational arena. However, schools could now no longer be regarded as exclusively pedagogical and overpressure had contributed to wider concerns about child health and welfare.
This paper describes the roles of both individual doctors and the entire British medical profession in the nationwide debate on educational overpressure in the British school system in the nineteenth century. I will examine why disputes over the existence, nature and significance of overpressure divided the profession and temporarily discredited medical opinion on educational matters at a time when some doctors were trying to extend the profession’s influence in the educational arena. I will position overpressure as a fatigue state and will suggest that opinions on all such states have been divided by difficulties with nosology.

Increasing opportunities for education during the nineteenth century led to growing concerns about the perceived effects of more intensive academic study on the health of students. Contemporary definitions of ‘educational overpressure’ were given by Dr. George Shuttleworth and the Liberal politician Sydney Buxton. Shuttleworth provided advice to the government on methods for teaching mentally defective children and he wrote one of the seminal works on the subject.\(^1\) Overpressure was, for Shuttleworth, “not an absolute quantity, but has to be estimated in relation to the personal factor in each case. It may therefore be defined, in terms of educational work, as that amount which in a given case is likely to produce excessive strain of the physical or mental system, or both.”\(^2\)

Buxton’s interest in elementary education is evident in his publications, in his election to the London School Board (1876–1882) and his membership of a government commission which enquired into the workings of the Elementary Education Acts (Cross Commission 1886–1888). He saw overpressure as a condition in which “the bodily health and mental growth of children are impaired, and their lives made less happy, by some action on the part of the school authorities.”\(^3\)

In Britain its origins as a condition associated with children’s education can be traced back to the 1830s when Charles Thackrah, a Leeds-based surgeon

and pioneer in the field of occupational medicine, wrote of the student’s poor posture and lack of exercise which caused impaired digestion and a congested brain. Diagnoses reached epidemic proportions in state-funded elementary schools in the 1880s, after which descriptions declined rapidly. Conditions attributed to overpressure usually included fatigue as a core symptom and others, some of which might now be classified as psychosomatic, such as weariness, lethargy, stress-related headache, insomnia, nightmares, restlessness, irritability, and malaise. They also included myopia, spinal deformity attributed to badly designed desks, and some more serious problems such as hysteria, insanity and suicide, chorea, various types of cerebral inflammation (often referred to as ‘brain fever’), epilepsy, hydrocephalus, and death. The rationale given for the inclusion of these latter problems was that overpressure was not a specific illness but a condition which lowered the body’s resistance to a variety of illnesses which were the immediate causes of the more serious problems. For example, diminished resistance could lead to tubercular meningitis which was the immediate cause of hydrocephalus.

A.B. Robertson, Jane Middleton, Pamela Horn, Gretchen Galbraith and Christopher Bischof, among others, have described the social, cultural and political contexts associated with the overpressure controversy. These have included considerations on the purpose of elementary education, relationships between policymakers and professionals, the balance between the role and responsibilities of the State and the rights of individuals, and collectivism versus a laissez-faire approach. Other matters have included the extent of feeble-mindedness revealed by the advent of compulsory education, postulated associations between feeble-mindedness, criminality and fin-de-siècle concerns about both physical and mental degeneration as well as the relative importance of heredity and environment in the genesis of these concerns. The conflicting interests of politicians, government officials and teachers have also been discussed, alongside (albeit less frequently mentioned) those of doctors.

Only two historians of medicine have published significant work on overpressure. John Duffy described nineteenth-century experience in America where there was a much greater emphasis on the contribution of the poor physical and sanitary environment in schools in the genesis of overpressure. In marked contrast to the British experience, Duffy did not mention any difference of opinion among American doctors on either the existence of overpressure or difficulties in its diagnosis. He cited doctors who made reference to ‘nervous exhaustion’ but he did not consider overpressure in the context of other fatigue disorders, even though neurasthenia was a common diagnosis in America at the time. Similarly, Janet Oppenheim in her comprehensive study of nervous diseases in Victorian England, and Amelia Bonea and colleagues in their predominantly socio-cultural study of anxiety in nineteenth-century Britain, described overpressure in the context of stress arising from overwork but they did not categorize it as a fatigue state.

I begin by describing how the changing structure of education and examinations in Britain led to concerns about overpressure. I then trace the evolution of overpressure, with particular emphasis on how it was seen by the medical profession, from 1830 until the mid-1880s when it culminated in a national controversy on the subject of overpressure in state-funded elementary schools. The medical profession was unable to reach a consensus on the clinical manifestations of overpressure – or indeed on its very existence – a topic which has not previously been adequately explored. In discussing the debate within the profession and in the country at large, I will develop the work on anxiety and stress by Oppenheim, and by Bonea and her colleagues, in the light of the work on fatigue by Anna Schaffner, Simon Wessely and Mark Jackson, to categorize...
educational overpressure as an example of a fatigue state.\textsuperscript{10} Schaffner used the word ‘fatigue’ to designate the physical aspect of ‘exhaustion’ and words such as ‘weariness’ and ‘apathy’ to denote its affective or emotional counterpart; but I will follow the more usual practice of using only ‘fatigue’ to encompass all aspects. Schaffner also noted that the core symptoms are associated with a range of other symptoms, usually determined by the prevailing sociocultural environment. These she designated ‘symptom complexes.’\textsuperscript{11}

I will show that differences of opinion amongst doctors about the existence of overpressure, or its significance if it did exist, stemmed largely from what have proved to be persistent difficulties with the nosology of fatigue states but also from the socio-cultural issues with which these conditions are so often entwined. I will describe how overpressure in Britain differed from that in other countries and will end by discussing the relevance of the nineteenth-century overpressure debate to currently recognized fatigue states.

1 Education and Examination in Nineteenth Century Britain

For many Victorians, nineteenth-century Britain was “pre-eminently an educational age”.\textsuperscript{12} In 1878, Clifford Allbutt, a physician in Leeds and later Regius Professor of Medicine in Cambridge, thus wrote how the village grocer’s son now went to theological college and the gardener’s daughter became a pupil teacher.\textsuperscript{13} Those who promoted the extension of education to all classes saw this not only as the right of every citizen but also as essential if Britain was to maintain its pre-eminence in an increasingly competitive and urbanized world. Others were less sanguine, however, about the consequences of extending elementary education to all children; some of those who were hostile to the government’s educational initiatives pointed to examples of overpressure to discredit those policies.\textsuperscript{14} This polarization of opinion affected all sections of society including doctors.

The multifaceted educational arrangements for British children had arisen in a piecemeal and haphazard manner over many centuries. This paper is chiefly concerned with the alleged consequences of state-funded elementary

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\item \textsuperscript{10} Anna Schaffner, \textit{Exhaustion: A History} (New York, 2016), 5; Simon Wessely, Matthew Hotopf and Michael Sharpe, \textit{Chronic Fatigue and its Syndromes} (Oxford, 1998); Jackson, \textit{Age of Stress}; Oppenheim, \textit{Shattered Nerves}.
\item \textsuperscript{11} Schaffner, \textit{Exhaustion}, 5–6.
\item \textsuperscript{12} “Overpressure,” \textit{John Bull} (23 August 1884), 554.
\item \textsuperscript{13} T. Clifford Allbutt, “On brain forcing,” \textit{Brain}, 1 (1878), 60–78.
\item \textsuperscript{14} Horn, “Changing Attitudes,” 42.
\end{itemize}
(also known as primary) education for the children of poorer working-class families in the later nineteenth century. Initially attendance was compulsory only until the age of 10, but in 1893 the leaving age was raised to 11 and then to 13 in 1897. The only other type of schools mentioned in this paper are “independent” or “public” schools. These provided for the secondary education of the 13 to 18-year-old children of wealthy parents who could afford to pay school fees.\(^{15}\)

Elementary education for poorer children in Britain was dependent on charitable funding until 1833 when the government supplemented it with grants which were later subject to a Code of stipulations and annual inspection.\(^{16}\) In 1862 the Liberal Government brought in a revised Code with a detailed system of ‘Payment by Results’ (PBR) which was to become a major bone of contention in the overpressure controversy in the 1880s. The revised Code was intended to ensure both financial accountability and value for money at a time of ever-increasing expenditure on education.\(^{17}\) Funding was related to an annual assessment by government inspectors of pupils’ performance over a range of subjects and by attendance rates. In most schools the teachers’ salaries were linked to their pupils’ performance.\(^{18}\) This placed teachers under immense pressures which were very often transmitted to their pupils. The system was disliked by collectivist reformers but supported by those who embraced utilitarian and laissez-faire principles. Thus, Buxton argued that it should be more accurately described as “payment by efficiency” and that “some overstrain is inherent to any system of efficient education” but that this could be mitigated by “due safeguards”.\(^{19}\)

The 1870 Elementary Education Act provided for the elementary education of children aged 5–13, of working-class parents. The Act created School Boards whose members, elected from among local rate-payers, could raise funds from a rate (a tax on property owners) to build and maintain schools where existing voluntary provision was inadequate. Continued financial support for the existing charitable schools could be provided by the Boards. The Boards were also

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\(^{17}\) For a full description of the system and its implications, see Brendan A. Rappe, “Payment by Results: An Example of Assessment in Elementary Education from Nineteenth Century Britain,” *Education Policy Analysis Archives*, 2 (1994), 1–21.


