

The certifying surgeons

D. U. BLOOR, MRCCP, DCH

General Practitioner, Stourbridge; Course Organizer for Vocational Training, Dudley

SUMMARY. The origin and work of the nineteenth century certifying surgeons is described. Their place within the broad spectrum of general practice is emphasized and their efforts to improve the welfare of children is noted.

Introduction

THE process of spinning had been much improved during the eighteenth century by a series of remarkable inventions, but the production of textiles had been held back by the lack of a comparable advance in the process of weaving (Thomas, 1948). It was the application of steam to looms by Cartwright that transformed weaving and set the Industrial Revolution on its way. There was rapid investment in machinery and an increasing demand for cheap labour, and more particularly for child labour, since the machines were low set and could easily be operated by children. Parents looking for employment for their children would take them to a factory. The workhouse children were sought out by the employers and were often placed in 'apprentice houses' at or near the mill. They lived under the tyranny of their master; the only limitation to their labour was sheer physical exhaustion.

The frightful conditions and rigorous, military-like discipline suffered by children in factories were soon highlighted by the medical profession. Dr Percival of Manchester became interested in them and his report so impressed Sir Robert Peel that he introduced the Health and Morals of Apprentices Act in 1802. The Act required the factory to be whitewashed twice a year and a doctor to be called in and paid for by the employer if any infection occurred. This was the first Act concerned with factories but it was never supervised, and therefore never implemented (Lee, 1973).

In the early 1830s a movement developed, inside and outside Parliament, to reform the employment of children in mills and factories (Fraser, 1973). A Select Committee of Inquiry was appointed in 1832 and followed by a Royal Commission in 1833. The recommendations of the Commission were quickly incorporated into the Factory Act of 1833, and this applied to all textile mills except those making silk and lace. It

forbade the employment of children under the age of nine years, limited the work of children from nine to 13 years to eight hours and the work of those under 18 years to a 12-hour day. A period of two hours was to be set aside each day for education and, perhaps most important of all, four factory inspectors were to enforce the Act. It was a great turning-point in the history of social policy and introduced the medical profession into factories for the first time. The regulations stated that no child under the age of 11 was to be employed without a certificate stating that: "He is of the ordinary strength and appearance of a child aged nine." In order to obtain a certificate, the child was to appear personally before some physician or surgeon in the neighbourhood of its residence and the certificate was to be countersigned by a magistrate within three months.

Early problems

Problems arose straightaway, and at the centre was the absence of any registration of births until the Act of 1837. Even the passing of this Act could not help the problem for another nine years. There seemed to be a conspiracy by the parents, overseers, and employers to defeat the system. The role of the employers and their minions has always been cast as wicked and totally to blame for the conditions and the cruel, harsh discipline. The collusion of the parents in the system, however, is understandable when one realizes that they were merely seeking to augment their poverty-line income; two or three children at work could make all the difference to their survival. So every trick was used: substitution of a child, tampering with the certificate, and bribery. The approach of the doctors to the problem was initially superficial and disorganized; certificates were sometimes given without even seeing let alone bothering to examine a child. The medical problem was repeatedly stated to be whether the child had the ordinary strength and appearance of a child aged nine and not to determine the age. The task was made much easier by a paper written by Edwin Saunders in 1837, who clearly stated that the most reliable guide to age was dentition (Thomas, 1948). The factory inspectors lost no time in sending this information to their doctors.

It was quite clear to the factory inspectors that the role of the doctors was crucial, but they were faced with

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the problem of distinguishing between the good and the bad, between the trained and the untrained. The term 'general practitioner' was in common use in the 1830s and later on many of them took the separate qualifications LSA and MRCS, but it was not until 1858 that there was a legal definition of a duly qualified medical practitioner. The factory inspectors solved the problem by appointing the certifying surgeons themselves, but the Law Lords soon ruled that this was illegal and that any duly licensed medical man could give a certificate.

This state of affairs did not last long for the inspectors had their way and were given the right to appoint the certifying surgeons in the 1844 Factory Act. Furthermore, this Act substantially widened the scope of their work and marked another landmark in medical history. The words "and the child is not incapacitated by disease or bodily infirmity" were added to the certificate, giving it more meaning from a medical point of view.

