THE GASMAN COMETH

(With apologies to Flanders and Swann)

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Sandy Kilpatrick was one of the first cohort of doctors to qualify in the fledgling NHS in July 1948. He reflects on a lifetime of change, and things which may not have changed so much. The *Journal* is pleased, in the NHS's 60th anniversary year, to report on a lecture, *The gasman cometh*, that Sandy gave recently to the Rotary Club.

The 'art of anaesthesia' has been replaced by the 'science of anaesthesia'. In those early days we relied almost entirely on clinical judgement whereas, now, we have a plethora of scientific instruments to inform of the state of so many body functions. The changes have been very great indeed. My story will also show how standards of patient care have changed with the first 60 years of the National Health Service.

It may surprise many readers that the largest department in any hospital is the anaesthetic one. When I came to Lancaster in January 1955, there were only four trained anaesthetists here. When I retired in 1986, there were eight consultants, eight other doctors in the various training grades and two trained, but part-time, clinical assistants – 18 on the staff compared to the earlier four. Now, another 21 years on, there are 20 consultants, two full-time associate specialists, 14 doctors in the training grades and another three in a new Foundation training scheme – 39 altogether.

Another great change over the same period has been in attitudes towards anaesthetists. Many must remember the *Dr Findlay's Casebook* TV series about Dr Findlay, Dr Cameron and Janet. At the time depicted in the stories, the 1920s, the surgeon was effectively in charge of all the proceedings in the operating theatre. Proper recognition and respect for an autonomous role of anaesthetists had to be earned. The 1940s, especially during the war, and the early 1950s were the significant times. That recognition was of our responsibilities towards our patients. Today's anaesthetist assesses the patient preoperatively, decides on the patient's fitness for operation and any special aspects of preoperative care. He (or she) has responsibility for the patient's general condition during the operation and immediately afterwards while the patient is in the recovery room adjacent to the theatre and also, if appropriate, in the ward. After the operating session, the anaesthetist will visit the ward to check that the patients are well before leaving the premises. Some aspects of postoperative care, notably intensive care, are the responsibility of the anaesthetist too. No longer the 'gasman', the bureaucratic 'jobsworth' parodied by Flanders and Swan!

Quite apart from earning our recognition by increased knowledge and expertise, the beginning of the Health Service on the 5th of July 1948 helped too. All specialities, whether

previously regarded as minor or supporting services, such as anaesthesia, radiology and the various pathological departments, were all staffed in the new NHS by consultants who were treated as equals – the same salary scales and equal professionally. The professional status of anaesthetists was also due to significant advances in knowledge by the pioneers in our speciality and by rapid progress in the development of training facilities. The Faculty of Anaesthetists was formed within the Royal College of Surgeons and this

faculty supervised the higher training standards, the qualifications of those who had undergone this training, and the higher and higher examination standards required to gain these qualifications. They scrutinised all training schemes and hospital departments to decide whether or not they were really fit to train junior anaesthetists. In practice, no junior doctor would even apply for a post in a department unless there was a satisfactory training programme. Gradually, in this way, the standards required of the trainers and those in training have increased and are still reviewed regularly to maintain and increase these standards even further. In 1990, our Faculty became independent of the Royal College of Surgeons and the

College of Anaesthetists was born. Soon after, it was awarded a royal charter to become the Royal College of Anaesthetists. The qualification, therefore, became the FRCA, Fellow of the Royal College of Anaesthetists, instead of the earlier FFA (RCS).

However, I would like to start by going back to the mid 1940s when I was a student, to describe what anaesthesia was like at that time and then, by following my own career, which started in July 1948 as the NHS started, to show how we have arrived at the present day situation.

