provided always that I personally superintended every detail of the arrangements. We relied on the resources of the household for basins, linen, and furniture. Many a baking-bowl acted as a reservoir for Lister's strong mixture in which to soak towels clean from the wash, and usually an ashet (meat dish) did very well as an instrument-tray.

Some surgeons carried a lot of equipment in the way of portable operating table, small stands, basins, dishes, linen, etc., but most of us carried only a Gladstone bag or something rather larger for holding the instruments. The general practitioner usually gave the anaesthetic, and one of his friends sometimes lent a hand as assistant. In emergencies we usually had to manage without a nurse, though when district nurses were available—and did not faint—they were invaluable. Sometimes a "handy body" had to suffice, or we did without.

In the chloroform days the anaesthetic might be an anxiety, but as often as not this was because the administrator was too timid and the patient would not relax or would want to get off the table. At night illumination was a great trouble: a single gas flame or an oil lamp is a really poor source of light, and no one knows how feeble is the light from candles unless he has tried to do a strangulated hernia or remove an appendix with their aid.

Nursing-homes were starting, but they were just homes, and at that time none was properly equipped for the purpose. That is why so many surgeons were driven to set up their own private hospitals, thus adding to their responsibilities and anxieties.

THE CHANGING FACE OF MEDICINE*

BY

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I think it would be safe to state that at no time have such changes in the science, art, and practice of medicine occurred as during that of the last two generations.

It is over sixty years since I was enrolled as a student of the Middlesex Hospital Medical School. Of the hospital and school as it was in 1889 little remains above ground, but they were even then becoming out of date—though some of us still think of them with almost nostalgic affection. The medical and surgical staff, at that time one of the most distinguished in London, came for the most part from other hospitals, only three men educated at the Middlesex being on the list. They were Bland-Sutton, Essex Wynter, and William Hern, then in junior posts, though they all subsequently achieved great, even exceptional, professional distinction. The school had no professors in those days. The lecturer on anatomy was also surgeon to the throat department. The lecturer on physiology, a learned and very lovable man, was more interested in the minute anatomy and evil ways of the blow-fly than in those of the more evolved members of the animal kingdom. There was no special department of pathology. The post-mortem examinations were carried out by one of the assistant physicians as pathologist, and sections were cut and specimens mounted, in a room attached to the museum, by Jonathan Pollard, the technician—a great character much esteemed by the Middlesex men of that period.

*A shortened version of an address given to the Middlesex Hospital Medical Society.

I want here to consider very briefly some of the more important developments which have helped to bring about the chief changes in medical matters. I will begin by a short reference to the textbooks on medicine. The old textbooks, like those of Sir Thomas Watson, a former physician to this hospital, and "Fagge and Pye-Smith" of Guy's Hospital, were descriptive and narrative, with graphic sketches of actual patients, whereas the modern textbooks are systematic and comprehensive. I still sometimes dip into "Fagge and Pye-Smith" for the sheer joy of retrospect and recollection. Each chapter had apposite quotations from the classics or the poets. For example, the description of varicella was prefixed by a quotation from Dryden, "Each little pimple had a tear in it, to wail the fault its riding did commit." While that on one of the painful results of human sexual frailty was introduced by this quotation from *King Lear*: "The gods are just, and of our pleasant vices make instruments to scourge us."

Another change which had influenced the practice of medicine is the improved means of communication. Before motor-car days the staff arrived at the hospital, according to their degree of affluence, in a brougham or Victoria with a pair of horses, or a single-horse brougham, or in the picturesque hansom cab. They came in frock-coats and tall hats. One member used sometimes to drive up in a phaeton and pair with a groom. At one hospital, a friend tells me, one of the surgeons used sometimes to arrive on horseback. The first member of the staff to use a motor-car was, I think, Sir John Bland-Sutton, who arrived in an electric brougham. At another hospital one of the surgeons used an early form of motor-car, which was called by his students the Gumma, because it was always breaking down—a habit which, I gather, the rare examples of gumma have now given up, though the motor has not followed suit to the same extent.