\(^{19}\) Sydney Buxton, *Over-pressure and Elementary Education* (London, 1885), 35, 100, 101.
empowered to make attendance compulsory should they so wish. An Act of 1880 then made attendance universally compulsory, a measure which was seen by some as an intrusion by the State into the right of impoverished parents to send children out to work to supplement the family’s income. This compulsion brought to wider public notice those children who, at that time, were most commonly described as feeble-minded and to whose educational needs proper consideration had not been previously afforded. These children may have accounted for many of those who were diagnosed with overpressure. The Acts brought education more prominently into the political arena because of the massive increase in both the number of pupils and the costs. As the government had to justify the escalating costs to tax-payers and rate-payers, the revised criteria for PBR were widely perceived as having been strengthened and more rigorously enforced.

By the early 1880s, appointment by competitive examination was generally accepted as preferable to appointment by patronage. However, the medical profession joined the general clamour against what Allbutt described as the “monstrous growth of examinations”. Competitive examinations came to be seen as the driving force behind overpressure among the middle and upper classes, whereas in working-class elementary schools it was mainly the testing of pupils (and therefore PBR) or malnutrition, or on a combination of the two, that were blamed for overpressure. Both competitive examinations and PBR were seen as contributing to cramming which doctors claimed was especially hazardous to the immature brain.

21 Shuttleworth, Mentally-deficient children, 11.
22 Gillian Sutherland, Ability, merit and measurement: mental testing and English education 1880–1940 (Oxford, 1984), 18–19.
23 The average per-pupil amount raised from the rates doubled between 1872 and 1896, but the total sum required was even greater because the number of pupils also increased: see Peter H. J. H. Gosden, The development of educational administration in England and Wales (Oxford, 1966), 146–152; “Over-pressure in schools,” John Bull (5 April 1884), 220–221.
25 T. Clifford Allbutt, “Is the modern system of education exerting any deleterious influence upon the health of the country,” Transactions of the National Society for the Promotion of Social Science (1883), 354–364, at 362.
Early Medical Perceptions of Overpressure, 1830–1870

In America, the introduction of schooling for all children during the 1830s triggered “a rising crescendo” of complaints against excessive study. Reports of overpressure increased further after competitive examinations had been introduced by 1845. Both of these measures triggered increasing concern about overpressure when introduced in Britain some years later.

In Britain, James Johnson, a London physician and the influential editor of the Medico-Chirurgical Review, remarked in 1831 on the “Wear and Tear resulting from overstrenuous exertion of the intellectual facilities,” and he emphasized the “terrible competition” occasioned, *inter alia*, by the modern “mania for excessive education.” He argued that this “artificial precocity”, which affected both intellectual and physical development, led to premature aging. He thought that the only remedy was to ensure that children exercised as much as possible in country air during their holidays. Also in 1831, Thackrah recommended no more than six hours of study daily, together with strenuous exercise, regular meals, and pure air to counteract the harmful consequences of excessive study. In 1851, Dr. William Penny Brookes, a general practitioner in Shropshire, argued that excessive mental exertion in children “undermined bodily health and ultimately impaired the faculties of the mind.” Brookes pressed this theme over several decades, even insisting that excessive mental application caused some fatal cases of brain disease for which he blamed the system of education in elementary schools.

In 1855, the London ophthalmologist Robert Brudenell Carter published the first of two works on overpressure in which he made observations which were later taken up by others. He introduced the concept of an energy balance for mental as well as for physical work, arguing that the health of children compelled to perform excessive mental work – especially the health of frail children – would suffer “through the withdrawal of nervous force from

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27 Duffy, “Mental Strain,” 63.
29 James Johnson, *Change of air, or the pursuit of health* (London, 1831), 2–5, 15–16,
30 Thackrah, *Effects of the principal arts*, 100.
31 William P. Brookes, “Address on physical education at the 2nd Festival of the National Olympian Association, June 1867,” Wenlock Olympian Society Archive; idem, “Letter to the National Education Union 1 November 1869,” Wenlock Olympian Society Archive. For access to the archive, contact: info@wenlock-olympian-society.org.uk
the nutritive operations.”33 Other points advanced by Carter, and subsequently pursued by others, were that harm could result if educational demands were not tailored to individual abilities and that excessive homework was not only harmful in itself but precluded the possibility of adequate recreation.

In his second work, Carter argued that the budding intellect was sacrificed to an expectation that children should know more than they had time to learn and that the consequent emotional stress caused chorea, hysteria, epilepsy, and insanity.34 Other doctors in the 1850s were also writing about the potential dangers of intensive education. Samuel Smiles was still practising as a doctor when he published *Physical Education, or, The Nurture and Management of Children* in 1837, but was no longer in clinical practice when he achieved public prominence in 1859 with the publication of *Self-Help*. Here he deplored how education had become “more exclusively mental” to the detriment of both bodily and mental health.35

The philosopher and biologist Herbert Spencer was not medically qualified, but his views on education, first published in 1861, are relevant here because of his immense influence on how some doctors perceived educational overpressure. As converts to Spencer’s concept of what later became known as ‘social Darwinism’, many of the doctors who wrote about overpressure did so in terms of the social ‘struggle for life’ or ‘battle for existence’, struggles which were seen as becoming ever more severe in the modern, competitive, urbanized and industrialized world.36 Spencer elaborated on themes discussed by earlier writers.37 Like Johnson, Carter and Brookes, Spencer believed that the brain must not be developed at the expense of the body, but that both must be cultivated in tandem. He gave examples of how the brain could influence the body but, unlike earlier writers, he could now impart to the idea scientific validity by explaining it in terms of the new physiology, citing the experiments

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of Eduard Friedrich Weber, a German physiologist, on the stimulation of the vagus nerve. The publication of Spencer’s book coincided with an increase in scientific studies of fatigue, many of which were focused on educational overload. Spencer reiterated Carter’s theme of the body’s energy balance, writing that “Nature is a strict accountant, and if you demand of her in one direction more than she is prepared to lay out, she balances the account by making a deduction elsewhere.” He argued that the body’s ‘vital energy’ was finite and that “evils of one kind or another” were inevitable if too much energy was diverted from the body to the brain, especially in growing children. Like Carter, Spencer believed that the most immediate effects would be felt on the body but that more severe mental exertion would eventually harm the brain itself because there was a limit to the rate at which the brain could assimilate new information. Spencer repeated Johnson’s claim that the depleted constitution, which resulted from excessive mental strain, was transmitted to the next generation; and that this next generation was predisposed to break down under quite ordinary strains, much less severe than those to which their parents had been subjected. Moreover, the hereditary taint resulting from mental strain could also cause both physical and mental degeneracy.

