QUARRY BANK MILL

2. THE MEDICAL SERVICE

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(RECEIVED FOR PUBLICATION SEPTEMBER 4, 1958)

The first part of this essay was concerned with the development of the mill and with the social circumstances of the area at that time. This section deals with the nature of the medical service and the individuals responsible for it.

Medical Supervision

The first reference to the employment of a doctor was in 1789, and until 1795 the account books show that sums were paid on a number of occasions for medical attention to apprentices. The service began to be fully documented in 1804 and from then until 1847 there is preserved a continuous record of the visits of a number of physicians, some of whom are unknown, but of whom the most important were Peter Holland, Joseph Dean, and Joseph Nightingale.

Peter Holland (1766-1855) (Fig. 1).—Dr. Peter Holland, the son of a yeoman farmer at Sandlebridge near Knutsford, was apprenticed for three years at the age of 17 to Dr. Charles White of Manchester. (His deed of apprenticeship was seen by Brockbank (1904) though its present whereabouts are unknown.) After qualifying he went to practise in Knutsford, which was just outside the 10 miles radius of Manchester required by the terms of the agreement he had signed with Dr. White. Either he forgot his agreement or thought it a dead letter, for he was considered to be guilty of "poaching", and in consequence he received in 1809 a lawyer's letter from White demanding the forfeit of £1,000. The matter was settled on "terms not stated", said to have been by the intervention of the Earl of Stamford and Warrington, whose wife Holland had attended at Dunham Hall. He became a successful practitioner and very much respected in the county (Brockbank, 1904).

He married first, Mary, the daughter of the Rev. William Willets of Newcastle-under-Lyme and niece of Josiah Wedgwood, and had two sons and five daughters. His second wife was Mary Whittaker,

FIG. 1.—Peter Holland. (By courtesy of Lady Malise Graham.)

daughter of Jeremiah Whittaker of Manchester, by whom he had two sons and one daughter (Burke's Peerage, 1953).

Charles Darwin, a grandson of Josiah Wedgwood, was his second cousin, and one of his sisters was the mother of Mrs. Gaskell, whose posthumous novel "Wives and Daughters" published in 1866 portrays a doctor, Mr. Gibson, who may well be a character study of her uncle. Stripped of the more romantic trappings of the novel (the ladies declared that he was "the illegitimate son of a Scots duke by a Frenchwoman"), he emerges as a tall, grave, rather handsome man with black hair and a sallow complexion, not at all jovial and with a rather

thistly dignity. He is sparing of his words, intelligent, slightly sarcastic, and "perfectly presentable". He sends contributions to the scientific journals, studies botany as a hobby, and when Sir Astley (Cooper) comes to spend some time in the county he goes regularly to dine with him. He employs a succession of apprentices, two at a time, who lodge with him and, in the words of one character in the novel, "occupy an 'amphibious' position" between the devil of medical education and the deep sea of romance with their master's daughter.

His son Henry (1788-1873) studied at Guy's and St. Thomas's and received the M.D. degree at Edinburgh in 1811. He was a most successful and fashionable London practitioner and a great traveller, visiting Iceland and contributing to Sir George S. Mackenzie's account of that island in 1810. He was medical attendant to the Princess of Wales (Caroline) on her continental visit of 1814 and later gave evidence in her favour during the scandal of 1820. He was made a Fellow of the Royal Society in 1816 and a Fellow of the Royal College of Physicians in 1828. Appointed physician-in-ordinary to Prince Albert in 1840 and to Queen Victoria in 1852, he was created baronet in 1853. He published an account of his travels in 1815, "Chapters on Mental Physiology" in 1852, "Essays" in 1862, and "Recollections of Past Life" in 1872 (Concise Dictionary of National Biography, 1948). His son, in turn, became the first Viscount Knutsford, and the present (4th) Viscount is therefore the great-great-grandson of Peter Holland.