The Clinical Laboratory

Perhaps one of the greatest factors in effecting the changed conditions of the practice of medicine has been the evolution of the clinical laboratory. In my student days, and for some time afterwards, the chief clinical tests were those of the urine, usually carried out in the wards by the house-physician or the clinical clerk. The microscope was chiefly used to identify urinary deposits. Blood counts and haemoglobin estimations were relatively uncommon, and bacteriological examinations a rarity. I think it was in 1899 that Dr. Foulerton was appointed in charge of a department of bacteriology and public health. It was to him and to his assistant, Dr. Hillier, that we began to take our problems with increasing frequency. In 1914, after the foundation of the Bland-Sutton Institute, Professor Carl Browning was appointed its first director.

The help given to medicine and surgery by the discovery of x rays by Roentgen in 1895 is almost incalculable. In this hospital the earliest use was the installation of a small coil vacuum tube, costing £14. It was employed for slight casualties of the feet and hands, under the direction of one of the office staff, Mr. C. H. Marsh. In 1902 a temporary building was installed in the courtyard and irreverently called the "Tin House." The first radiologist was Dr. C. R. C. Lyster, a man of great enthusiasm and charm of character. He was assisted by Mr. Mann, previously in charge of the photographic department. Both these men died from the effects of the rays, and were among the earliest victims. The developments in technique since then have been amazing. The whole subject has advanced so rapidly in its developments and applications that it has become necessary to separate radio-diagnosis

from radiotherapy, and in each division there is already advancing specialization.

Advances in Periods

It is of great interest historically to notice how the advances and changes in medicine have been made in periods. We have the age of the description and separation of diseases from their clinical manifestations, from the time of Sydenham, whose descriptions of the fevers and of diseases like gout are classical and epoch-making. Nearer to our own times we have the descriptions by Bright, Addison, and Hodgkin of the diseases to which their names are attached, which left little to be added from the clinical point of view, and more recently the distinction between typhoid and typhus by Sir William Jenner.

The study of morbid anatomy and, later, of morbid histology, of which Virchow was the protagonist, advanced our knowledge of the effects of disease and the topography of disease effects. Sir William Goodhart in 1912 gave the Harveian Oration on "The Passing of Morbid Anatomy." He recognized that we were advancing from the study of disease effects to that of processes and mechanisms. A great impetus was given to this aspect by the applications of bacteriology and the immunity reactions. The evolution of vaccines and serums was a practical result. In more recent years the experimental processes in the laboratory have greatly extended our knowledge of disease and enriched our means of prevention and treatment. I was a member of the Physiological Society when Gaskell was studying the primitive properties of tortoise heart and evolved the five primitive properties of cardiac muscle, and when Burdon-Sanderson and his co-workers were studying the electrical reactions of the heart by means of the string galvanometer. How transcendental they seemed—yet they are the basis of modern cardiology.

Another physiological gift of the greatest value has been the study of the endocrines. I remember that the first time I entered the wards in this hospital as a locum clinical clerk there was admitted a typical case of myxoedema in a woman; but there was no treatment and the woman left the hospital *in statu quo*. A few months later one of the first cases I had in the beds I had to study was a case of myxoedema in a man. He was a cooper working in a street near the hospital. He complained of lethargy, which caused him to make fewer barrels than before. He was given thyroid treatment, which rapidly restored him to functional efficiency. I also remember Schäfer and Oliver working with suprarenal extracts, and how one of them, remembering its vasoconstrictor action, used it to stop nose-bleeding in a young relative. Since then, think of the extent to which the hormones are proving useful in treatment.

Types of Disease

Change in the types and forms of disease in the course of years is, I think, a subject which has been somewhat neglected, though it is of absorbing interest. Space will allow me to refer to only a few of these. Chlorosis was a very common condition in my early years of practice. At out-patients on a Saturday afternoon I often used to see up to four or five new cases and, of course, corresponding numbers of old ones. They were all given Bland's pills—up to three, three times a day, with aloes pills for obvious reasons. You will see, therefore, that massive doses of iron are no new thing. Chlorosis disappeared when the "living-in" system in big shops was abolished and when women wore hygienic clothing and ceased to tight-lace. I am emphatic, however, that it was a different condition from the hypochromic anaemias you now see, and that it

was a clinical entity. Cirrhosis of the liver is now very much less common than in those days. Gout is another disease less often seen nowadays, at any rate in its more tempestuous forms. This may be due to more temperance in diet and alcoholic indulgence, but I wonder if that is all the explanation.