3 The Lull before the Storm, 1870–1882

Opinions expressed by doctors and laity between 1870 and 1882 give little hint of the storm which was to break in 1883. In 1871, the Lancet commented that schoolboys were not uncommonly overworked and that occasionally this was to the detriment of their health. In 1876, Robert Farquharson – successively, an army surgeon, school doctor, London physician and then landowner and Member of Parliament (MP) – wrote that he had seen only three or four cases of overpressure during his time as a doctor at the independent Rugby School. He attributed all of them to excessive diligence on the part of the pupils rather than to any fault of the school. By contrast, he did “foresee a possible source of danger in forcing the minds of wretchedly feeble, ill-fed, and ill-house children” in state-funded schools. His concerns about the effects of educational

39 Spencer, Education, 179.
40 Ibid., 181.
41 Ibid., 174–175, 185–186.
42 “School-hours and school-boys,” Lancet, 2 (1871), 481.
pressures on malnourished children in state-funded schools were to be echoed many times after the universal introduction of compulsory education in the 1880s but, in the 1870s, doctors’ comments on overpressure were restricted mainly to independent schools.44

In 1879 a German-Swiss doctor, Albert Treichler, who had already published three articles on school medicine, read a paper to the German Society of Natural Historians and Physicians, in which he claimed that excessive brainwork was causing “habitual headache” in one third of schoolchildren in Germany and that a badly nourished brain was more easily fatigued.45 Reports on Treichler’s paper in The Times brought the subject to the attention of the wider British public.46 The Times suggested that Treichler had overstated his case; the newspaper reported that no such problem had occurred in Britain, although it did not exclude the possibility that such problems might arise in the future. The Times also suggested that the children of uneducated parents could not be expected to respond to teaching in the same way as those of educated parents and that the educational system must recognize this.47

Reponses to the articles in The Times included letters from doctors, including Elizabeth Garrett Anderson and Sophia Jex-Blake, two of the most prominent ‘first-generation’ British women doctors. Garrett Anderson’s experience was of girls attending independent schools, many of whom were “seriously injured” by overpressure.48 By contrast, Jex-Blake’s experience was of children attending state-funded elementary schools in Scotland. She had seen “severe cases of habitual headache and other cerebral affections”, which she had traced to “overstrain caused by ordinary schoolwork, which their ill-nourished physical frames are often quite unfit to bear.”49 Farquharson believed that his earlier anxieties about poor children in elementary schools had now been confirmed. He argued that their badly nourished brains could not cope with the amount of work demanded of them and that the consequences of these excessive demands included headaches, insomnia, anorexia, general malaise and even chorea.50 Concern about the harm caused by excessive mental work in an underfed child had by now become an established and recurring discourse.

46 “Habitual headache and brain exhaustion,” The Times (8 April 1880), 7.
47 Untitled, The Times (8 April 1880), 9.
49 Sophia Jex-Blake, “Educational pressure,” The Times (15 April 1880), 11.
50 Robert Farquharson, “Brain exhaustion,” The Times (19 April 1880), 12.
In 1883 the British Association for the Advancement of Science published data showing that children aged 11–12 at state-funded elementary schools were, on average, three inches shorter and eleven pounds lighter than similarly aged children of members of the professional classes.\textsuperscript{51} The Times took up the nutritional theme but also expanded on its earlier comment about the children of uneducated parents by suggesting that their impaired ability to learn was of a hereditary origin.\textsuperscript{52} The implications of suggesting that the educational potential of a child could be limited by its nutrition, parentage or both, were to feature heavily in the debate which followed and had very different implications for potential intervention.

Meanwhile, the medical press had little to say on the subject, except for an editorial in the \textit{Lancet}, which suggested that more consideration should be given to the feeding and clothing of pupils, the lighting and ventilation of schoolrooms, the posture of pupils at their desks, and the length of time spent studying.\textsuperscript{53} Up to this time the \textit{British Medical Journal} (\textit{BMJ}) had largely ignored the subject of overpressure, but in June 1880 it published an editorial which was primarily concerned with independent schools rather than those funded by the State. The author stressed the need to accommodate children with different educational needs, but his main prescription was for a doctor to be attached to every independent school. The doctor would assess each child’s susceptibility to mental strain, inspect the school’s sanitation, ventilation, seating, and lighting, see that food was regular, discourage excess evening work, and veto examinations which were too stringent.\textsuperscript{54} At the time this suggestion to extend the role and influence of the profession did not excite any great interest but it was a suggestion which would resurface later.

In contrast to its concerns about overpressure in independent schools, the \textit{BMJ} editorial devoted only a few lines to the problems in state-funded schools, noting that schoolwork was often too much for the malnourished brains of children who were badly fed, clothed, and housed. They could not be expected to compete on equal terms with their more fortunate contemporaries, but the writer made no suggestions as to ways in which to ease their plight. However, in August 1880 the subject of overpressure was addressed in a lecture by Dr. (later Sir) James Crichton-Browne to the annual meeting of the British Medical Association (BMA).

\textsuperscript{51} British Association for the Advancement of Science, \textit{Final Report of the Anthropometric Committee} (London, 1883), 31, 40.
\textsuperscript{52} Untitled, \textit{The Times} (21 April 1880), 9.
James Crichton-Browne FRS had achieved fame following his appointment as Medical Superintendent of the West Riding Lunatic Asylum in Wakefield in 1866. At a time when the duties of such doctors were largely supervisory, with treatments limited to incidental physical illness, Crichton-Browne instituted a systematic programme of research, the results of which were published in the Asylum’s Annual Reports. In 1875 he was appointed as Lord Chancellor’s Visitor in Lunacy, a post which provided him with an official platform from which to promulgate his opinions. In his address to the BMA, he emphasized that the brain was particularly vulnerable in early life, especially if it was the product of bad heredity. Like Spencer, he believed that damage from stress or overwork at this time could cause mental problems which would lead to physical and mental degeneration in adult life, and he identified the children at risk as those who were badly nourished, scrofulous, or hereditarily unprepared for academic study. He also emphasized the ever-increasing competition and pressures in the struggle for existence in modern civilized life as factors promoting the genesis of overpressure. Thereafter little else on overpressure appeared in the medical press until 1883, and there seems to have been no sense that a political storm might be about to break.

4 The Breaking Storm

In 1882, Mr. A.J. Mundella, a Liberal politician and Vice-President of the Committee of the Council on Education, introduced a new Educational Code. Although more enlightened in many ways, the new Code was criticized for allegedly placing an even greater burden on pupils in State primary schools. The Education Department was taken aback by the criticism and instructed its inspectors to insist on the avoidance of long home lessons (work to be done at home after school) and the avoidance of ‘keeping in’ pupils after school for extra work, both of these activities being regarded as causes of overpressure.


58 Robertson, “Children, Teachers and Society,” 317–318. ‘Keeping in’ referred to the practice of keeping children in school for additional tuition after normal school hours.
Both were also sensitive issues because they were seen as yet another instance of intrusion by the State into home life and parental rights.\textsuperscript{59} The debate went unnoticed in the \textit{Lancet} and \textit{BMJ}, although in 1883 the \textit{BMJ} did report upon the suggestion by Farquharson that teachers be allowed greater flexibility in the operation of the Code to cater for the different capabilities of individual pupils.\textsuperscript{60}

A \textit{Lancet} editorial in July 1883 was dismissive of overpressure, arguing that more brains were compromised by underuse than were harmed by over-pressure.\textsuperscript{61} The next month its editor insisted that “the education system is not overworking children, but it is demonstrating that they are underfed.”\textsuperscript{62} The \textit{Lancet} ignored the sessions on overpressure at the meeting of the Social Science Association in October 1883, but they were fully reported in the \textit{BMJ}. By contrast with the \textit{Lancet}, the \textit{BMJ} thought that educational overpressure was “menacing the health of the country” and its editorial reiterated the opinions of Allbutt and the surgeon Pridgin Teale\textsuperscript{63} that it was the duty of the medical profession to oppose the present educational system which was responsible for an increase of both insanity and suicide.\textsuperscript{64} An alleged increase in child-suicide in the 1880s was often attributed to overpressure and this reflected the interest in both these topics of Crichton-Browne,\textsuperscript{65} who urged colleagues to “preach...the wisdom of caution and the danger of brain-forcing.”\textsuperscript{66} The \textit{Lancet} remained unimpressed, however, describing overpressure as “one of the most fashionable agitations of the day” and insisting that children were not unduly pressed but lacked the food necessary for their brains to perform.\textsuperscript{67}

In July 1883 the diplomat Lord Stanley of Alderley raised the question of overpressure in the House of Lords. Citing support from opinions expressed by the psychiatrists Daniel Hack Tuke and Crichton-Browne, Stanley suggested that recently reported increases in lunacy were attributable to overpressure.\textsuperscript{68}