As a medical student we had each to administer 12 general anaesthetics under the supervision of a teaching hospital anaesthetist and have each of these administrations certified. They were mostly anaesthetics using either ether or chloroform, or a mixture of these drugs. The drugs were dripped on to several layers of gauze on a Schimmelbusch mask. Intravenous induction of anaesthesia was rarely used, and never by the students. This inhalation induction was not a pleasant experience for the patients. The whole anaesthetic procedure was not safe by present day standards because the anaesthetists did not have total control of the patient and airway, which we have nowadays. Monitoring was rudimentary; at most the pulse would be palpated regularly and the blood pressure checked from time to time.

My very first post was as a house surgeon in the Royal Alexandra Infirmary in Paisley, a large town with a population of about 100,000, just outside Glasgow. There

were three surgical units. Each one had two operating days a week, but each had a visiting consultant anaesthetist from the Glasgow Royal Infirmary for only one of its two operating days. For the other sessions, a house surgeon – newly qualified – was expected to administer the anaesthetics. We also anaesthetised virtually all the emergencies. A very hazardous situation for the patients, but it was the accepted standard practice at that time.

After six months at Paisley, my second house job was in a medical unit in a very large Glasgow hospital, and even in this post I gave the occasional anaesthetic even though I was a house physician in a medical unit, not a surgical one. National Service with the RAF followed the house jobs. My first month of basic RAF training was at Moreton-in-the-Marsh, the original of the song about 'Much Binding in the Marsh'. After that I was sent to Warton, near Lytham, a station with a demobilisation unit, a camp for RAF families and a maintenance unit, which were the beginnings of the British Aerospace factory there now. At that time they were testing the new Canberra bomber. Even at this unit we were expected to give the occasional general anaesthetic for minor operations (removal of in-growing toenails, setting of minor fractures, the incision of abscesses and the like) but the only anaesthetic apparatus was so primitive it was almost beyond belief. No oxygen, only cylinders of nitrous oxide. The nitrous oxide flow was controlled by turning a spiked wheel, located on the floor, with one's foot. The gas had to be diluted with air to provide the patient with any oxygen. I still shudder at the thought of such apparatus in the hands of doctors untrained as anaesthetists – or even in the hands of a trained anaesthetist, for that matter.

After a few months at Warton, I was sent out to Singapore, after a week's course in tropical medicine. There I spent the first few months as a general duties medical officer in an operational fighter unit with a Flying Boat Base. Just as I was leaving the UK we heard of an incident involving one of the flying boats. A crash landing had trapped some of the crew. Two of the medical officers at the base had managed to free the men. One of the casualties had his leg amputated at the accident site, using an electric saw, a brave and dangerous procedure as there had been a significant spillage of fuel and the air was heavy with fumes. One of these medical officers was awarded the George Medal and the other was 'Mentioned in Despatches'. It was an alarming prospect for me and an old medical school colleague to be following in the steps of the previous decorated medical officers.

My tour of duty at the flying boat base was cut short by a remarkable career opportunity. The only RAF anaesthetist in the Singapore area had gone home at the end of his tour of duty and his replacement was having difficulties. At the time, my anaesthetic experience exceeded that of all the other National Service medical officers in the Far East, so I was offered the job. A six-week period of intensive training in anaesthetics, under the supervision of two Army anaesthetic specialists at the British Military Hospital in Singapore City, was the nearest to specialist training that was on offer. I returned to Changi Hospital, where I was the only RAF anaesthetist on the island – really the only one between Hong Kong in the north and Ceylon to the west! I was less than two years qualified and, certainly by present day standards, should not have been given such responsibility. For over a year, I gave all the anaesthetics at Changi Hospital, where we dealt with all RAF personnel and their families along with a few other incidents, which arose from time to time –

casualties from the jungle campaign on the Malayan mainland, for instance.

By present day standards, the drugs and equipment available to me were very limited. For example, as an induction agent I had only thiopentone. This drug, however, was used in twice the concentration (5% rather than the 2.5% which we used in the UK from the 1960s) and in doses three or four times greater than we would use today. At Changi, I had only one relaxant drug, tubocurarine, available to me (there were very few of them used at that time) but every time I used that drug, I had to send a detailed report on my use of it, by airmail, to the RAF's senior anaesthetist in the UK. By the time he received my report, the patient was usually discharged from hospital, so I am not sure even now what the benefit of the report was – my letters were never even acknowledged!

