The Professor JD Robertson Memorial Lecture

The Pursuit of Excellence
Professor Sir Gordon Robson CBE

Mr President, Pat Robertson and family and friends, it gives me great pleasure to be here today to present the first JD Robertson Memorial Lecture.

This pleasant task has added a new dimension to my long standing friendship with Jimmy Robertson, that of making an appreciation of his life and achievements and the prominent position which he came to occupy in our institutions and in the minds of his contemporaries. I am profoundly honoured and grateful for the opportunity to do so.

Jimmy Robertson spent his life in the pursuit of excellence and can be held up as an example to his pupils and successors of devotion to doing everything he had to do, both in his public and private lives as well as his considerable natural gifts allowed.

I have a clear early recollection of him. It was in 1954 when he was working in the Department of Physiology, he liked to call occasionally to see what was going on at the sharp end in the hospital. I had just joined the department. His visit was fleeting but the impression left behind was of a brisk, knowledgeable, friendly and keen young man with a dead-pan sense of humour, a sharp wit and firm opinions.

In later years when we worked together in other fields I appreciated that he had the highest standards, strong principles and was an archetypal Scotsman when south of the border. He presented himself as more Scottish than the Scots when he was on the Board of the Faculty of Anaesthetists and I think that it amused him to do so. Solemn proceedings and discussion in the Board, probably where the special circumstances of Scotland had been temporarily forgotten, were often forcefully and humorously brought to attention by Jimmy pointing out that there was life north of Watford and that with careful observation some might even be found in Scotland.

I am most grateful to Pat Robertson who allowed me to look at the scrap books which Jimmy kept since his army days. They reveal a great deal about his character. Most of us keep memorabilia tucked away in trunks in the attic or stuffed in drawers where they are the object of winnowing exercises during periodic spring cleaning. They lose their freshness and immediate impression because they are subjected to later editing with the imposition of hindsight.

Jimmy knew what he wanted to keep and kept the books up to date with whatever interested him at the time. And so they are excellent chronicles and make fascinating reading with press cuttings and photographs; invitations to speak of which there were many; press cuttings and photographs of friends from school, the Infirmary, the University and the Royal Colleges and of the many visits and lecture tours which he made world wide. He also maintained his interest in his native town of Stranraer where he went to school and he recorded the events and the doings of its notables, most of whom he had been to school or university with.

Most of you will know that he was a keen sportsman and a good golfer and as I recall he maintained a handicap of eleven or twelve for most of the time. One of his scrapbooks contains a score card from a medal stroke competition showing a gross score of seventy four, net sixty three. Anyone would have put a card like that into a scrap book. Such ability and transparent evidence of golfing 'banditry' in being able to play a game eight strokes below his handicap accounted for his unbeatable success in the departmental golf matches. A departmental trophy was later presented and his playing handicap for this was so adjusted that unfortunately he was never in contention.

I first met Jimmy and Pat at one of the Scottish Society of Anaesthetists week-end Annual meetings in Dunblane Hydro Hotel when they resumed after the war. That was probably in 1949. Although we met infrequently, nevertheless he was in the forefront of the immediate post-war generation of anaesthetists and he was held up to us even in Glasgow as an example of achievement to emulate. We were, as everyone was in those days working very hard. There were not enough competent anaesthetists around to allow much free time and the crossings of the East-West cultural divide were much less frequent that they are at the present time.

Jimmy joined the army in 1941 after having qualified in medicine in Edinburgh in 1940 and his army career extended to 1946. He had only time for the basic house jobs in medicine and surgery in the Royal Hospital for Sick Children before joining the army. Initially he was a regimental medical officer then became a general duty medical officer and anaesthetic specialist with the rank of Major. His

service in West Africa gave him the opportunity to make a scrap book of his time in the country and later in his career he forged clinical links with Nigeria which lasted until the civil war which rent the country.

From West Africa he went on to the Middle East and the North West Europe theatre of war, landing in Normandy shortly after D Day. It was when he was working in an active casualty clearing station in Europe that he met Pat McNaughton who was an army nursing sister hailing from Peterhead. They were married when Pat demobilised while Jimmy went on to finish his army career in Egypt. Their marriage, as most of you will know, was blessed with five children, all boys, all of whom are here today and all were to follow professional careers.

His army life must have given him a taste for travel since he never missed an opportunity to go abroad. I rather suspect from my own knowledge of him and from his scrapbooks that he had an intense sense of curiosity and travel satisfied some part of it as did research in his own field.

Although he spent a long time away from further post-graduate medical education at a critical stage in his career, active service in the RAMC undoubtedly provided post-graduate education of another sort and I judge that it made for the outstanding maturity, strength of purpose and clear headed judgement which was so characteristic of him.