\textsuperscript{60} “Effect of education on health,” \textit{BMJ}, 1 (1883), 75–76.
\textsuperscript{61} Untitled editorial, \textit{Lancet}, 2 (1883), 63–64.
\textsuperscript{63} Thomas Pridgin Teale FRS was a pioneering Leeds-based surgeon, ophthalmologist and sanitarian. With his colleague Clifford Allbutt he encouraged ‘team work’ in medicine.
\textsuperscript{64} “Educational over-pressure,” \textit{BMJ}, 2 (1883), 731–732.
\textsuperscript{67} “Overwork in schools,” \textit{Lancet}, 2 (1883), 1005.
\textsuperscript{68} Daniel Hack Tuke (1817–1895) was a prominent psychiatrist, the son of a Quaker philanthropist and asylum reformer and great-grandson of the founder of The Retreat in York, a pioneering asylum which rejected harsh treatment of the insane. Stanley did not give sources but they may have been: D. Hack Tuke, “Intemperance in Study,” \textit{BMJ},
He claimed that the increased requirements in the revised Code had necessitated an increase in home lessons and ‘keeping in’, with a consequent rise in overpressure. The Government rebutted Stanley’s claims, alleging that occasional cases of overstrain were a consequence of malnutrition and not attributable to the educational system.69 However, further questions were asked in Parliament in 1883 and 27 separate questions followed in 1884, during which time the House of Commons debated the subject no less than seven times.70

At a meeting in Bradford attended by 3,000 people in February 1884, Lord Stanley claimed that “the system of payment by results had turned teachers into overseers of slaves ... in order to earn the grant,” and Stanley Leighton, a Conservative MP, asked “how many educational murders would be perpetrated before the Department would give heed to the matter.”71 In a coordinated campaign, this emotive tone was continued when the Bradford Observer published a letter from Crichton-Browne. He demended a declaration of rights on behalf of helpless children who, he claimed, were being loaded with a burden of degeneration and disease which also threatened future generations.72 Mr. Mundella replied that he had already invited Crichton-Browne to report on some elementary schools in London. He also announced an investigation into alleged cases of overpressure.73

The discontent in Bradford continued when 53 of the town’s doctors signed a memorial opposing home lessons for children under 10-years old.74 The Bradford School Board responded by sending a circular to 98 local doctors asking for details of cases of overpressure treated by them and attributable to schoolwork. Only 22 of the 53 memorialists were among the 47 doctors who replied. Of the 47 respondents, 19 had seen no cases, 23 offered opinions but gave no details of any cases, and three had seen cases but declined to provide any details. The remaining two respondents described three alleged cases, but members of the subcommittee who considered the replies were unconvinced by their evidence. A similar questionnaire from the Leeds School Board...
Board produced responses from two-thirds of teachers, school managers and clergy, but from only one-third of doctors. The BMJ thought it unreasonable to expect doctors to provide laymen with the evidence for their professional opinions and suggested that their opinions should have been accepted at face value. However, the doctors’ reluctance to contribute to these surveys did not show the profession in a good light.

5 Crichton-Browne’s Report

Crichton-Browne submitted his report in May 1884, but Mundella procrastinated over its publication. Under pressure from Conservative MPs and sections of the press, the report finally appeared in September 1884 together with a memorandum, written on the orders of Mundella, by Joshua Fitch who was an experienced chief inspector of schools at the Education Department. Crichton-Browne had visited twelve schools, most of them in Walworth, one of the poorest and most overcrowded areas of south London, and usually accompanied by Fitch who also arranged for him to visit two schools in more prosperous areas of south London. Crichton-Browne admitted that his observations had been fragmentary and limited but considered that they had been sufficient to reach some definitive conclusions. He provided only scant information about the methods which he employed in his investigation. He usually asked questions of an entire class, for example, how many suffered from headaches, in what area of the head, and at what time of day, counting the number of hands which were held up to indicate a positive response. However, he did not provide a list of all the questions he asked and so readers knew only what could be concluded from those for which Crichton-Browne gave results.

He started from the premise that overpressure in elementary schools had already been conceded by the most senior official in the Education Department in 1882 and confirmed by school inspectors and teachers. However, he chose only to cite the opinions of those who agreed with him, without mentioning those like Fitch who did not.

He attributed overpressure to excessive home lessons and ‘keeping-in’, which were the consequences of the system of PBR. According to Crichton-Browne, a standard school day of five and a half hours represented sufficient

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75 “Over-pressure in elementary schools,” The Times (13 August 1884), 2.
76 “Over-pressure in elementary schools,” BMJ, 1 (1884), 1212–1213.
77 House of Commons, “Elementary Schools (Dr. Crichton-Browne’s Report),” 3–79.
78 Ibid., 4–5; Barford, “Over-pressure in schools.”
work for children aged 7–14 and therefore the use of keeping-in and home lessons was itself evidence of the existence of overpressure. Crichton-Browne placed great emphasis on the large number of malnourished children in the schools which he visited and thought “it futile and dangerous to force half-starved children ... through examinations.” Indeed, “To educate a half-starved child at all is to overpress it ... and that they are not merely being educated but prepared for examination is to substantiate the statement that overpressure exists.” Crichton-Browne then returned to the evils of PBR which would have done even more harm but for “the forbearance of the teachers, who temper the Code to the shorn and sickly lambs, as far as they dare to do so.” Such emotive language had now become a recurrent feature of his pronouncements on overpressure.

The information provided by Crichton-Browne, which stemmed directly from his school visits, concerned habitual headache, insomnia, stammering, neuralgia and toothache, short sightedness (myopia), and squints. His questioning of 6,578 children by the method already described suggested that 40.5 per cent of boys and 52.5 per cent of girls (46.1 per cent in total) suffered from habitual headache. He alleged, without providing evidence, that headaches in children had become more common in recent years, as complaints of overpressure had increased. His information on insomnia was limited by what was, he admitted, the difficulty in defining what constituted insomnia but he concluded, very precisely, that 38.8 per cent of the 4,300 pupils questioned suffered from insomnia and that this was a consequence of the home lessons which perpetuated daytime overpressure and prevented the “subsidence of brain activity which is the best prelude to a good night’s rest.” His information on stammering appears to have come largely from teachers and suggested that the prevalence decreased steadily as children progressed through school. This he attributed to the practice of regularly reading aloud in front of the whole class. He concluded that 54.2 per cent of 1,761 pupils suffered from neuralgia, but as he had no standard against which to compare this result he was unable reach any conclusion. Information about short-sightedness was obtained from teachers and by asking the pupils. He then examined the spectacles of those so identified, or he asked them to read. The results showed a linear progression in prevalence in each year group from 2.5 per cent of the youngest

80 Ibid., 10.
81 Ibid., 12.
82 Ibid., 27.
83 Ibid., 30.
to 9.2 per cent of the oldest pupils, with an average result of 5.6 per cent. In spite of Crichton-Browne’s suboptimal methodology these figures are similar to the average result in elementary schools in Germany of 6.7 per cent obtained by Hermann Cohn (1838–1906) who employed more rigorous testing methods. Cohn also described an increasing prevalence with age, so that 26.2 per cent of those in Gymnasia were myopic.84 By both men, the progression of myopia was attributed to the poor conditions, especially defective lighting, in which the children were required to read. Crichton-Browne found, however, that the prevalence of squint decreased progressively with age, and this he attributed, at least in part, to surgical intervention.85

To summarise the results of Crichton-Browne’s questioning of pupils in Walworth, the only information adduced in relation to overpressure was the high prevalence of habitual headache, insomnia and myopia.