Joseph Edward Dean (Died 1855).—The name of Joseph Edward Dean appeared in the main list of the Medical Directory for 1847 as of Wilmslow, Cheshire, but in 1848 and 1849 it was transferred to the supplemental list (of gentlemen who had not forwarded particulars of their professional qualifications and were therefore excluded from the main body of the Directory). In 1850 and 1851 this list was dropped and his name reappeared in the main list, but in 1852 the supplemental list was restored and his name remained in it, apparently unqualified, from then until 1855 (Royal College of Physicians, 1955; Guildhall Library, 1955).

Though there are no records of his medical qualifications, there are references to him in histories of Wilmslow. His house, of white stucco, stood in Bank Square on a site now occupied by a garden and a public lavatory. A water colour of 1899 looking up Church Street from the old village pump shows it quite clearly. In the year 1830 he was, in addition to being a busy practitioner, the village postmaster. At this time some 10 letters a day came to the parish. "Fortunately he had a large family

and this enabled him to cope successfully with the delivery of letters to the various points of the district which lay so far apart" (Pearson, 1897). Another author gives no credit to the family:

"One might suppose that the demands upon the time of a country practitioner whose duties called him at all hours to traverse a wide and thinly-peopled district would be ample, but Dr. Dean was like the Newcastle apothecary:

'Of occupation this was *quantum suff*,
But still he thought the list not long enough,'
and although there was no organized delivery, the 10 letters *per diem* which literally passed through his hands enjoyed a reasonable chance of ultimate delivery, for sooner or later the capacious pocket which contained a case of lancets in contact with a thin bundle of letters would appear at every corner of the parish" (Fryer, 1886).

The volume of letters increasing with the introduction of the penny post in 1840, Dr. Dean was obliged to give up his appointment as postmaster.

Joseph Nightingale (1796-1859?) L.S.A.—Only one document in the records of the Society of Apothecaries relates to Joseph Nightingale, namely, his qualifications. Its text is as follows:

"*Apothecaries Hall*

1796

Baptized

19 July

May 5, 1825

34. Mr. Joseph Nightingale, of full age, candidate for a certificate to practise as an Apothecary in (left blank), An Apprentice to Mr. Richard Nightingale, of Prestbury, Cheshire, Apothecary, for seven years. Indenture dated 23 April, 1816
Testimonial of moral Character: John Davis, M.D., Macclesfield

Lectures

2 courses on Anatomy and Physiology: Grainger

2 " " Theory and Practice of Medicine:

Armstrong

1 " " Chemistry: Phillips

1 " " Materia Medica

Hospital Attendance

6 months at St. Thomas Hospital as P.P. (probationer physician)

Examined by Mr. Fallowfield and approved"

The date of his death cannot be ascertained from the Apothecaries' records, as he was never a member of the Society. The last time he appears in the Medical Directory is 1859, where the date of his qualification as L.S.A. is wrongly given as 1845. From 1851 onwards the entries under his name are asterisked, indicating that he had failed to make a return to the publishers of the Directory. Until 1847 he appears to have practised at Prestbury and thereafter at Wilmslow (Guildhall Library, 1955).

When the appointment of certifying surgeons became obligatory in 1844, Joseph Nightingale was appointed for the area including Quarry Bank Mill, and the registers containing his certificates of fitness of children and young persons for employment are still preserved there (Quarry Bank MSS).

Care of Apprentices

In a letter to the Rev. J. Sewell, who had written to enquire about the employment of apprentices, Samuel Greg replied that "the terms on which we take them are . . . (that) we keep them one month upon trial before (being) bound . . . to ascertain their probable healthiness". If this appears to be a somewhat severe basis for a health service, it must be remembered that even nowadays there is seldom the grace of a month's probation and that in those days such a provision was revolutionary. Employers had to be on their guard, for parish authorities were anxious to be rid of children who were not physically fit, to the extent that "certain Poor Law officials stipulated that with every batch of children sent, a proportion had to be of this undesirable, *i.e.*, 'low I.Q.' type" (Lazenby, 1940). Some were only sent to factories when they had been misfits elsewhere.

In practice the service was not conducted on such rigid lines. There are numerous examples of children being kept for a year or more to see if their health improved. For example, the notes for February 28, 1833, contain the following:

"Sarah Powell, Liverpool, aged 9. Healthy now. Had inflamed eyes a year ago but they are well now and there does not seem any objection to engaging her."