When he was demobilised, he joined the staff of the Royal Infirmary being appointed as an Anaesthetic and Medical Registrar, class three. I believe that this was within the ex-forces post-graduate scheme funded by the government. This scheme was the fore-runner of what we now know as the General Professional Training Scheme although only the best departments such as that in the Infirmary made a real attempt to provide broadly based training with proper rotations to ensure experience in the sub-specialties. I recall that the stipend attached to it was set at the princely sum of either four hundred and fifty pounds or six hundred pounds a year paid quarterly in arrears, depending on grade.

In the anaesthetic service in the Royal Infirmary in the early post war years the anaesthetic staff was a fraction of that at present. There was then little sense of unity. Everyone worked much too hard to be sitting around in the small attic office which was called the department. We certainly spent the greater part of the week in the theatres and wards and in other hospitals, and departmental meetings were rare simply because it was impossible to get together a quorum of anaesthetists who were not in the operating theatres. Now the consultant anaesthetists are just one short of being able to field two football teams and no doubt the department could field a registrar team as well. Perhaps they now even have time for committee meetings.

There was another disincentive to spending time in the department in that Dorothy Taylor's predecessor, Betty Davidson, when telephoned for help, used to pay little attention to the duty rota which was of necessity in those days very informal and lightly observed, and conscript whoever happened to be in the department to attend to the problem. It was not, of course, that we were unwilling, but it disrupted the day and deprived those on call of experience which might have helped them to become better anaesthetists.

There was also at that time extraordinarily little social life associated with the department. I suppose it was because there were commitments to young families and money was short. It has to be remembered that there was then the strictest food rationing, with even greater food shortages than during the height of the war and it was difficult to be normally sociable.

It has been used as an excuse by many that some years spent away from academic pursuits and medical school allows time for basic science to be forgotten, for the academic urge to have evaporated, and to have rendered it hopeless to try to follow anything but the least rigorous of professional pathways.

Jimmy was made of sterner stuff and as I have noted, set an example for all of us to follow. He took his Diploma of Anaesthetics without trouble in 1947 and followed that with the Membership of the Royal College of Physicians of Edinburgh in 1951. This was a singular course to take but was, as we came to recognise, totally in character.

The DA was held in two parts in 1947 and its Primary examination was almost identical to the surgical primary examination of the FRCS, with papers and vivas in anatomy, physiology and pathology but it had in addition the pharmacology relevant to anaesthesia. It was therefore rather more of a test than the primary examination of the FFARCS later became and far from being easy for those distant from their undergraduate days.

For those of you who are unversed in early post war affairs I had better explain that with the impending NHS in 1947 there was great concern among anaesthetists that they might not achieve consultant

status. It was a matter of hot debate in discussions between the BMA, the Royal Colleges and government on the terms and conditions for the prospective health service. There was at that time no anaesthetic qualification comparable to the fellowships of the three Royal Colleges which were the accepted pathway to consultant status.

I find it very strange in retrospect that so much emphasis was given at that time to the supposed status conferred by a fellowship examination. The FRCS and MRCP were diplomas which could be achieved in pre-war and immediate post war days within a year of qualification and told little about the individual. They certainly did not pose a test of intellectual quality or practical ability. One can only assume that they were an indication of interest and there were no other formal guidelines such as approved training schemes to go by.

Sir Alfred Webb-Johnson, then President of the Royal College of Surgeons of England was much concerned about the status of anaesthetists. In the absence of an academic body for anaesthetists the Association had taken the lead in setting up the Diploma in Anaesthetics in 1935. This was run by the College of Surgeons through the examinations secretariat. Sir Alfred addressed the Association of Anaesthetists on the question of consultant status and counselled that anaesthetists had to be seen not to have an easy option in their diploma if they were to have consultant status and he suggested that the Diploma in Anaesthetics should be modified to incorporate a primary basic science examination. The changes were introduced and the two part DA came into being in 1947 with a pass rate which seldom exceeded twenty per cent in either part. I have often felt gratitude to the unknown and unsung anaesthetists who must have at that time impressed Sir Alfred that their skills deserved such status.

When the Faculty was established in the Royal College of Surgeons in 1948 the next step was to change the DA into the FFARCS and return the DA to its former one part state. Jimmy and other holders of the two part DA were elected FFARCS in 1953. By this time he had taken his MRCP at the Edinburgh College.

In the immediate post war period John Gillies' department was one of the most prestigious in Great Britain, and posts in it were much sought after. As I noted in the Gillies lecture in 1978 there were in those years as trainees in the department in the Royal Infirmary, JD Robertson, Alastair Gillies, JP Payne, Nick Greene, Stuart Vandewater and Douglas Joseph all of who achieved university chairs, who made signal contributions to the specialty of anaesthesia and who became known in anaesthetic circles throughout the world. He found himself in the best of company.

Jimmy became a senior registrar in 1949 and held this post for three years until he decided to set himself scientifically well ahead of his contemporaries. He obtained a research fellowship from the Medical Research Council, itself no mean feat for an anaesthetist in those days, and went to work in the Department of Physiology.