A month before submitting his report Crichton-Browne had visited five elementary schools in a rural area of Dumfries in Scotland, where his observations were in stark contrast to those in London and to those made by Jex-Blake in the city of Edinburgh.86 Only 6.9 per cent of the 335 Dumfries children admitted to suffering from headache compared with 46.1 per cent in Walworth, a difference which seems unlikely to have been due solely to Crichton-Browne’s observation that the Dumfries children were more shy and diffident. Only one child admitted to insomnia and there was only one case of myopia. Crichton-Browne found “practically no overpressure, nor, any sign of it” in the Dumfries schools. He thought that the Scottish Code was no less severe than the English one and that the explanation for the lack of overpressure was to be found elsewhere. He noted that the Dumfries children were noticeably healthier than those in Walworth, better fed, better clothed, better housed and spent more time in the open air. They also had the advantage of working in small groups with “individualised teaching” and were the offspring of a long line of “fairly educated ancestors” with “an inherited facility for the use of their brains”.87

Crichton-Browne was the most outspoken of those British doctors who believed that overpressure caused more serious illness than that revealed by his questioning of pupils. In his report he dealt first with cerebral diseases as those most likely to result from overpressure, especially lunacy, suicide, hydrocephalus and cephalitis (a non-specific term used for any non-tubercular

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84 Hermann Cohn, Lehrbuch der Hygiene des Auges (Vienna, 1892), 215.
86 Jex-Blake, “Educational pressure,”
87 House of Commons, “Elementary Schools,” 32–33.
inflammation of the brain). His use of official statistics was unconvincing or inconclusive and in each case his evidence was anecdotal, circumstantial or putative. He moved on to other diseases in which, although not connected directly with overpressure, “mental strain and nervous worry” played a part. These included diabetes, kidney diseases, rheumatic fever and choreiform movements. The evidence was again unconvincing, even by the standards of the day.88

Crichton-Browne made three recommendations for the alleviation of overpressure. He suggested that the Code should be made less rigid, but did not indicate in what ways apart from implementing a more liberal interpretation of the exemptions allowing withdrawal from the annual examination of those in poor health or with other disabilities. The decision to withdraw should be made well in advance of the examination if overpressure was to be avoided and not, as currently, by the inspector on the day of the examination.89 Noting the large number of malnourished children in London’s schools, he suggested that two pints (1.1 litres) of “new milk” daily would enhance the children’s intellects.90 Thirdly, a register of height, weight and head and chest girth should be kept for each child and a medical officer should examine each child periodically because, if these measures were instituted, overpressure and its consequences would soon disappear. Sanitary and hygienic conditions in schools would also improve.91 Samuel Smith, a Liberal MP, had made similar recommendations a year earlier.92

Fitch’s memorandum was a devastating critique of Crichton-Browne’s report. He began with a quote from the latter’s letter in the Bradford Observer which he used as evidence that the contents of the report were prejudged. He gave examples to show how Crichton-Browne’s knowledge of the workings of the elementary education system was defective, how his conceptualisation of PBR was faulty, and how he accepted hearsay, anecdote and rumour as factual evidence. He also noted that Crichton-Browne had not sought, and seemed uninterested in, the opinions of managers and of members of school boards who could have corrected his misapprehensions. Fitch described as hyperbole Crichton-Browne’s use of the phrase “examination fever”, noting that he had never witnessed an examination or attended an inspection day. He ridiculed Crichton-Browne’s method of questioning pupils, describing how they were

88 Ibid., 19–20, at 19.
89 Ibid., 7, 50–51.
90 Ibid., 11. By “new milk,” was perhaps meant fresh milk.
91 Ibid., 52.
92 Hansard 282 (1883), columns 596–599.
“amused and a little puzzled”, looking at each other and their teacher before deciding how to respond. In consequence “their hands go up and down very much at random.”\(^{93}\) He did not, however, comment on the striking difference between the results in urban Walworth and those in rural Dumfries.

Fitch used information from the most recent report of the Registrar-General who had been asked by the Education Department if there was any statistical proof of deterioration in the health of children of elementary school age (3 to 13 years old). The available data was for those aged 5 to 15 and showed that the ‘all causes’ annual death rate decreased from 6.3 per 100,000 in the decade from 1861–1870 to 5.1 in 1871–1880. Further decreases were noted in 1881 and 1882. The decreases were largely due to a decrease in deaths from zymotic diseases, while deaths from causes attributed to nervous diseases remained constant. The Registrar-General added the caveats that not all death certificates were accurate and that the results did not exclude the possibility that some children might have suffered harm as a consequence of the educational process.\(^{94}\) However, the report gave no support to those like Crichton-Browne who alleged that serious harm was common.

Although Fitch accused Crichton-Browne of making unsubstantiated statements, he himself was guilty of the same offence. For example, he provided no evidence to support his claims that ‘keeping-in’ had been less prevalent in recent years and that home lessons rarely required more than thirty minutes’ work (Crichton-Browne had claimed up to ninety minutes), or that home lessons were used less often in England than in France, Holland, Belgium, Switzerland, Germany, Italy, or any other country he had visited. Nor could he repudiate Crichton-Browne’s claim that the Code had been applied more stringently.

Fitch’s response to Crichton-Browne’s recommendations revealed his \textit{laissez-faire} credentials. He maintained that the purpose of a school was not to dispense milk but to instruct its pupils. The food given to pupils was the responsibility of their parents and any state intervention which relieved parents of their duties might do more harm than good by allowing irresponsible parents to spend yet more money on alcohol.\(^{95}\)

He questioned the appropriateness and the practicality of Crichton-Browne’s proposals for medical inspection, which he thought unlikely to be of benefit. In his report, Crichton-Browne had mentioned only height, weight, and head and chest circumference but Fitch suspected that demands for more

\(^{93}\) House of Commons, “Elementary Schools,” 56, 57, 64, 70, 72, 76.
\(^{94}\) Ibid., 58–59.
\(^{95}\) Ibid., 76–77.
itemized data would follow, drawing attention to the additional items, a minimum of thirteen, which Crichton-Browne had suggested a year before. Fitch believed that this would place an excessive burden on hard-pressed teachers and questioned “whether it is the office of an elementary school to become a mine of wealth for statisticians and anthropologists”. He also cited information from the area for which he was responsible in south London to suggest that there was already sufficient flexibility in the Code.

Newspapers and medical journals also criticized the style in which Crichton-Browne’s report was written. The Times considered that much of his so-called evidence amounted to anecdote and hearsay, or was based on debatable opinion or assumption, and that the report asserted

... a foregone conclusion in almost every page, its reasoning is so deplorably loose and inconsequent, it contains so much irrelevant matter, and its style is so rhetorical, not to say florid as to deprive its conclusions of much of their weight and authority.

The Times also questioned his methodology and drew unfavourable comparisons with Mr. Fitch’s more workmanlike memorandum. The Daily News thought that Crichton-Browne had invested “imaginary dangers with the character of reality”, while other papers considered that overpressure did exist but commented on the report’s “lurid” and “startling” language. The BMJ also registered its “grave dissent” from many of the report’s conclusions and regretted its “florid” language which was “not quite suitable to a scientific enquiry.” The Medical Times criticized Crichton-Browne’s style while considering that some of his points deserved further investigation. As noted by Neve and Turner, the tone and language of the report were in marked contrast to the temperate and pragmatic reports of his pioneering scientific work in Wakefield for which he is best remembered.
Meanwhile, the *Lancet*, which had been decidedly sceptical about the very existence of overpressure, had undergone a complete volte-face. The journal now supported Crichton-Browne’s methodology and insisted that he had not only proved his case but that the profession would support his conclusions. Moreover, it was “not for Mr. Mundella and his lay inspector [Mr. Fitch] to impugn the judgment of a qualified physician.” This editorial not only endorsed Crichton-Browne’s report but was also a clarion call to the profession to close ranks behind him. When, however, the respected London surgeon Charles Roberts claimed that the majority of the medical profession, together with the *BMJ* and *Medical Times*, had as yet formed no definite opinion on the subject, he was castigated by the *Lancet* which insisted that the profession was almost unanimous in its support for Crichton-Browne. The *Lancet* continued to attack the “ill-informed critics” of Crichton-Browne, but published only two letters in support of its stance.