"* Clara Harrison, Liverpool, aged 10. Has enlarged glands in the neck. Had better not be engaged at present."

"* Mary Anne Hackett. Unhealthy. Must not be engaged."

"* Sarah Macready. Aged 10. Eyes subject to inflammation. Not healthy."

So much doubt about the three marked * that they had better not be engaged."

Clara Harrison and Sarah Macready, one month after, were both noted as "much more healthy than when she came" and their indentures were signed a year later.

Fanny Reece gave a great deal of trouble. She was first examined in December, 1833, aged 13, and labelled as "healthy, but seems weak in intellect—doubtful". Nevertheless she was engaged, but after 1837 she appeared on almost every sick parade and seems to have spent most of her time being dosed with enemas, purgatives, emetics, or James's powders, and having rollers (bandages), splints, poultices, lotions, liniments, blisters, and leeches applied to sundry swellings of her neck and ankle.

Medical Records

The history of the medical services is contained in two cloth-bound foolscap notebooks which cover the period from 1804 to 1847. The first reference to a surgeon and apothecary is a note in the account books of the mill for a payment of £10 per annum

in 1789. It is not clear if this sum was paid to Peter Holland, but it is certain that by 1795, in addition to being the Gregs' family doctor, he was looking after the apprentices for an annual fee of 12 guineas.

No medical records have survived for the period before 1804, but from that time until 1847 they appear to be complete. At first Peter Holland's hand-writing predominates, but in the second of the two books, begun in 1827, a cramped hand, believed to be that of Joseph Dean, becomes more frequent. Later, about 1840, the hand-writing of Joseph Nightingale makes its appearance. Occasional signatures of Peter Holland make it possible to distinguish between his hand-writing and Joseph Nightingale's, numerous signatures of Nightingale in the Register revealing a hand not greatly dissimilar. Entries, either by Dr. Holland's apprentices or other doctors from Wilmslow, occasionally appear, but most of the visits were paid by Peter Holland.

An interesting aspect of the records in the first of the two works is the combination of shorthand and longhand employed. Fig. 2 shows a page from the year 1805 in Peter Holland's hand. The shorthand represents the diagnosis or a clinical note, while the instructions to Mrs. Greg, who usually administered the treatment, are in longhand. It is interesting to find such a high standard of professional secrecy.

For a long time the deciphering of the shorthand presented apparently insuperable difficulties, but a chance encounter led to an introduction to Mr. William Carlton, an expert on early forms of shorthand. He recognized the method as one invented by Jeremiah Rich in 1646 and modified by a number of persons, among them Dr. Philip Doddridge, whose version, published in 1799, most closely resembles the system employed (Carlton, 1957).

The notes provide a fascinating insight into the limitations of the pharmacopoeia, the nature of medical practice at the time, and its application to industry. Visits were paid roughly at weekly intervals during the winter and every month during the summer, though numerous variations occur from year to year. In 1829, for example, only 14 apprentices were seen in a total of eight visits for the whole year, while in 1837, 68 visits were paid and 259 apprentices examined. The number of apprentices seen at each visit varied from one to a dozen, and groups of 20 to 30 were vaccinated at one time. Critics who maintain, with some truth, that this was mainly a treatment service on an *ad hoc* basis should remember that it was operating 150 years ago and that many so-called industrial medical services at the present time are not organized on such generous lines.

of the Pills for
 Apl. 17. Betty Sutton 8 - 54 p 25. Let her return
 to the use of her Pills; & take them as before
 Apl. 17. Sarah Helmes 5 - 12, 4 2 | 15 7 - 29. |
 Let her take in the morning one of the Powders marked iij -
 Apl. 17. Hannah Jackson 5 - 12, 4 2 | 15 7 - 29. |
 May 19. Anne Dickley 5 - 12, 4 2 | 15 7 - 29. |
 Let her take an Emetic this evening. - Two
 of the Pills to be taken each morning & evening.
 May 31. Anne Dickley 5 - 12, 4 2 | 15 7 - 29. | Let her
 go on with the Pills.
 June 9. Anne Bennett 5 - 12, 4 2 | 15 7 - 29. |
 Let her take an Emetic immediately; & in the morning
 one of the Powders marked iij in the morning.
 June 25. Anne Bennett 5 - 12, 4 2 | 15 7 - 29. |
 Let her take one of the Powders (P. Cinch.)
 three times a day in a little milk.
 July 11. Anne Bennett 5 - 12, 4 2 | 15 7 - 29. |

FIG. 2.—Facsimile of the case notes.

