PHYSICAL SIGNS IN THE LONDON HOSPITALS

A CHAPTER IN THE HISTORY OF THE INTRODUCTION OF PHYSICAL EXAMINATION

by

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To make a very broad generalization, the practice of medicine since the Renaissance has fallen into three phases. In the first, diagnosis was made by the elucidation of symptoms, and treatment was based on *a priori* theory (applied with heroic vigour). This phase lasted from the end of the fifteenth to the beginning of the nineteenth century. In the second phase, diagnosis was based on the physical examination of the patient, and treatment was aimed at structural abnormalities; this lasted for the rest of the nineteenth century, and has been succeeded by the third phase, which is still being developed, in which diagnosis is based largely on laboratory (including radiological and the like) investigations, and treatment is directed to the removal of causes. The most revolutionary of these changes was that from the first to the second, and it was fundamentally the most important, because it was the change from the theoretical to the scientific outlook, of which the transition from the second to the third stage was only an extension.

The immediate cause of the scientific revolution in medicine was the publication of Laënnec's discovery of mediate auscultation in 1819. To the practice of auscultation were gradually added the other, and older, methods of inspection, palpation and percussion, on which were built up the whole art of physical examination and the whole science of the correlation of what was inferred during life with what was found post mortem.

Although the invention of clinical medicine was started in 1819, it took a long while to become established, and the process by which it developed is both important and interesting. The evidence available for following the historical process is of four main kinds. One is the appearance of questions about physical signs of disease in examination papers; obviously a late occurrence, not to be expected until the status of physical examination had become generally established; only then would it be admitted by examiners to be so essential to the practice of medicine that a student should not be allowed to qualify until he was familiar with it. Physical signs would be expected to appear slightly earlier in textbooks: as soon as the method became respectable, it would find its way into them. But textbooks and examinations march closely together (unless they do, students do not buy textbooks). Earlier than reference to any new work in textbooks comes its appearance first in original articles and then in monographs, and these—especially the former—are for that reason a more

contemporary index of advancing thought. But before the original papers comes the material from which they themselves are derived, and in the instance of the development of physical examination, that material is to be found in case-notes. If the research worker kept his own notebook, that would obviously be an excellent source, and some of them survive, such as a volume of (Sir) William Fergusson's of 1830 from Edinburgh.[1] The Reporters' Notebooks at Guy's Hospital almost come into this category.[2] Manuscript notes by the Chief in the margin of clerks' case-notes, used by the Chief for research purposes, are valuable: such were the notes so regularly added by Sir Frederick Still that he had specially wide margins provided on his case-sheets for the purpose. Finally, the notes written by clinical clerks sometimes reflect the workings of the Chief's mind; sometimes the clerk is more advanced than his teacher, as can be seen in many of the case-notes at Guy's during the 1820's.[3]

Clinical records are of greater historical value than is generally recognized. Such as have survived have been kept either by accident, or through inertia, because there was never any special reason for throwing them away; or as mementoes of great men (and there is a curious pleasure in handling the original handiwork of the famous, even if, to be honest, there is little to be learned in the process; it is a pleasure related to that of books with 'association value'). They may be kept from the (as a rule) misguided belief that old notes are of use in research on disease (other peoples' notes are of little use for this purpose). None of these reasons is very sound, but there are matters for which old case-notes are of unique historical value. The tracing of the history of the introduction of physical examination is only one of these, though it is a good example. Notes are of equal value in tracing the history of the invention and application of pathological investigations, such as the chemical testing of urine, of the introduction of bacteriological principles into medical consciousness, of the development of radiodiagnosis and the introduction of radiotherapy. They also provide a far more accurate basis for the history of treatment than do textbooks, because they tell what was in fact given to patients, not what was recommended (and some notes, such as the one in an early King's College Hospital case-sheet 'Brandy reduced to ℥viii' are astonishing). Some historical matters, such as the history of the rise and fall of the use of arsenic in internal medicine, would be impossible to elucidate without original case-records. They also provide first-hand evidence of the changing attitude of doctors to disease at different times, and they are full of interest from the point of view of social history; how the poor lived and most conspicuously how much they drank, and how typhoid in Windsor Castle was not, after all, exceptional in the second half of the nineteenth century. Indeed, there are few sources of more general historical value than case-records, and their destruction should be resisted in every way by historians of every kind. It is to the credit of the Royal College of Physicians that, as part of its plans for developing a centre for research into the history of medicine, it has started to build up a representative collection of clinical records. It will make the College a California to the 'Forty-niners' of medical history.