In spite of the *Lancet’s* protestations, the profession was far from united. Garrett Anderson thought that there was very little evidence of overpressure in elementary schools and she knew of “many sagacious and trustworthy” doctors who thought it all “nonsense and exaggeration”. Sir Edmund Hay Currie, a businessman, philanthropist and a member of the London School Board, had never heard any of his medical acquaintances say that there was overpressure in elementary schools. Among 376 signatories to a letter in *The Nineteenth Century* protesting against excessive mental pressure in education at all levels there were 74 MPs, 87 university academics, and 38 schoolteachers, of whom 28 were clergy; a further group was of 16 clergy who were not members of any other group. Strikingly, the letter was signed by only 32 medical doctors, suggesting

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102 Untitled, *Lancet*, 1 (1884), 437–438. The *Lancet’s* U-turn may reflect an effective change in editor. For three years before the death of James Goodchild Wakley in 1886, much of the work was undertaken by his brother and assistant editor Thomas Henry Wakley and by his nephew Thomas Wakley junior who succeeded him as editor; see “Obituary – James G. Wakley,” *Lancet*, 2 (1886), 463–465.


that a large group either disagreed or were uncertain in their views.\textsuperscript{110} As will be discussed, the dispute stemmed from a failure to agree on what constituted overpressure. For example, many doctors working in children’s hospitals believed that, although permanent effects were rare and fatalities never occurred, some of the less serious manifestations were indeed attributable to the educational system.\textsuperscript{111} Officials in the Education Department were also at loggerheads. In 1882 its secretary, Sir Francis Sandford, had been in no doubt that overpressure existed but two years later Chief Inspector Fitch was totally unconvinced.\textsuperscript{112}

In spite of its imperfections, Crichton-Browne’s report did have significant implications. As David Hirst has suggested, it not only helped to shift the debate on overpressure away from the previous emphasis on the self-interest of teachers but, by highlighting hunger and malnutrition as barriers to learning and by adding to the calls for medical inspection and feeding in schools, it challenged the concept of schools as exclusively pedagogic institutions.\textsuperscript{113} The timing of the report was fortuitous in that it fell on fertile ground. The 1880s was a key decade for the promotion of the reform of child welfare and attitudes were beginning to change. Moreover, a number of reformers, notably Thomas Barnardo, made deliberate use of hyperbole and misrepresentation so that the public was already attuned to Crichton-Browne’s melodramatic language and statements.\textsuperscript{114}

6 The Aftermath

That the case for overpressure had been overstated by some doctors is shown by the \textit{Lancet} and the \textit{BMJ}’s subsequent urging of doctors to exercise caution in citing overpressure as a cause of death in schoolchildren and suggesting that such claims should only be made if supported by convincing clinical and autopsy evidence.\textsuperscript{115} Moreover, although medical authors continued to

\begin{itemize}
\item \textsuperscript{110} “The Sacrifice of Education to Examination. I. A Protest,” \textit{The Nineteenth Century}, 141 (1888), 617–637.
\item \textsuperscript{111} “Overpressure in Elementary Schools,” \textit{Medical Times}, 2 (1884), 451–454, 485–486, 563, 592–593.
\item \textsuperscript{112} Barford, “Over-pressure in schools.”
\item \textsuperscript{113} David Hirst, “The Origins and Development of the School Medical Service 1870–1919” (PhD thesis, University College of North Wales, 1983), 36–41.
\item \textsuperscript{114} See, for example, Bischof, “Rich Crop of Nervousness,” 1422–1423; Horn, “Changing Attitudes to the Welfare of Elementary Schoolchildren,” 46–54.
\item \textsuperscript{115} Untitled, \textit{Lancet}, 1 (1884), 535; “Cases of alleged overpressure in elementary board schools,” \textit{BMJ}, 2 (1884), 832–833.
\end{itemize}
emphasize measures for the avoidance of overpressure after 1884, they tended to play down any possible dangers or even omitted all mention of its alleged symptoms.\textsuperscript{116}

In January 1885, the Education Department published its report on 22 cases in which overpressure had been alleged. \textit{The Times} published details of the report which had concluded that there were only six or seven cases in which overpressure had been substantiated, and that some of these had been so exceptional in their circumstances as to be scarcely worth quoting as evidence of overpressure.\textsuperscript{117}

\textit{The Times} left the facts to speak for themselves. The \textbf{BMJ} remained silent while the \textit{Lancet} tried to discredit the Education Department's report.\textsuperscript{118} However, the profession had been side-lined, and the credentials of doctors as authorities on educational matters had been discredited. The \textit{School Board Chronicle}, which represented the interests of the School Boards, was highly critical of the medical profession and when the London School Board set up a committee to conduct its own investigation into overpressure it initially refused to accept any medical input. The committee was subsequently authorized to invite evidence from three doctors but failed to obtain medical advice of sufficient authority.\textsuperscript{119} The commissioners appointed to inquire into the Elementary Education Acts chose not to take any medical advice, even though they heard evidence on overpressure from school boards, teachers and clergy.\textsuperscript{120} The profession had been unable to agree on which illnesses or symptoms could be attributed to overpressure; one of its major journals, the \textit{Lancet}, had performed a complete about-turn over the question, and the profession's leading authority on the subject had appeared inept while at the same time demanding a greater role for the profession in the supervision and organization of schools. The profession had been reluctant, moreover, to co-operate with the surveys organized by school boards. However, any damage to

\begin{itemize}
\item \textsuperscript{116} Walter E. Roth, \textit{The Elements of School Hygiene for the use of teachers in schools} (London, 1886), 48–49; Alfred Carpenter, \textit{The Principles and Practice of School Hygiene} (London, 1887), 136–138.
\item \textsuperscript{117} "Over-pressure in Elementary Schools. Report of the Education Department," \textit{The Times} (10 January 1885), 4; Untitled, \textit{The Times} (10 January 1885), 9.
\item \textsuperscript{118} "A convenient mode of inquiry," \textit{Lancet}, 1 (1885), 122–123.
\item \textsuperscript{120} Great Britain, \textit{Final Report of the Commissioners appointed to inquire into the Elementary Education Acts, England and Wales} [C. 5485] (London, 1888).
\end{itemize}
reputations was short-lived and did not affect those who were most prominent in the debate. The surgical careers of Pridgin Teale and Brudenell Carter, and the political career of Robert Farquharson were unimpaired, while Crichton-Browne was knighted in 1886.

7 What was unique about the Overpressure Controversy in Britain?

Descriptions of overpressure have also been found in primary and secondary sources relating to Germany, France, Holland, Denmark, Sweden, Russia, Italy, Austria and Switzerland as well as in Britain and the USA, and there are many points of similarity. As already described, definitions of overpressure lacked precision because they were always descriptive and qualitative. Similarly, German attempts to quantify fatigue with scientific precision yielded conflicting results which were compounded by uncertainty about the boundaries between normality and abnormality. As in Britain, long school hours with inadequate rest periods between lessons, lack of physical exercise and excessive use of home lessons were often cited as predisposing school pupils to overpressure, and undernourished children were also thought to be at increased risk in Germany and Holland. As in Britain, the introduction of compulsory education led to increased recognition of children with learning disabilities in France, Sweden and Holland. Compulsory education in Holland also led to

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a recognition that the State now had a moral duty to attend to matters relating to the health and safety of children consequent upon school attendance. Proposals for school medical inspections and school medical officers were made in several countries. In Germany they were opposed by school authorities and teachers who were concerned that their professional freedoms might be infringed. In Holland, however, as in Britain, the identification of children with special educational needs provided an entrée for doctors. With the exception of Norway, medical opinion on the existence of overpressure was often divided, especially in France where Alfred Binet and Victor Henri described the debate as “a literary joust rather than a scientific discussion”.122 As in Britain, associations were described in other countries too with the pace of modern civilization, industrialization and urbanization. The competitive nature of modern life and the ‘struggle for existence’ in France, Austria and Germany were thought to have caused some cases of overpressure in secondary schools as examinations became more rigorous and competitive. Except in Holland, a link with physical deterioration and degeneration was often postulated together with concerns that such defects might be hereditary, and the concept of social Darwinism featured in these discussions in Austria. These anxieties were especially marked in France after its military defeat by Germany in 1870; the French school system in fact received some of the blame for this defeat, but by the 1880s such anxieties were equally prominent in Germany and also in Austria.

However, the debate in Britain was characterized by three distinctive features. Firstly, because PBR was unique to Britain it was the only country in which overpressure was predominantly linked to elementary rather than to secondary schools. Secondly, the more serious consequences ascribed to overpressure in Britain such as insanity, suicide, and death were mentioned less often, if at all, in other countries and then only in secondary schools and universities. Thirdly, although the German Kaiser took an interest in the subject and overpressure was also discussed in the French Senate, the intensity of the political debate in Britain was much greater than elsewhere.

Fatigue states generate questions of responsibility and blame123 and, as it was the State which had introduced both compulsory elementary education and PBR, it was the State which was judged to bear ultimate responsibility for overpressure, while the children were portrayed as innocent victims.124 At a

123 Schaffner, Exhaustion, 235.
time of political instability, overpressure was to fuel contentious political agendas for nearly a decade.

