ordinary clothes but did roll up his sleeves.¹⁰ By 1890 surgeons and assistants had progressed to freshly laundered gowns (fig 3), Lister had abandoned the spray, and aseptic techniques were being developed. When the new surgical block of the infirmary opened in 1892 the theatre contained a scrub up sink and instrument boiler, but it was still an amphitheatre and surgical lists could not start until the daily lecture to students had been delivered. In that year 12 laparotomies were performed; by 1909, as Ogston retired, 12 abdominal operations were performed each week, the theatres were already outdated, and a new stack of theatres was being planned, suited to aseptic techniques.

Between the retirement of Keith and of Ogston surgery had been transformed. Ogston was one of a remarkable group of surgeons on both sides of the Atlantic who recognised that Lister's legacy enabled

them to exploit the technical skills of their forebears in new fields. Ogston himself had also made a unique contribution to the scientific foundations of surgical practice.

- 1 Lister J. On the antiseptic principle in the practice of surgery. *Lancet* 1867;iii:353-6.
- 2 Ogston A. How antiseptic surgery came to Aberdeen. In: Ogston WH, ed. *Alexander Ogston, KCVO*. Aberdeen: University Press, 1943:93-7.
- 3 Mackenzie H. *The city of Aberdeen. Third statistical account of Scotland*. Edinburgh: Oliver and Boyd, 1953.
- 4 Keith W. Hospital statistics of stone in the bladder. *Edin Med Surg J* 1844;61:123-9.
- 5 Keith W. Practical observations on the lateral operation of lithotomy. *Edin Med Surg J* 1844;61:396-417.
- 6 Ogston A. The operative treatment of genu valgum. *Edin Med J* 1877;22:782-4.
- 7 Ogston A. The discovery of the germ of acute suppuration. In: Ogston WH, ed. *Alexander Ogston, KCVO*. Aberdeen: University Press, 1943:98-101.
- 8 Ogston A. Ueber Abscesse. *Arch/Klin Chir* 1880;25:588-600.
- 9 Bulloch W. Sir Alexander Ogston. *Lancet* 1929;i:309-10.
- 10 Fisher RB. *Joseph Lister, 1827-1912*. London: Macdonald and Janes, 1977.

Learning surgery in Paris

Ian Fraser

Over 60 years ago I attended a clinical course at the Hôpital Necker, the recognised leading genitourinary hospital in Paris. The fortnight cost £30 and consisted of lectures and operations. Each doctor attending had a cadaver allocated to him on which he could perform the operation that we had seen the masters doing the previous day. Of the 20 or 30 students only two were Britons, one from Glasgow and myself; the rest were mostly French, with a few Australians. Three or four incidents are worth recording.

Rubber gloves

I was astonished to find that the French were wearing thick gauntlet rubber gloves. They looked almost like the gloves that chauffeurs were wearing in Britain at that time. The finger tips were thick and wrinkled, and the surgeon's finger did not reach to the tip of the glove, so that holding a needle with finger and thumb was quite impossible. The result was that everyone was using the Reverdin needle. This was a very clever needle cum needle holder. With suitable changing of the needle it could be used for everything: one could do an intestinal anastomosis, close the peritoneum, pull the sheath together, and finally close the fat and skin by merely changing to suitable needles each time. We were all greatly impressed and each of us bought a Reverdin needle. I never used mine and recently gave it to a museum. I realised only then that the Reverdin needle was invented because of the inability of the French to use their fingers due to the thickness of their gloves. We in England were using thin rubber gloves, admittedly not tight fitting as they are today, as in those days rubber with much boiling, lost its elasticity. Indeed, Moynihan brought back to England his first rubber gloves after a visit to Halstead in 1903, when he was presented with a dozen rubber gloves. They lasted him for one year—what a contrast with today. It was bare hands before that.