An attempt to find material on which to base the history of the introduction

of physical examination in the hospitals of London showed that, apart from destruction by unavoidable causes, the loss of case-records in the great London Hospitals has been appalling. So far from having any complete series, like that dating from the Middle Ages at Barcelona, there is practically nothing between 1800 and 1850 in London. St. Bartholomew's have records from 1826; St. Thomas's one volume only, of 1824, 5 and 6; Guy's from 1823, the London and St. George's nothing, the Middlesex has only 22 pages of a case-book of accidents in 1833; the oldest notes at St. Mary's are of 1882 and at Charing Cross of 1897. University College Hospital and King's College Hospital have notes from their foundations in 1834 and 1840 respectively. Of case-notes of the time of Laënnec there is nothing. Fortunately, from the point of view of the history of physical signs in London this does not matter a great deal, because it was not until five years after Laënnec's publication that any notice was taken of it in London at all, and fourteen before it had any systematic effect. The details have been published in brief from the Guy's and St. Bartholomew's records,[4] and the story from the King's College Hospital notes is being published in the *Hospital Gazette*. It may therefore be worth while to complete what evidence there is at the other hospitals.

At the Middlesex Hospital, although registers survive, some back to the opening of the hospital, the early case-notes have disappeared. The earliest ward-book is 'Dr. Hall Davis' Case book', starting in June 1867, from 'Pruhoe', a gynaecological ward. It is mainly of interest because it is prefaced, inside the front cover, by a MS. note of 'Points to be noted in Report of Cases in Pruhoe Ward', a scheme of case-taking which reads:

1. Name and Age of Patient.
2. Married or Single.
3. County of Birth.
4. Stature and Conformation.
5. Complexion.
6. Muscular and adipose development, Emaciation?
7. Family History.
8. Patient's Previous History
   a. Diseases of Chest etc.
   b. Menstrual History.
   c. Puerperal History.
9. Date of Attack of present Illness, its apparent cause.
10. Its mode of invasion.
11. Its progress up to admission.
12. State on admission
   a. Posture on side or back.
   b. Expression of countenance, state of conjunctiva, pupils.
   c. Condition of lips, gums, injuries of mouth, throat, odour of breath.
   d. Pulse.
   e. Skin hot, cold, dry, moist, sensitive.
   f. Temperature in axilla.
   g. Locomotive organs.
   h. Action of bowels, appearance of faeces.
   i. Urine quantity, colour, sp. gr. reagency, Dysuria, Retention, Incontinency.

k. Heart and lungs, condition of breasts.
l. Abdomen examined by inspection, palpation, auscultation, mensuration.
m. Pelvic organs abnormal conditions.

Internal Generative Organs
Signs afforded by

a. Digital examination.
b. Speculum.
c. Use of sound.
d. Rectal examination.
e. Abdominal examination combined.

13. Progress of Case after admission.
14. Results and Date of.
15. If fatal and post mortem examination follows give abstract and refer to page in post mortem register.

This scheme is typical of its date.

The volume contains, apparently, nothing about examination of the heart and lungs, but in general the physical investigation is complete and orderly, if a little peculiar in arrangement.

The other volume is the beginning of a case-book of accidents for 1833. It was kept up for only 22 pages, and although it contains interesting details of accidents, mainly skull injuries, and some things of general interest, such as that a patient was 'picked up in a stall to which as usual he had gone to sleep with his horses', there are no details of medical examination. Starting at the other end, the book gives a further small series of clinical notes on diseases of the skin, eye and brain. In the middle of the book is a list of subscriptions to the hospital 'from 1808'.

It is particularly unfortunate that the case-notes for 1824 at the Middlesex Hospital have disappeared, because that was the last year of Dr. Peter Mere Latham's appointment there before transferring to St. Bartholomew's, where his case-notes seem to indicate that he was the first physician in London to take up the use of the stethoscope seriously.* If this is so, it would be of the greatest interest to the Middlesex to know if he started at St. Bartholomew's, or brought the art from the Middlesex.