Of my experiences in Singapore, one day stands out particularly in my memory. One morning, I received an urgent call to the hospital from my obstetric colleague. He was having difficulty in delivering twins. As required, I anaesthetised the patient but even then it proved impossible to deliver either baby. After a phone call to the professor at the KK civilian hospital, we took the patient by ambulance to Singapore City, a distance of about 15 miles, while I continued to anaesthetise her in the ambulance using ether dripped on to a Schimmelbusch mask. At the KK Hospital, the professor diagnosed the problem – Siamese twins. For him it was a familiar diagnosis; his 13th set. The twins did not survive, but the mother recovered from the ordeal. The size of this hospital, which specialised solely in obstetrics and gynaecology, was remarkable – on average, 30 deliveries day, dwarfing the size of the maternity unit in Lancaster (four deliveries a day).

The story of the day does not end there. In the evening, I was called from the mess back to Changi Hospital. A Celine police inspector of the Singapore Police Force had been brought to us with severe unexplained facial injuries. While we had been at the obstetric hospital in the morning, the Maria Herthog riots had begun outside the nearby Supreme Courts of Justice. We had been blissfully unaware of this as we passed through Singapore in our RAF ambulance with our Siamese twins. When the riots started, Europeans found by the mob were attacked and many were injured or killed. His own men, because of their fear of the rioters, had locked our police inspector out of his own police compound because he had rescued a European lady. His injuries had been sustained when rioters smashed the windscreen of his car. For some time after that, while the unrest continued, no RAF personnel were allowed out of the station unarmed. Service shortages being as they always have been, my armament consisted of a Sten gun. I had never fired a gun in my life and had been given this lethal weapon! I had two clips of ammunition (which I carried in my trouser pocket) and which I never attached to the gun. Firearms instruction, like the anaesthetic training of the day, was rudimentary – I was not to let my finger tip enter a slot in the side of the gun if it was being fired otherwise I would lose the tip of my finger!

The Korean War was in progress while I was in the Far East and we looked after many war casualties of different nationalities as they were being repatriated. I have many memories of this period. I well remember the copious notes which accompanied every patient who had been looked after by American medical staff in Korea. Every conceivable

laboratory test seemed to have been done (and repeated many times) and I had to spend long hours in the middle of the night wading through all these notes whenever a planeload of casualties arrived. Another memory is of the French soldier who threw a pair of heavy plaster shears at my head. He was wearing a very heavy plaster cast from his chest down to below one knee and he felt that, because of the very hot weather, much of it should be removed. I was unwilling to oblige – in his interests – so he threw the heavy shears at me! I well remember the very many soldiers of the Gloucester Regiment who had suffered so badly in the war. The name of one of these soldiers who died with us is forever etched in my memory. Then, there was one of our own men from Korea, a psychiatric casualty. He ran off across the neighbouring gardens and fields under the mistaken belief that he was being chased by Chinese troops. I was the first one to catch up with him (I was Changi station 440 yards champion!) and then bring him to the ground until the others caught up with us.

I returned to the UK in early August 1951 to spend six months in an obstetric and gynaecology unit in a hospital that was attached to Glasgow Royal Infirmary. I was not specifically appointed as an anaesthetist – this requirement was not at this stage necessary to allow me to practise. I gave many anaesthetics for my own unit (including caesarean sections) and also for a general surgical unit in the same hospital.

My first formal UK ‘training post’ was in the anaesthetic department of the Victoria Infirmary in Glasgow, where I spent just over three happy years in the training grades. This training was by instruction in the theatres, attending some courses and lectures – certainly not as many as one would expect to attend these days. I worked with a wide range of surgical disciplines and was given increasing responsibilities, based on the senior consultant’s assessment of my ability and expertise. This included thoracic surgery (extensive lung resections for, for example, tuberculosis, which was common then) and some cardiac surgery (mitral valvulotomies and patent ductus closures). This was cutting edge cardiac surgery of the time; the heart lung machines had yet to make an impact on cardiac surgical practice.