The relationship between overpressure and neurasthenia, and the differences between Britain and the countries of continental Europe on this subject, will be discussed in Section 10.

8 The Silent Majority of British Doctors

Why was it that there were not more doctors amongst the signatories to the petition against “The Sacrifice of Education”; and why did the majority of doctors, who Roberts claimed had not yet formed a definite opinion on the subject, or those who, like Elizabeth Garrett Anderson, thought it “nonsense and exaggeration”, not speak more forcefully against it? I suggest that there were two main reasons. Firstly, many doctors, including the editor of the BMJ, were embarrassed by the vocal minority who had not only overstated their case but had used overpressure in an ill-timed attempt to extend the role and influence of doctors in the educational arena. This was itself another contentious area. School health issues were already creating doctors whose responsibilities lay not with individual patients but with cohorts whose health they sought to promote. This posed new ethical questions. For example, when were doctors justified in intervening in matters of public health, especially in areas on which professional opinion was divided, as with the call by Crichton-Browne and others for the medical inspection of schoolchildren? Some saw this as intrusion by the profession into the privacy of the family. What should be their position if the interests of the State differed from the interests of those whom they sought to assist? Doctors had already been forced to confront these questions in relation to compulsory vaccination, the compulsory medical examination of suspected prostitutes under the Contagious Diseases Acts, and the compulsory notification of certain infectious diseases. In these instances too, the profession had been unable to agree on a unified position and all the debates were hampered by inadequate data. Most doctors were still uncertain how

best to respond to the ethical questions posed by their new relationships with the State and their changing relationships with their patients and the general public.

More important was the persisting uncertainty about the nature and even the very existence of overpressure. Contemporary definitions of overpressure, as was recognized at the time, lacked precision and specificity so that statistical data were often unreliable or even meaningless.128 Moreover there were inconsistencies in data collection and changes in classification.129 A very wide range of symptoms were attributed to overpressure and there was no known pathology by which the condition could be defined.130 If uncertainty sometimes made it difficult to establish a diagnosis of overpressure, it was even more difficult to disprove its existence.

A further cause of imprecision derived from the fact that overpressure was never a purely medical diagnosis but one which was increasingly clouded by societal and cultural overtones. As already mentioned, these included the postulated hereditable associations with feeble-mindedness, criminality and racial degeneration, and environmental factors such as hunger and malnutrition. Some overtones were pragmatic, some ethical, and some a combination of the two. For example, parents who wanted to keep children out of school to supplement the family finances by working, colluded with those doctors who, for a small charge, would issue certificates with a diagnosis of overpressure.131 Faced with these uncertainties, the majority of doctors seem to have thought it prudent to remain silent.

These uncertainties can be better understood with hindsight, if overpressure is considered in the context of a fatigue state.

9 Overpressure as a Fatigue State

Overpressure included many of the features which Schaffner has designated as characteristic of a state of fatigue or exhaustion.\(^{132}\) She has also described how each generation considered that it had been subjected to the perils of modernity to a greater extent than any of the preceding generations, and this was as true of overpressure in 1880 as it had been in 1830.\(^{133}\) The perils of modernity in education in the 1880s included the intensity of study demanded by the system of PBR and by the increase in competitive examinations. Both required cramming which, as already noted, was considered especially hazardous to the immature brain. Crichton-Browne also suggested that international rivalries had increased the demand for more intensive education because no country could afford to be left behind in the modern “race of races”.\(^{134}\)

The association between overpressure and modernity has long been recognized in other fatigue states.\(^{135}\) Further associations between overpressure and other fatigue states include their capacity to cause dissent in both lay and medical circles but especially the latter.\(^{136}\) Moreover, all such states have symptoms which are primarily subjective and which cannot be measured objectively, a feature which was recognized by Crichton-Browne in 1880 and which was also emphasized by Schaffner in 2016.\(^{137}\) From the 1860s onwards, there had been much scientific interest in both mental and physical fatigue but attempts by German researchers to obtain quantitative measurements of mental fatigue proved unsuccessful.\(^{138}\)

Metaphors and similes were used extensively by the medical profession at this time to conceptualize overpressure as a deficiency of nervous force or energy, usually within a paradigm of the brain as an electrical battery and the nerves as wires which conducted the nervous force.\(^{139}\) In an economic metaphor, the over-expenditure of nervous force could lead to nervous bankruptcy, as nervous force spent on brain work was not available for growth, maturation or physical exercise.\(^{140}\) The contemporary concept of a nervous

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135 See contemporary references in note 36.
136 Wessely, Hotopf and Sharpe, *Chronic fatigue*, 118–120.
temperament was of one which wasted nervous energy and which also provided a theoretical vehicle for its hereditary transmission.142

10 A Comparison with Neurasthenia

A comparison with the contemporary diagnosis of neurasthenia, which most modern writers classify as a fatigue illness,143 reveals many similarities with overpressure. The word ‘neurasthenia’ was popularized by the American physician George Miller Beard in 1869 to describe a long-recognized constellation of symptoms which were identical with those of overpressure, except that they did not include the more severe conditions such as chorea, hydrocephalus, or death.144 The postulated aetiology was also similar because both were considered to be a consequence of the pace and pressure of modern life and both resulted from a lack of nervous force caused by excessive demands on the brain. As with overpressure, a hereditary tendency and an association with physical degeneration were often thought to be involved.

It was ten years after Beard’s paper before neurasthenia was first mentioned in the BMJ or the Lancet.145 As a diagnostic term it was never as popular in Britain as it was in America.146 The London physician Sir Andrew Clark described it as “just mere and shere nervousness” and decried Beard’s aetiological hypothesis as having no scientific justification.147 However, the diagnosis had its supporters in Britain; notable amongst whom was the London gynaecologist W.S. Playfair.148

Because of its diverse manifestations, neurasthenia became the province of general physicians, especially those who had some interest in neurology or psychiatry, such as Sir Clifford Allbutt who was its most prominent British

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142 Oppenheim, Shattered Nerves, 87, 89.
143 See notes 9 and 10 for examples.
147 Andrew Clark, “Some observations concerning what is called Neurasthenia,” Lancet, 1 (1886), 1–2, at 1.
supporter.\textsuperscript{149} Despite the close concordance between the symptoms in the two conditions, Allbutt did not suggest that there might be any link between over-pressure and neurasthenia.\textsuperscript{150} Indeed, it was not until more than a decade after the climax of the overpressure debate in 1884 that the two conditions were associated in Britain. The first to do so was probably George Shuttleworth who suggested in 1896 that neurasthenic symptoms were a feature of overpressure in those approaching puberty.\textsuperscript{151} A \textit{Lancet} editorial then linked the two conditions in 1897.\textsuperscript{152} Both Crichton-Browne and the London physicians Theodore Acland, Ernest Harman and Guthrie Rankin believed that neurasthenia could be a delayed result of educational overpressure.\textsuperscript{153} The American physician Ralph Wait Parsons thought that neurasthenia and other forms of nervous disorder could result from overpressure, and Bakker quoted two Dutch physicians who held similar views in the early 1900s.\textsuperscript{154}

Overpressure and neurasthenia were more closely associated with one another in continental Europe than they were in Britain, and this was sometimes reflected in the nomenclature. For example, in Germany in the 1880s, \textit{schulüberbürdung} (school overpressure) was also known as \textit{schulnervosität}, a form of nervous debility associated with modern life.\textsuperscript{155} In Russia in 1890, over-pressure was regarded as a collection of nervous conditions,\textsuperscript{156} and in France and Switzerland \textit{le surmenage intellectuel} was also known by 1897 as a special form of neurasthenia, \textit{la neurasthénie scolaire}.\textsuperscript{157} In Sweden, the professor of neurology at the Karolinka Institute, Frithiof Lennmalm (1858–1924), regarded overstrain (\textit{överansträngning}) as the commonest cause of neurasthenia among his patients, though teachers and students were over-represented among the patients in his practice.\textsuperscript{158}


\textsuperscript{150} T. Clifford Allbutt, \textit{On visceral neuroses: being the Gulstonian [sic] lectures on neuralgia of the stomach and allied disorders} (London, 1884), 103.