- Apl. 17th Betty Sutton Complains of languor and debility. Let her return to the use of her Pills; and take them as before.
 Apl. 17 Sarah Helmes Pain in the head, with fever. Has taken an emetic. Let her take in the morning one of the Powders marked iij.
 Apl. 17 Hannah Jackson Pain in the head and fever.
 May 19 Anne Dickley Pain in the head. Fever. Has been irregular in her menstrual discharge. Let her take an Emetic this evening.
 Two of the Pills to be taken each morning & evening.
 May 31 Anne Dickley Pain in the head relieved. Has menstruated. Let her go on with the Pills.
 June 9 Anne Bennett Fever with sickness and pain in the head and bowels. Let her take an Emetic immediately; & in the morning one of the Powders marked iij in the morning.
 June 25 Anne Bennett Great debility. Cleared of matter in an abscess in the neck. Symptoms in the night. Let her take one of the Powders (P. Cinch.) three times a day in a little milk.
 July 11 Anne Bennett Complains of the pain in the bowels. Sickness frequent.

Pre-Employment Examinations

Details are available of 292 pre-employment examinations. These do not include the apprentices employed before 1811 or after 1842, and cannot be a full list as 1,700 apprentices were employed between 1784 and 1847. There is some evidence of records having been kept on separate scraps of paper and of apprentices being sent after examination by an outside doctor. Out of these examinations, however, 203 were found healthy, 32 were said to be delicate, 28 had inflammation of the eyes, seven had enlarged glands, four were scrofulous, four were under age, one of whom was 6 years old, three had old injuries to arms, fingers or legs, one had scurvy,

one was a bedwetter, one was weak in intellect, one was dwarfish, one had a discharging ear, one had weak ankles, one was "unhealthy", and four were feverish at the time of examination (one scarlet fever).

Tuberculosis seems to have been common around the ages of 9 and 10, the average age at entry. Scrofula is probably tuberculous adenitis, enlarged glands usually refer to glands in the neck and under the jaw, probably of tuberculous origin, and the term "delicate" no doubt also includes tubercle.

Inflammation of the eyes affecting 10% of those examined may have been phlyctenular conjunctivitis, as there are references to it having left a "pearl".

Its cause is unknown, though tuberculous infection is again a likely possibility. During the winter it must have been aggravated by the inadequate lighting and the smoke from tallow candles, until the installation of gas lighting in 1810. Small wonder that candle festivals celebrated the end of artificial lighting as the summer months approached.

Out of this group of 292 apprentices it appears that, apart from those under age, only five were not engaged. One had "opacities of both corneas—scrofulous appearance generally", one had "gathering in the groin and cough", another "too delicate and has a cough of long continuance but without pain in the chest", yet another "weak eyes—subject to inflammation in them—does not appear to be stout", and finally "unhealthy, must not be engaged".

Mr. Samuel Henshall, the present manager of the mill, has undertaken the task of following up the history of each individual apprentice, and the more extensive details which emerge from this survey will be of the greatest interest.

The following are some typical entries from the pre-employment examinations, indicating the nature of the examinations and the attitude of the physicians:

Oct. 26, 1811.

Margaret Coppendale, aged 13, Newcastle. Subject to inflammation in the eyes. She is now free from this but it is to be feared that this may return on any exposure to cold. Her general habit does not appear strong.

Sept. 15, 1821.

Sara Wilson, aged 11, Burslem. Not a very strong girl, but appears free from complaints at the present time. Had better not be engaged until some trial has been given her.