Rheumatic fever is less often seen in the more acute forms as described in textbooks, and I am told that rheumatic nodules, which we regarded as an almost certain indication of serious cardiac involvement, are now rarely seen. Diseases of infective or bacterial origin also seem to vary, sometimes periodically. When I was a student scarlet fever was a serious and much-dreaded disease, with grave complications, like nephritis, otitis, and rheumatism. It seems to be much milder nowadays.

Diseases for which specific or prophylactic treatments have been evolved are also examples of change. The description of lobar pneumonia in textbooks has had to be rewritten, as the classical disease with acute onset, fastigium, and crisis is rarely, if ever, seen since the sulphonamides and penicillin have been introduced, though the sequels and complications still exist and need consideration. Another pathological condition formerly common and now rare is amyloid or waxy disease. I had recently to look up some of the post-mortem records of the Brompton Hospital. In 1890 there were examinations of 114 fatal cases of pulmonary tuberculosis, among which amyloid changes were found in 23 cases—that is, 20%. The marked increase in the cases of bronchial carcinoma is now generally accepted, though, alas, not yet explained.

A special department of medicine which has advanced as much as any during my lifetime is that of tropical diseases and parasitology. The conquest of malaria and of yellow fever has enabled great engineering works to be completed which were previously prohibited by mosquito-borne disease, and has rendered areas previously the "white man's grave" habitable and even salubrious. It is interesting to recognize how much we owe to the study of the life history of ticks, mosquitoes, lice, the tsetse fly, the flukes, and worms. There is, however, one group of diseases which I feel is a grave menace to mankind, and that is the virus group. Viruses are attracting special attention, and so far our knowledge of their life history and mode of action is exiguous, but we may hope that light is slowly being shed in these dark places.

Specialization

Another change in medical practice and treatment has evolved from the modern development of specialization. When I joined the hospital the only special departments were for diseases of the throat and nose, the eye, the skin, and those of women and children. Except for the last two mentioned, there were no special beds, and beds were obtained for special cases only by the courtesy of the physicians and surgeons. Specialism has certainly advanced our knowledge and improved our methods of diagnosis in many diseased conditions. The development and improvement of instrumental methods have been a notable factor in promoting specialization. It was in 1855 that Manuel Garcia, a teacher of singing, invented the laryngoscope. Now we have "scopes" for every orifice and cavity. We take samples of the bone marrow by a drill and explore the cavities of the heart with a cardiac catheter. The advances in the study of physiology, pathology, chemistry, and physics as applied to special departments have also contributed, though there is occasionally a curious time-lag in these applications, as instanced by the use of curare in conjunction with anaesthetics. Public

demand for specialists has also been an important factor. So far specialism has been in the main beneficial, but I fear it may lead to the passing of the general physicians in hospitals, where their value in teaching, and especially in giving a right perspective and in recognizing the importance of considering the patient as a whole and not parts of him, is of the greatest value. I am also afraid that the general practitioner may be deposed from his present position as the guide and trusted friend of his patients, and that not only in medical matters. I would hazard a guess that some of my audience have been influenced in their choice of our profession by the example or the advice of the family doctor.

Clinical Instinct

In the light of this description of the conditions of teaching in my student days and the limitations from which my teachers suffered in comparison with the plethora of assistance of the present time, what is my reaction to their memory? I may say at once, it is that of abiding admiration and gratitude. They used their five senses methodically and remarkably acutely. They insisted on the definite sequence of inspection, palpation, percussion, and auscultation. They seemed to develop what it was the custom to describe as a sixth sense, or clinical instinct—a mind's eye, as I should prefer to call it—which was in fact the summation of the information provided by systematic observation and the recalling of stored memories of other cases. I am convinced that they were, subject to the limitations of knowledge in their day, as often right as the clinicians of the present day. Of course, it is dangerous to rely on clinical instinct only. I feel, and have always felt, that we should use every means to arrive at our diagnosis and to determine the best means of helping the patient, but I hope I shall not be regarded as reactionary when I say that nowadays many patients are over-investigated and over-treated.