The notes at St. Thomas's were destroyed by a bomb during Hitler's War, and the only survivor from those of the first half of the nineteenth century is a single volume of 'Clinical Reports of Cases occurring in St. Thomas' Hospital under Mr. Green during the years 1824, 5 and 6'. It is a case-book of patients in various wards, beautifully written in at least two hands, with little illustrations in ink or water-colour on tabs of paper stuck to the page margins. It is almost certainly a fair copy and written up subsequently at intervals. The cases are mainly of fractures, injuries, skin disease, venereal disease, tumours and

* It was mistakenly stated in 4 that John Latham, Peter Mere's father, was the person concerned. Dr. John Latham was not on the staff at the time, because although he did not die until 1843, he had had a most improbable career, in that after being appointed to the Staff of St. Bartholomew's in 1793, he had resigned in 1807 under suspicion of tuberculosis, after a most distinguished career in the College of Physicians, and had retired to the country. He recovered, however; returned to London and practice, and although attached to no hospital, became President of the College.

eye diseases. There are good notes of post-mortem examinations (called 'Inspections') on patients who died. The notes are exceptional for their date, because the extent of physical examination was most unusual. This should in fairness be put to the credit of Mr. Green, who, as godson of Sir Astley Cooper, was one of the persons supposed to have owed their appointments to nepotism (4, p. 143). It is also to his credit that he seldom operated, but used 'external remedies'.

An example of the extent of detailed examination is on p. 7, 1824:

> Congenital Warty Tumour. Mary F. (Ann's No. 12) Admitted Jan. 29th. Aetatis 21. Worsted twister—Health good—Was born with several warty excrescences, occupying the right side of her neck, and part of her face. They never gave any pain, or were observed to increase in size, till two months previous to her admission. They then grew rapidly, and gave considerable throbbing pain. She never applied anything to them . . . (menstrual history). . . . The right side of the neck, and a considerable portion of the occiput, are covered with brownish, oval, elevated Tumours, having an irregular surface, and pulpy feel. They vary in size from half a crown to that of a crown, but the one at the lowermost part of the neck is by far the largest. The Helix of the right ear is completely bordered with this kind of excrescence. There are also two longitudinal portions on the face, which are situated in the direction of the Median line. One in the middle of the Os Frontis, which is paler than the rest, and less elevated. It is also said to be of the same color, as the others when she was a child, and is not thought to have grown at all. The other is placed in the middle of the chin.

(She was treated by application of arsenical ointment, until the gastritis it produced, presumably by absorption, became too severe. When she went out she 'Thinks that the warts are lessened but that not much more has come away. Health good.')

Not all cases were so thoroughly examined, for instance, the note on a case of hydrocele, on p. 18, consists of over half a page of description of the patient's symptoms and history, the only note of examination being: 'It required however forcible pressure to give him pain and it was semitransparent.' There is no mention of auscultation, or percussion, even in the (admittedly rare) cases of lung disease, or of the more common cases in which there were complaints of pain in the region of the heart.

At University College Hospital there are case-notes going back to the foundation of its original precursor, the North London Hospital. Indeed all the old records (it is difficult to say how complete they are, but they are at least fully representative) have been micro-filmed by the hospital, and the original volumes of the earlier ones preserved in the Medical School, which was originally the Medical School of London University. At University College, as at King's College, physical examination was already being practised when the hospital associated with the Medical School was started. At King's, the state of advance was greater, because it was six years later, and therefore less interesting, but at the North London Hospital in 1834 the state of advance was almost comparable with that at contemporary Guy's. At a meeting of 'the University of London Medical Society' on 28 February 1834

Mr. Cheyne read a most interesting paper on diseases of the chest, with remarks on the use of the stethoscope and its mode of indicating those diseases. He illustrated his remarks by reference to certain cases. A singular case was also related by Mr. Howitt of diseased heart in a child without any symptoms during life. A long discussion took place with respect to the reason of increased sound in the heart's action coexistent with diminution of the ventricular cavity ensued [*sic*] in which the President, Mr. Cheyne and several members and visitors joined.[5]

Dr. Elliotson, who subsequently ruined himself by the scandal that arose as a result of his practising hypnotism, observed the results of auscultation of the heart on 2 April 1835, writing 'Bellows sound over origin of aorta', and in December 1837 he noted physical signs in the chest. Dr. A. J. Thompson, in his Female Case Book, 1838, after notes on six patients with acute rheumatism, on whom no physical examination was made, noted of Sarah W., 33, Rheumatism, 24 September, a full history of her symptoms, but no physical signs except a note of a rash like scabies and 'pulse—hard, quick and incompressible—tongue furred'. And on the 28th: 'The blood is much buffed and cupped, pains in limbs better', etc., but with no physical examination of the heart. On the same day, however, (28 September) another patient, Ellen P., aet 26, was admitted, of whom it was noted (p. 19):