(March 6, 1822.

Is quite well and her constitution seems improved.—P. Holland.)

Dec. 31, 1821.

Jane Wilson, aged 9, Liverpool. Has had inflammation in her eyes, which has left a Pearl. The inflammation will be very subject to return.

John Whitehead, aged 14, Liverpool. Has a small pearl on one eye, and it appears doubtful whether he is not subject to inflammation in the eyes.

April 23, 1820.

Anne Turner, aged 10, Newcastle. Has formerly had a fracture of the Elbow Joint, and cannot perfectly extend the arm. In other respects she appears healthy.

May 3, 1831.
Catherine Hupey, aged 9, Liverpool. Delicate: disposed to inflammation: a little cough. Had better not be hired.

(This has been scored out.)

Aug. 29: her eyes have remained well.

January 25, 1841.

Sarah Potts, aged 12½. Slight appearance of scurvy. In other respects healthy.

In December of the same year Sarah makes her

only appearance on sick parade when she is ordered brimstone and treacle every morning and ointment to her eyelids.

The last pre-employment examination was that of Elizabeth Bracegirdle on March 19, 1841. The note says "inflamed eyes. Not healthy". Her subsequent history is as follows:

Nov. 23rd, 1841: Four leeches round the right eye and in three days a blister behind the right ear, to be repeated in five or six days. To use the eye lotion to her eyes and to take half a white powder every night for six nights.

Dec. 17: To bathe her eyes in the warm chamomile tea frequently and have laudanum dropped into them at bedtime.

Jan. 2nd, 1842: To have wine of opium instead of laudanum dropped to her eyes at night.

Jan. 3rd: To have three leeches applied to the right temple today and three to the left temple on Friday. To bathe her eyes frequently with the eye lotion.

Jan. 5th: To have a blister behind the right ear and to take half a white powder each night.

Jan. 21st: To go on as before.

June 10th: If Elizabeth Bracegirdle comes home from Ashley, to apply a blister behind her right ear, as soon as that heals one behind the left ear, and then again behind the right ear, repeating them for a month; to keep her head very cool and her bowels open.

June 22nd: To follow the directions given on the 10th.

July 15th: To follow the directions given on the 10th June.

She does not appear on sick parade again.

Medical Treatment

On the whole, the therapy is of a similar heroic character. Much of it consists of purgatives—senna, calomel, rhubarb and ginger, jalap, salts, and "white powder". Clysters are given frequently, blisters and poultices are common. Coughs are treated with horehound, ipecacuanha wine, and "cough pills". Buttermilk and "churn whey" are regular beverages for the sick though on occasion red wine, broth, and tea are prescribed.

Accidents appear to have been rare. One entry reads "Thomas Jackson (arm caught in the mill), let a bread and milk poultice be applied twice each day". A week later, "let him have a tablespoonful of the mixture three times a day and go on with the poultice". After another five days "let him use the ointment to his arm instead of the poultice". Nine days afterwards "let a little caustic be applied every other morning: dry lint and the cloth plaister". Finally, a week later "to go on as before".

"Cough with fever and pain between the shoulders" was treated as follows: "let him take one of the anodyne antimonial pills every four or five hours and a teaspoonful of salts in half a pint of tepid water each morning. Let a small blister be applied to the chest. *Flannel waistcoat*".

"Itch" was treated with sulphur inside and out. Sick apprentices were kept away from the mill. For example, Betty Clark, who had a blister applied to her left side, had to "live on milk, buttermilk, puddings, and vegetables and take no animal food. She had better be kept from the mill at present".

Every page of the books has something of interest, a problem of diagnosis, an outmoded form of therapy, how the child reacted or how the doctor felt, and the general impression is of a standard of personal care above the level portrayed in the literature of the times.