The Act also required that every factory accident which prevented the worker from returning to work at 09.00 hours on the following day should be reported to the certifying surgeon. He was to report it to the sub-inspector and proceed without delay to the place of the accident and make a full investigation. This brought another fee to the certifying surgeon which varied from three to 10 shillings depending on the mileage involved. There were many arguments about these fees. The inspectors thought that this was a lucrative source of income for the surgeons and so, in the 1871 Factory Act, the time period for being off work before investigation was extended to 48 hours.

The work of the certifying surgeons

A Royal Commission was appointed in 1874 to investigate the working of the Factory Acts (15 in all), and during these investigations many certifying surgeons from all over the country were interviewed. A study of the evidence gives a clear picture of their work and opinions (*Parliamentary Papers*, 1876). The doctor was usually under contract to visit the factory once a week and paid about 2s 6d a visit or £5 per year. In addition, they were paid a fee of 6d by the employer for each certificate. Most doctors disliked the idea of visiting the factory at a set time each week and preferred to make their visit when it suited them. The children were usually examined in the counting house of the factory and not at the doctor's 'surgery' or home. Many smaller factories were now brought under control, and regulations were relaxed in the case of factories employing five or fewer children so that the children could be taken to the doctor. This saved the employers the fee charged for a visit but the doctors disliked seeing the children at home for they often found the parents to be objectionable and abusive and the children dirty.

The medical examination assessed their general condition, with special regard to their size, development

Table 1. Condensed analysis of the reasons why the annexed number of children have been rejected by the certifying surgeons in Leeds, Bradford, and Nottingham, from 1 July 1856 to 31 December 1857. The Bradford and two of the Leeds districts very imperfect.

Too young	1,303
Too little	494
Physical incapacity	109
Itch	8
Diseases of the eye	32
Scrofula	14
Consumption	6
Scald head	6
Disease of the heart	1
Scarlet fever	1
Fits	4
Contagious skin diseases	10
Typhus fever	2
Diarrhoea	1
Smallpox	4
Abscesses	2
Purpura	1
Filthy condition	3
Jaundice	1
Spinal disease	1
Hip disease	3
Total	2,006
Leeds	1,182
Bradford	264
Nottingham	560
Total	2,006

G. H. L. Rickards
Certifying Surgeon
Hon. Sec.

and conformation. A more detailed examination was made of their dentition. Robert Baker, a factory inspector and doctor, reported that in his area, in the year 1856 to 1857, 1,797 out of a total of 2,006 children examined were rejected on grounds of age. In the 1870s Dr Ferguson of Bolton was rejecting half the children presented to him as physically unfit, while Dr Arlidge of Stoke noted that half the children he rejected were rejected on the grounds of health. Andrew Redgrave, a factory inspector, in his half-yearly report of 1858, gave an analysis of the causes of rejection in one of his districts (Table 1; *Parliamentary Papers*, 1857). The Commission was also given an analysis over a three-year period of all the cases seen by a doctor working for a sick club at the Glenmore bleach works near Lisbourne, Ireland (Table 2). Both tables give a clear idea of the problems and spectrum of general practice at the time.

The association of certifying medical officers

The Factory Act of 1833 first brought the doctor to the factory solely to determine that a child was of the ordinary strength and appearance of a child of nine years. The 1844 Act extended his services by requiring

Table 2. Analysis of cases seen by a sick club doctor at Glenmore bleach works.

	1872	1873	1874	Total
Rheumatism	27	27	12	66
Bronchitis	16	22	17	55
Catarrh	10	15	12	37
Pneumonia	6	2	3	11
Pleuritis	5	2	1	8
Phthisis	3	3	1	7
Diarrhoea	4	2	7	13
Fever	3	2	—	6
Erysipelas	2	2	—	4
Smallpox	3	1	—	4
Dyspepsia	20	16	19	55
Debility	6	6	1	13
Dropsy	3	—	—	3
Contusion	17	14	18	49
Hand injuries	6	5	6	17
Headache	6	2	2	10
Neuralgia	3	4	6	13
Tonsillitis	2	3	4	9
Ophthalmia	3	1	1	5
Scrofula	2	2	—	4
Skin disorders	4	2	2	8
Dysentery	—	1	1	2
Otorrhoea	4	—	—	4
Haemorrhoids	2	2	—	4
Boils	3	4	—	7
Jaundice	1	1	1	3
Toothache	3	12	9	24
Heart disease	1	2	—	3
Ulcerative gums	3	—	1	4
Bright's disease	—	1	1	2
Ulcers	1	1	2	4
Abscesses	—	1	1	2
Fractures	1	2	1	4
Synovitis	—	2	—	2
Syphilis	—	1	1	2

him to determine that the child was not incapacitated by disease or bodily infirmity, and giving him the added task of investigating accidents.