\textsuperscript{151} Shuttleworth, “Mental Overstrain,” 529.

\textsuperscript{152} Anon., “Overpressure in Swiss schools.”


\textsuperscript{154} Bakker, “Harmless Disease.”

\textsuperscript{155} Schmiedebach, “Public’s View of Neurasthenia in Germany,” 225.

\textsuperscript{156} Mosso, \textit{Fatigue}, 319.

\textsuperscript{157} Anon., “Overpressure in Swiss schools.”

\textsuperscript{158} Pietikainen, \textit{Neurosis and Modernity}, 255.
Despite the similarities between the two conditions, neurasthenia never attracted the same heated controversy in Britain as did overpressure, probably because it had no significant political overtones and because it lacked the emotive element which was associated with the overpressure controversy in children.

As with overpressure, there was debate about whether it was a discrete diagnostic entity. Thus, Sir Andrew Clark wrote that “...descriptions given to it do not include a clear concise, or distinctive account of general nerve exhaustion, and do include a mob of incoherent symptoms borrowed from the most diverse disorders...” By contrast, Allbutt mounted a robust and lengthy defence of neurasthenia as a diagnostic entity. Playfair considered neurasthenia to be a neurosis and side-stepped the question of more specific classification by contending that patients came not to be diagnosed but to be relieved of their symptoms. However, as with overpressure, the question of classification and of the criteria needed to establish a diagnosis remained unresolved. Hence George Savage, a prominent London psychiatrist, considered that neurasthenia was not “a definite and easily recognized disease with a certain pathology”, but was due to “fatigue or partial exhaustion of the nerve centres” with symptoms which varied “according to the inherited or acquired peculiarities of the individual.”

Precise classification and diagnosis assumed even greater importance in the case of traumatic neurasthenia which was usually associated with railway accidents. It was initially attributed to spinal shock but later to nervous exhaustion and hence the label of traumatic neurasthenia. In 1913 the London neurologist Campbell Thomson observed how a lack of consensus on what constituted a diagnosis of traumatic neurasthenia had led to great difficulty in medico-legal cases. Ten years later, another London physician, Farquhar

159 Clark, “Some observations,” 2.
Buzzard, thought it calamitous that the profession’s inability to define what was meant by traumatic neurasthenia should often evoke derision from lawyers in court.165 These observations echoed similar divisions during the over-pressure controversy.

Neurasthenia shared not only some of the same nosological and diagnostic problems with overpressure but also some of the same metaphors. Metaphors can be used to bridge gaps in knowledge and are not always fully understood by those who use them.166 Like a Foucauldian episteme, they can also shape the ways in which a condition or an illness is considered. Their use may therefore have contributed to the diagnostic and nosological problems associated with fatigue states. These problems will now be considered.

11 The Diagnosis and Nosology of Fatigue States

Overpressure in elementary schools largely disappeared after the specific stimulus of PBR was abolished in 1897.167 By contrast, the term neurasthenia continued to be used, at least in part because its somatic symptoms conferred on it the potential to act as a euphemism which avoided the stigma of a psychiatric diagnosis.168 Despite its protean manifestations and shifting diagnostic criteria, it was eventually included in the second edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-II) in 1958, but was then dropped from the third edition in 1980. In the tenth edition of the International Classification of Disease (ICD-10, 1990) it was classified as a neurosis, but in ICD-11 (2019) the term was subsumed under ‘Bodily distress Disorder’, a term which had itself replaced ‘Somatoform Disorders’ in ICD-10.169

The same nosological and diagnostic problems which had occurred with overpressure and neurasthenia were to cause difficulties with later conditions such as chronic fatigue syndrome, fibromyalgia and burnout for which clinicians could offer no satisfactory medical explanation. As Wessely, Hotopf and Sharpe have noted, medically unexplained symptoms such as fatigue states appear in both medical and psychiatric classifications, but sit comfortably in

166 Oppenheim, Shattered Nerves, 83–84.
167 Rapple, “Payment by Results,” 183.
neither.\textsuperscript{170} They have also emphasized that these states are not discrete categories but dimensions. Thus, a plot of scores of fatigue severity against the number of people with each score reveals a continuous distribution with no apparent cut-off between a ‘normal’ and an ‘abnormal’ group. Any cut-off must be arbitrary and therefore subject to debate.\textsuperscript{171} A similar distribution is found with blood pressure, but high levels of blood pressure (hypertension) can reasonably be defined on the basis of levels proven to be associated with significant risk of harm such as stroke or heart disease. Comparable evidence of harm is more difficult to define in fatigue states. Current nosological thinking with contemporary fatigue states is aimed at enhancing the clinical utility of classification systems by dropping those classifications which are based on the absence of medically explainable causes in favour of systems based on the presence of specific psychiatric symptoms.\textsuperscript{172}

Schaffner has suggested that comparing descriptions of historically recognized fatigue states with more recent ones can help to contextualize current issues,\textsuperscript{173} and echoes of overpressure can certainly be found in modern fatigue states, especially burnout. The corollary also applies, for Farquharson ended a discussion on overpressure in 1876 with a description which is indistinguishable from modern burnout.\textsuperscript{174}

Fatigue states are often associated with times of socio-cultural change and, in the same way that overpressure and neurasthenia were seen as a consequence of the change from an agricultural to an industrial economy, so too an association has been postulated between burnout and the transition from an industrial to a technological and service economy. These transitions are often portrayed at the time as involving an increase in the pace of life with a blurring of the boundaries between work and leisure.\textsuperscript{175} Blurring of the boundaries in overpressure was exemplified by ‘keeping in’ and home lessons.

The labels attached to particular fatigue states may change but fatigue itself remains a constant feature of human life, its manifestations being determined by the current knowledge base and prevailing sociocultural norms.\textsuperscript{176}

\begin{thebibliography}{99}
\bibitem{170} Wessely, Hotofp and Sharpe, \textit{Chronic Fatigue}, 223.
\bibitem{171} Ibid., 25–30.
\bibitem{175} Schaffner, “Exhaustion and the Pathologization,” 338.
\bibitem{176} Ibid., 339.
\end{thebibliography}
Labels, like metaphors, can create an apparent but sometimes spurious legitimacy whereby what is no more than a symptom-complex can be mistaken for a diagnostic and aetiological entity.\textsuperscript{177} Whether the latest changes in ICD-11 and DSM-5 will improve the classification and understanding of fatigue states remains to be seen, especially as each edition of ICD and DSM is itself a contemporary cultural document, and there is still debate about whether burnout is a distinct and separate entity from the spectrum of depressive illness.\textsuperscript{178}

12 Conclusion

As has been described, the overpressure debate in Britain had three distinctive features. Firstly, the fatal and other more serious consequences often attributed to it in Britain were mentioned less often—or not at all—in other countries. Secondly, PBR was unique to Britain which was therefore the only country in which overpressure was predominantly experienced in elementary as opposed to secondary schools. Finally, the political debate was more intense than elsewhere, perhaps because the young age of those affected generated a greater emotional response, especially as a significant number of the children were malnourished.

Compulsory education and examination led to a recognition of the true numbers of children with learning disabilities. In a climate of increasing concern about child welfare in the later nineteenth century, overpressure contributed to a process whereby, despite the narrow educationalist views of men like Fitch, schools could no longer be regarded as exclusively pedagogic.

Disputes about overpressure among British doctors, and several unsubstantiated claims made by doctors, left the profession temporarily discredited at a time when some doctors had sought to increase the profession's role and influence within the educational arena, a movement which itself raised ethical questions to which many doctors were still uncertain about how best to respond.

With hindsight, it becomes clear that educational overpressure was the first description in children of what is now recognized as a fatigue state. It shares many features with other such states including the contemporary diagnosis of neurasthenia and the current example of burnout. Because fatigue states

\textsuperscript{177} Kevin Murphy, “Labels create legitimacy and promote dependency,” \textit{BMJ}, 1 (2002), 1913.
are not discrete diagnostic entities, they generate nosological problems which often lead to uncertainty, both professional and lay, about the nature or even the existence of these conditions; like overpressure, fatigue states are often clouded by socio-cultural influences. In the case of overpressure, these influences were: political; nutritional; the increasing pace at which modern civilization was changing; and fin de siècle concerns, which were often instigated by proponents of social Darwinism, about heredity and degeneration.

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