Mortality

Although one of Samuel Greg's first acts was to purchase grave space for the interment of his casualties, the health of the children from the available evidence appears to have been relatively good. In addition to Ure's statement of mortality rates during apprenticeship, mentioned in Part I of this essay, R. H. Greg, the second son of Samuel, writing in 1837, quotes the same rate of one in 150 and compares it with the mortality rate of one in 120 at Christ's Hospital. He goes on to say "During the last 20 years there have been 17 deaths, eight boys and nine girls. The number of children has always been between 80 and 90, the age from 10 to 21 or normally 19. Of these, seven girls died in decline, one in consequence of inflammation in her eyes, one of apoplexy, three boys of decline, one of water in head, one of inflammation in the chest, one smallpox, one St. Vitus' dance which he had before coming to the mill and which at last threw him into decline, one killed by accident, but at play, not in the mill". (Quarry Bank MSS.)

The reasons for this good record are probably the pleasant and healthy surroundings, the care which the apprentices received from the members of the family and the visiting physicians, and the fact that they were to some extent a selected population from which the obviously unfit were discarded.

Certainly E. H. Greg, a grandson of Samuel, regretted the passing of the apprenticeship system.

"As a charitable institution none could surpass it, but it was finally broken up from difficulties arising from the Factories Acts, 'short time committees' and morbid philanthropy, and especially an official dislike or jealousy of trade, particularly the cotton trade" (Quarry Bank MSS).

Medical Treatment of Adult Workers

No record is available of the treatment of adult workers, though it is known that a dispensary was established in the early years of the mill and some of the notes in the doctors' day books probably refer to adults. In 1817 a Sick Club was formed, financed by contributions from the workers' wages and

augmented by grants from Samuel Greg. The rules of the original Sick Club are lost, but they were revised in 1840, and a copy can be seen at the mill. It was a condition of employment that all persons over 13 years of age should belong, except married women, who had a separate Female Society formed in 1827. Contributions were at the rate of half a farthing in each shilling of their wages per week, and a committee of stewards was appointed to visit the sick and pay the benefits due, amounting to half-wages for not more than 12 weeks in a year. After one week's absence a medical certificate had to be produced before any further sum was paid. Death benefits varied from £1 to £10 according to seniority of membership and weekly contribution. The Club was merged in the 1860s in the Ancient Order of Gardeners, "Sowers Lodge".

No evidence exists of any undue incidence of disease, but a warning note is struck by Samuel Finney (1785), who says:

"This business has already had a visible bad effect on their countenances, producing a pale, sallow complexion, and occasioned the premature death of several young people of tender constitutions. But these are not all the evils this business has introduced. In such numbers of people, men and women, assembled together in this employment, there must inevitably be some profligates amongst them. These corrupt the rest and a general debauchery succeeds which alone would emaciate and enervate the body. The pernicious quality of the small particles of the cotton flying off their work gets into their lungs by respiration and clogs and impedes their freedom of play, and the very attitude of leaning upon the breast and stomach in which they are obliged to place themselves to work their jennies must have a very bad effect upon their health. Confinement also in crowded chambers where they must breathe a putrid air loaded with the films of cotton must have dreadful consequences. . . . But in my opinion the men had better stuck to their husbandry business and the women and children to their jersey wheels if beauty, health, strength, activity and good morals are of any account in the lower class of people. . . . And what advantage is the country to have for these evils. The enrichment of a few worthless people, ale-house keepers and low vulgar clowns, the masters, whilst their workpeople, though they receive great wages, are still poorer through their debaucheries than they were before."

It is known that several cotton mills employed doctors; Robert Blincoe (see Part I) describes his treatment at the hands of one of them; but no records of their visits or treatment, except in isolated cases, have been preserved. There is little or no evidence of a preventive approach at Quarry Bank, such as that later to be demonstrated by Charles Turner Thackrah, but the existence of the service at all is noteworthy, and it is believed to be the earliest example of an industrial medical service in England.

I am again indebted to Mr. Samuel Henshall for his guidance and his unique knowledge of the history of

the mill, to Dr. Finney for permission to quote from Samuel Finney's manuscript, to Mr. William Carlton for transcribing the shorthand, to Dr. Donald Hunter for discovering the photograph of Peter Holland, to Lady Malise Graham for permission to reproduce it, and to the librarians of the Royal College of Physicians and the Guildhall Library for their assistance.

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