In January 1955, I took up an appointment as one of four anaesthetists in the North Lancashire and South Westmorland Hospital Group. It has had several name changes since then and is now, of course, the University Hospitals of Morecambe Bay. When I arrived, in addition to the four trained anaesthetists, two GPs in Lancaster and three in Kendal had some anaesthetic duties but these doctors were gradually phased out, as, by now, the demands on and the expectations of anaesthetists were so much greater. By this time, no one other than a doctor appointed as an anaesthetist was allowed to administer an anaesthetic in any hospital. Techniques were developing, more complicated equipment was coming into use and more and more powerful drugs were coming into use, not only by anaesthetists but also in general clinical practice. The speciality of anaesthetics had long since earned the respect of our colleagues in other fields and we were as a profession autonomous and responsible for our own patient care. The *Dr Findlay’s Casebook* days were now over forever.

In the last 50 years, the clinical areas covered by anaesthetists have increased greatly. We now have anaesthetists specialising in so many fields – intensive care

and high dependency units, resuscitation and training of paramedics, the obstetric epidural service, pain clinics (I myself held an acupuncture clinic for five years) and so on. Paediatric anaesthesia is now a specialist field too, yet, in our early days, we anaesthetised for all routine children’s operations and for a few babies every year with pyloric stenosis or with intussusception.

As for equipment, the old basic Boyle’s machine has been extensively modified. Originally, it was just a trolley with flow meters, cylinders of oxygen, nitrous oxide, carbon dioxide and cyclopropane. Nowadays, of course, the trolleys carry a plethora of high tech equipment used to monitor the patient’s every function. I often wonder if the modern anaesthetist pays more attention to the displays on these computers than to the patient’s appearance! They have their problems and vigilance is still essential for their proper use, as a recent critical incident reported during a caesarean section under spinal anaesthesia demonstrates:

‘Rather to my surprise, I noted that the probe was now positioned on the proud father’s finger. The attending midwife had removed it from the mother to allow an unimpeded hug with baby and had placed it on the father’s finger to prevent the alarm being triggered.’

No current member of staff will remember the cyclopropane, nor have ever used chloroform or ether. Instead of cylinders of gases on the trolley, all gases are piped into the theatres from a remote source. Gases cannot be wrongly connected from the central source. The older reader may remember Alastair Simm’s performance in *Green for Danger*. That situation could not possibly arise now.

We have come a very long way from the days of ether and chloroform dripped on to a few layers of gauze on the Schimmelbusch mask of my student days. Local anaesthesia has enabled virtually every surgeon to perform his art with an awake and appreciative patient but there are disadvantages of this, as a story that went around the wards in my youth recalls:

The incident is attributed to a bad-tempered and eccentric Glaswegian – unlike, of course, any surgeons we have ever known in this area. Anyway, this surgeon, whom we will call Eric (because that is his name), frequently operated using only local anaesthetics, a common neurosurgical practice then. On this occasion, while he was operating on a conscious patient, Eric began to get more and more annoyed with the patient, who was fidgeting and becoming quite restless. Eventually, Eric could put up with this no longer so he asked the patient, in his usual gruff manner, what the problem was. The patient whispered quietly to the surgeon that his bladder was full. Eric turned and shouted at the quaking theatre nurses, ‘Get a bottle quickly!’, and carried on with the operation. A few minutes later, he was astounded to find a young student nurse on her knees, under the theatre drapes, fiddling with his sterile theatre gown, trying to unfasten the fly buttons of his theatre trousers. She, in her fear and panic, had thought that he wanted the bottle for himself!

It may be that the continued popularity of general anaesthesia is less to do with the direct benefit of general anaesthesia than the need to avoid confrontations of this nature!