Later factory legislation, and particularly the Acts of 1864 and 1867, brought many more factories and workshops under control. This included many small employers who resented the services of the doctor: they regarded his fee as a tax and in any case birth certificates were available (Lee, 1964). This vocal lobby might well have helped to create, in 1868, the Association of Certifying Medical Officers. It had a membership of 300 to 400 out of about 900 certifying surgeons and their aims were twofold: first, to observe and collect facts tending to promote the advance of sanitary science and the relief and prevention of disease incident to the various processes of manufacture, and secondly, to consolidate and improve the position of certifying surgeons in relation to the Government and the public (Lee, 1973).

When the Commission of 1876 came to investigate the working of the factory Acts both the small employers' and the doctors' points of view were forcefully put

forward. Dr Arlidge, as President of the Association, was closely questioned about the work of the doctors but it was left to Robert Baker to put forward the general views of the Association by reading a memorandum prepared by them. They argued that the Acts were not only concerned with age but the preservation of health and prevention of disease. A birth certificate was not a certificate of fitness and there was no guarantee that it had not been tampered with or a substitute made. Registration of births had been difficult in some districts; some people could not afford to do it and illegitimate children were frequently not registered. Vaccination, which was compulsory, could also be checked. They said that their visits to the factories were a wholesome influence and that they could detect incipient disease and infectious illness. Finally, their influence had been paramount in raising the age at which children could be employed. They set out their views for the future:

1. There should be powers to enable them to visit periodically and inspect all parts of the factory.
2. There should be special certificates for children doing special work.
3. The above points should apply particularly to workshops, factories, bakehouses and mines.
4. A certificate should be refused if a child was not vaccinated properly.
5. They should have the power to ascertain that the accommodation in the factory was adequate for the number working there.
6. They should be able to ensure that there were proper arrangements for the decency and convenience of workers and for the reception and disposal of excreta (*Parliamentary Papers*, 1876).

After its investigation, the Commission endorsed the role and function of the certifying surgeon and Robert Baker's vision of their continued and widening involvement in industry became a reality (Lee, 1964). The name lasted until 1948 when it was changed to 'appointed factory doctor' and yet again in 1973 to 'appointed doctor'. Despite the changes, the general practitioner still remained as the backbone to service.

The certifying surgeons and general practice

The little that has been written about the history of the certifying surgeons makes no mention of general practice; they have been viewed as a branch of the profession and seen in isolation. The modern foundation of general practice was a response to the Industrial Revolution and so, as industrialization gathered momentum during the nineteenth century, the demand for medical care and involvement of the profession became more widespread (Bloor, 1978a). The hallmark of the Revolution was the massive shift of population from the country to the industrial areas. The profession (still with its hier-

archical system), responded in different ways. However, by the 1830s the general practitioner was recognized and in the 1840s was forming his own associations and trying to form a College. The increasing number of doctors required was provided for by the rapid opening of medical schools, so that by 1858 nine provincial schools were in existence (Holloway, 1964). These doctors with the licence from the Society of Apothecaries (LSA) and/or the MRCS moved to the populous areas and, amid intense competition, sought what work they could find. It is difficult to imagine medical care without the monolithic NHS, but there was no universal provider, not even an approved society with a panel of doctors.