A horrible operation

The patient was a young man of 18-19 suffering from tuberculosis of his kidney, a common disease at that time. The kidney was expertly exteriorised, the ureter was cut and tied, and a clamp was put on the renal vessels and the kidney was then removed. All very neatly done indeed. At this stage the surgeon turned to

Souvenir of Paris—with Professor Legue's regards

us all and said, "A terrible accident may now happen; your forceps may slip and you will get immense bleeding straight from the aorta etc. I will show you what to do." And with that he took the forceps off, threw them across the theatre, and from the boy's loin an enormous flow of blood appeared. Very rapidly and very dexterously our surgeon packed the wound tightly. After that he worked down from above, putting a long artery forceps on to something which we could not see, but gradually the packs were removed, the wound was dry, and there were at least 15-20 artery forceps sticking out of the wound. We were now prepared for a long session as each forceps was ligatured and tied, but this was not done. He closed the

wound with the handles of the artery forceps sticking out. He then told us that in a few days he would start and remove the artery forceps one by one over a period of several days. We were all horrified that this emaciated young man, when blood transfusion was not available, was subjected to this ordeal. Of course we never saw the final result. On returning to Britain I described this operation over a few years to various colleagues and it was extraordinary that three or four of them told me that they had seen the same operation, so presumably this was one of this surgeon's show pieces, which he did on each occasion.

Prostatectomy under local anaesthesia

This was the first and only time that I had ever seen a prostatectomy done entirely under local anaesthesia. The patient lay on the table, the bladder was fully distended with water, the abdominal wall was infiltrated with a local anaesthetic, and an incision was made into the bladder, the edges of which were firmly retained. A finger was then put into the base of the bladder to act as a guide for a very long needle, directing the point of the needle, we hoped, to the space between the prostate gland and its capsule. The needle was reinserted some eight or nine times, circling round the upper surface of the prostate gland. After a few minutes digital removal of the prostate gland on a very cooperative patient was carried out. A tube was put in the bladder to complete the operation. It seemed

to me a method of making an easy operation a very difficult one indeed.

Cadaver

In my second week when I went back to my dead body I found that the previous week's body had been removed and a new cadaver of a different sex was now waiting for me. I had recently been a demonstrator in anatomy and knew how rare bodies were, so I went to the professor and explained that I had only paid £30 for this course and in no way could I expect a second body. He smiled blandly and then told me that these bodies came from Russia in truck loads by train, and looking at them I thought that this was probably true. I could hardly believe this because I had qualified shortly after the first world war when bodies were very scarce and students were very numerous; in fact, I think in the dissecting room in our universities at that time as many as 24 students would be working on one body—naturally not all at one time. I rang up our anatomy department recently to find out the current position, and apparently seven students to one body is about average. So many people now donate their bodies to the department that there is no longer a shortage.

At the end of the course we had a photograph taken of the group, which I still possess; also, for a few francs one could buy a photograph of any professor. I still have the one of Professor Legeu, signed with his kindest regards.

Paintings of a nineteenth century operating theatre

Denis Gibbs, Jonathan Evans

Until the closing years of the nineteenth century even the largest general hospitals needed only a single operating theatre. Sir Frederick Treves (1853-1923) recalled his early experience at the London Hospital when "one operating theatre was sufficient for a hospital of 700-800 beds, and only one day a week was required."¹ It was considered a sensible use of the accommodation for the theatre to double as a lecture and demonstration room. Though general anaesthesia was used widely by the middle of the century and Lister's first publication on antisepsis appeared in 1867, these developments had little immediate impact on the number of operations performed in hospital. Surgical activity, however, increased rapidly towards the end of the century. The surgery beadle, who kept a register of operations at the London Hospital, listed a two and a half fold increase between 1887 and 1891.²

The old operating theatre at the London Hospital was built in the late eighteenth century and continued in use virtually throughout the nineteenth century. It was situated in the top storey of the front of the hospital beneath a large skylight to catch all the daylight available from the sky above London's east end. Gas light gave supplementary illumination. The theatre had a much longer existence than the oldest surviving operating theatre in Britain, that in the former St Thomas's Hospital, Southwark, but the designs of the two theatres were very similar. When St Thomas's Hospital was rebuilt in Lambeth in 1860 and the main building in Southwark demolished in 1862 to make way for the railway near London Bridge Station the operating theatre, which had been constructed in the roof space of St Thomas's church, then the hospital's chapel, was sealed off and forgotten for nearly a century. It was rediscovered in the 1950s and subsequently restored into a particularly evocative museum,

The old operating theatre as it appeared shortly before it was demolished in 1896. The large skylight caught all available daylight and the fire was never allowed to go out

Royal London Hospital
Archives and Museum,
London E1 2AA
Denis Gibbs, consulting
physician
Jonathan Evans, archivist

Correspondence to:
Mr Evans.

BMJ 1992;305:1549-50