In conclusion, though the face of medicine is ever-changing, I trust and believe that the soul or ideal of medicine will remain as it has since Hippocratic days—the patient, the whole patient, and nothing but the patient's interests.

GENERAL PRACTICE FIFTY YEARS AGO

SOME REMINISCENCES

BY

ALFRED COX, O.B.E., LL.D., M.B.

There can be only a handful of men left who entered general practice the way I did—as an apprentice and dispenser-assistant. In the year in which I qualified, 1891, the G.M.C. forbade the employment of unqualified assistants—a wise move, because there were hundreds of dispenser-assistants all over the country in those days, many of whom were grossly exploited, and fewer of whom ever qualified.

In the early nineteen hundreds the habits of the G.P. were being transformed by the advent of the motor-car. Up to that time, unless you were an old-established and therefore privileged practitioner, the top hat and frock-coat were almost *de rigueur*. I have even seen doctors cycling in this uniform. The older and more prosperous men had their smart dogcart or brougham. The younger ones walked or cycled and hired a cab in specially busy times. What we went through in the days when cars were mechanical mysteries, tyres very treacherous, and

roads were not macadamed can be imagined. But we persevered under the belief that the car was going to save much precious time. I wonder what we did with all the time saved.

Nearly all doctors dispensed their own medicines, and there is no doubt we had a more intimate knowledge of the drugs we prescribed than is the case now, and we were much less at the mercy of the manufacturing chemist than are the doctors of to-day. I suppose the red lamp which at one time adorned the entrance of most town doctors' houses has quite disappeared. It was even in my time beginning to be regarded as rather bad form. But it had its uses in streets which were poorly lighted when a stranger was looking for a doctor in emergency.

Our practices were largely built up on a reputation for midwifery. My clientele was composed as to 90% of working-class people with large families and small incomes, and our fees were regulated accordingly. It was not unusual for a G.P. to do as many as 150 to 200 cases in a year. This entailed much weary night work, and men grumbled about it. The 1914-18 war saw the transference of much of this work to midwives of an increasingly competent kind. There was more grumbling about that, but there can be no doubt that the change has made the work of the G.P. easier.

I practised in Gateshead from 1891 until 1908, when I joined the staff of the B.M.A. Most of the doctors in Gateshead had family clubs for their poorer patients. A subscription of 3d. a week was collected at their homes by a collector, who was paid a commission but who was not supposed to do any canvassing. But unfortunately canvassing was prevalent in my day and caused a lot of friction between doctors. There were also a good many friendly society appointments in which members could get their doctors' services for 2s. 6d. or 3s. a year. There was quite keen competition for these jobs, as they gave the practitioner an introduction to the family.

It was no secret at the time that many of these friendly society appointments were obtained by bribery and corruption. I put it to some of my colleagues that we ought to get together to find a remedy for this sordid business. Reform, I was convinced, must come from ourselves.

Then "The Battle of the Clubs" began, and a few of us tried to ginger the B.M.A. into taking a more active part in this. Matters came to a head in 1900, when, in response to a proposal put forward by the secretary of the Manchester Medical Guild, there was a conference in Manchester of representatives of many local medical societies and of some branches of the B.M.A. in England and Wales. The third day of that meeting was devoted to medical organization, and many of the Lancashire representatives were in favour of setting up a new body devoted exclusively to medical politics and ethics. I resisted this and moved that "every attempt should be made to capture the B.M.A." It is of interest to record that Smith Whittaker, of Great Yarmouth, who subsequently became the first Medical Secretary of the B.M.A. and later Deputy Chairman of the Board of Insurance Commissioners, said then that "he could not hope that the Association would ever reform itself."

The committee appointed by the conference was invited to meet the Council of the B.M.A. at its Annual Meeting at Ipswich in 1900, and, largely owing to the influence of Sir Victor Horsley, a member of Council, we had an unexpectedly favourable reception. The result was that a constitution committee was appointed. It drew up a report