The general practitioner had to earn a living by working for different agencies. The State provided the Poor Law System for the sick poor and this was administered by the Board of Guardians who employed doctors (*union doctor*) to look after the workhouses and the surrounding district. This system grew with the march of industrialization but the underlying principle was always to deter people from seeking help (Checkland and Checkland, 1974). It was the principle of self-help that led to the escalation in the growth of the Friendly Societies in the nineteenth century. Doctors were under contract to them (*contract doctor*), and although their relationship was never happy they provided a service for about four million people by 1874 (Gosden, 1961). A doctor could form his own sick club (*sick club doctor*) and make a small profit, or sometimes a group of doctors would join together to form a Medical Provident Association (Webb, 1910). Many mines employed a doctor (*mine surgeon*) to look after their workers, but the workers paid into a sick club and the subscription was deducted at source (Bloor, 1978b). Occasionally an employer would appoint a doctor and pay him to look after his workers (*Parliamentary Papers*, 1876). So the creation of the certifying surgeon was another dimension to be added to the broad spectrum of general practice.

Conclusion

History has taken a note of those doctors who were at the centre of events in the nineteenth century: John Kay, Southwood Smith Poor Law Commissioner, famous for his work in Poor Law and Education; William Farr, Statistician; John Simon, Administrator; Edward Smith, Advisor to the Poor Law Board; Robert Baker, Factory Inspector, and so the roll call goes on. The influence of these men on the social history of the nineteenth century was profound and cannot be overestimated.

What was the contribution of the rising numbers of general practitioners and their influence on social and industrial policy? After all, they were at the periphery and in the front line, living and working among the dirt and squalor. One or two individuals made their mark. For example, Dr Promfret of Hollingworth was em-

ployed by the railway navvies excavating the Woodhouse Tunnel in the early 1840s. His report of the appalling conditions in which his patients lived and worked attracted the attention of Dr John Robertson of Manchester who visited the site and then wrote to his friend Edwin Chadwick (Lewis, 1950). A Parliamentary inquiry was ordered and from this event one can trace the beginnings of the Workman's Compensation (Lee, 1973).

This case was exceptional, however, and the main weight of the general practitioners' influence arose from the evidence they gave to the many Parliamentary Select Committees and Royal Commissions. Their opinions were also put by their professional associations, particularly the specialized ones like the Poor Law Medical Officers' Association and the Association of Certifying Medical Officers. No doubt the origin and aims of these associations were initially to improve their members' terms of service, but in so doing they were lending pressure for social reform. The efforts of the Poor Law doctors to improve the lot of the sick poor after the 1840s is a good example of this (Rose, 1971). The same can be said of the certifying surgeons. Robert Baker said in 1859:

“But I will venture to assert, from my experience of their labours, that as a body they have been admirably independent of local influences; and with regard to extra duties for which they were not called upon by the law, that they have arrested the spread of many epidemics in these factories where so many human beings are congregated, and have bestowed a gratuitous attendance upon thousands of poor workers who have been the subjects of accidents and casual ailments for which these medical gentlemen have never received a shilling in repayment, and which would not have been given by any other profession whatever.”

Finally, Dr Smiley, delivering the MacKenzie Industrial Health Lecture in 1970, said: “It seems clear that with all their faults the certifying surgeons made a significant contribution to the welfare of the children of the nineteenth century.”

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Assessing activity in Crohn's disease

In two therapeutic trials in Crohn's disease we have found that a simple index without a diary card or weighting factors is satisfactory (O'Donoghue *et al.*, 1978; Burnham *et al.*, 1979). To compare the St Mark's index and the CDAI we have collected data on 69 outpatient attendances of patients with Crohn's disease. The data enabled us to derive the Bristol index for our patients, and the Spearman rank correlation coefficients were $r=0.79$ ($p < 0.001$) for CDAI and the Bristol index and $r=0.83$ ($p < 0.001$) for CDAI and the St Mark's index.

It is not surprising that the correlations between the simple indices and the CDAI are so good because in these data 87 per cent of the Bristol score, 54 per cent of the St Mark's score, and 73 per cent of the CDAI were contributed by three symptoms (well-being, frequency of liquid stools, and abdominal pain).

The Bristol index is the simplest because it contains no laboratory data, whereas the St Mark's index contains measurements of haemoglobin, erythrocyte sedimentation rate, and serum albumin, which contribute little to the final score. Since our findings agree with those of the Bristol workers we propose that their simple clinical index, based solely on symptoms and signs, should be adopted as a measure of Crohn's disease activity in the outpatient department and in the ward.

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