Sanguineous temperament; florid complexion: servant, she has lived in a confined damp situation: she has kept very late hours but is very temperate; she has no hereditary predisposition to disease; she has always enjoyed good health until a fortnight since, when having three days previously got wet feet and having for some time been in the habit of getting up in the night half drest to open the door, was taken with violent shooting pains in the lower limbs and body—the next day she felt great tightness of her chest and dyspnoea, with pain in her shoulders and giddiness; she also had a severe darting pain in the region of the heart increased by any motion darting through to her back and down her left shoulder with slight cough, thirst and fever; these symptoms have continued to increase in severity up to her admission.

Present Symptoms. Skin very hot with tendency to perspiration, general soreness of body, cannot lie upon the left side, is able to lie upon the right, but not lie on her back, she has great prostration; countenance flushed, nostrils distended. Shooting pain in her head; occasional dimness of sight, singing in ears, sleep much impaired, pain all down her back, inability to swallow without much pain, great dyspnoea, experiences whenever she attempts to take a deep inspiration a severe darting pain over the lower part of the cardiac region, which shoots round her back, slight dry cough attended with much pain; great tenderness of the cardiac region; dullness over heart unnaturally great—impulse of heart feeble, action of heart ~~tumultuous~~ fluttering [*sic*]. Sounds of the heart feeble, double friction sound loudest at the base; pulse quick small and wiry, tongue moist and yellowish fur at the base, great thirst, appetite bad, bowels open, urine scanty, high colour and sometimes passed with pain, catamenia appear every fortnight.

It is all the more interesting that on 26 February 1839 Dr. Thomson appears to have called in an expert to do the physical examination of the heart on a Sarah K., who complained of pain in the chest, dyspnoea and cough. After a detailed history the note reads:

Present Symptoms: Surface warm, of natural colour and temperature. Feet rather cold—countenance anxious—Respiration difficult and carried on chiefly by the intercostal muscles—though the muscles of the neck are often brought into action. She generally sits up in bed

and the breathing and cough are easiest in this position and when she does lie down it is usually on the right side for if she lies down on the left side a feeling of suffocation soon comes on and she is obliged to get up again.

Auscultation by Mr. Taylor: Left lung respiration puerile anteriorly and posteriorly—Right lung, respiration absent superiorly and anteriorly—bronchial respiration inferiorly—vesicular respiration posteriorly—slightly metallic character in the voice cough and respiration. No aegophony.

Percussion. Moderately dull all over the right lung. Slight variation in the respiration and percussion in the erect and recumbant position. No increase of volume or change of form of the right side. Heart normal.

Pulse 104, full but compressible and tongue white and papillae vailed. No appetite. Coppery taste in the mouth, etc.

At University College the early promise, which, as at other hospitals, had started with the enthusiasm of students, fell behind somewhat by the late thirties for a time. But this is in comparison with Guy's, where Addison and Bright were doing work in the forefront of the world, and with King's in 1840 where the star of R. B. Todd was about to rise.

From the little evidence which survives the general picture emerges that the story of the adoption of the technique of physical examination in London, which can be traced in detail at Guy's, followed much the same pattern at the other teaching hospitals: a beginning due more to the students than to the teachers, within the first decade after Laënnec, and a general adoption of his methods within twenty-one years. How much outstanding credit would have been so restricted to Guy's, St. Bartholomew's and King's if the other hospitals had not destroyed the evidence of what they had contributed will probably never be known.

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REFERENCES

1. MS. volume in the Library of King's College Hospital Medical School.
2. Many of the Reporters' Notebooks survive in the Medical School Library at Guy's.
3. There is such a note, for instance, about a patient named James Hearley, on 10 November 1824.
4. NEWMAN, C., *Evolution of Medical Education in the Nineteenth Century*, Oxford University Press, 1957, pp. 87–93.
5. MS. Minute Book of the 'University of London Medical Society, 28 February 1834, in the Library of University College Hospital Medical School.