He was fortunate to be taken into this excellent department which was headed by Professor David Whitteridge. It may interest you to know that David Whitteridge still contributes to the Physiological Society and has passed his eightieth birthday. His physiological interests were wide and he supervised Jimmy on excellent projects for the two years of his fellowship.

Together with Swan, they worked on the effects of some of the volatile anaesthetic agents on the systemic baroreceptors. a part of the nervous system which has much to do with setting the level of the blood pressure. They also investigated the effects of some of these anaesthetics on respiration, in particular on their actions on the stretch receptors of the lungs. The questions which they posed had practical implications in anaesthesia and were, I have no doubt, related to the departmental interest at that time in the control of the blood pressure during surgery and anaesthesia. The work showed that the inhalation of ether, chloroform or trichlorethylene increased the sensitivity of the carotid sinus and aortic baroreceptors and that cyclopropane did not do so. The actual result of this sensitisation was the slowing of the heart rate and the fall in blood pressure.

In physiological circles the work was much acclaimed and JDR's thesis on the subject earned him the MD degree with commendation in 1955. The research was of real interest to physiologists because it is useful to them to find spanners to throw into the works, in a metaphorical sense, because the disruption of function reveals something of the fundamental workings of the system itself. Since then a vast body of work has been done on the control of blood pressure looking at all the central and peripheral and humoral mechanisms and many new therapeutic agents have been developed for use in general medicine and anaesthesia. The work of Robertson, Swan and Whitteridge was an early step in that direction.

Their work on the basic physiology of the stretch receptors of the lung made an important contribution

to our knowledge of the effects of anaesthetic drugs on respiration in clinical practice. They examined the frequency of the action potentials travelling in small slips of the vagus nerve which carries information from the stretch receptors in the lungs. The results shed light on some of the mechanisms of the alteration of the rate and rhythm of breathing of the anaesthetised patient. In particular, the anaesthetic agent trichlorethylene, then widely used for anaesthesia and for analgesia in labour, caused very rapid and shallow breathing in patients which made it difficult to use in many cases although it was an otherwise excellent agent. The explanation which Robertson and Whitteridge furnished was that the agent sensitised the stretch receptors in the lungs so that instead of signalling for a change of respiratory phase when a normal tidal volume had been taken they signalled it at low volume and so caused very rapid shallow respiration. The phases changed quickly with small volume change.

I find it interesting that between 1952 and 1954 when the work was carried out, electrical recording of the small action potentials from nerve filaments was in its infancy. Amplifiers and oscilloscopes were constructed with valves and required multiple adjustments to get them going. They were crude and difficult to maintain and keep stable, and it was a work of art rather than science to exclude interference from external electrical fields. The preparation acted as a rectifier and radio and television signals could be tuned in accidentally to corrupt the recordings. It was a great credit to them that such reliable information was obtained in such a short time.

When he returned to clinical work in the Royal Infirmary in 1955, Jimmy was made a consultant. His scientific curiosity had been finely tuned and he was well equipped to carry out the many clinical trials of new therapeutic agents which he did over the years to come. His particular interest lay in the investigation of the many new intravenous anaesthetic agents which were produced over the next thirty years.

I recall a period when he was investigating the 'lytic cocktail'. This was an anaesthetic regime devised by two French anaesthetists, Laborit and Hugenard in 1951. They used a mixture of chlorpromazine, promethazine and pethidine given intravenously slowly until the patient fell asleep. The cocktail was indeed lytic in nature and induced a state of severely depressed circulatory, respiratory and peripheral reflexes and profound loss of consciousness. The patients were deathly pale, had shallow infrequent respiration and would not respond to drugs which normally raised the blood pressure. They were not pretty to see and one's first impression was that they were in a state of advanced surgical shock. However Laborit and Hugenard used the cocktail in patients with severe hypovolaemic shock with reported good results in circumstances where full resuscitation could not be carried out. To some of its advocates it provided an alternative to using an anaesthetist, particularly so when they simply added a small dose of gallamine triethiodide if muscular relaxation was required and did not trouble to ventilate the patients artificially or to intubate them. If you feel like saying 'Tut, Tut' you must remember that this was forty years ago.

Unfortunately this ataractic state tended to persist for twelve or more hours and while this might suit some surgical teams it really did not fit in with the surgery in Mr Adamson's wards where Jimmy worked at the time. Mr Adamson and his senior registrar, Iain Campbell could each do seven or eight major operations between nine-fifteen and twelve noon and the wards were left with a prolonged exercise in the post-operative care of inert, areflexic, unconscious patients. The work was rapidly abandoned.

Despite the excitement and claims for breakthrough in French surgical and anaesthetic circles at the time, I am not aware that it is ever used today. Thus the tide of fashion ebbs and flows even in our own subject. Jimmy was not one to be behind fashion and he explored most innovations very actively.

He was an advocate of controlled, induced hypotension which was under critical examination in the fifties. The total spinal technique developed by Gillies and Griffiths was well established in Edinburgh and used in some very major surgery with excellent results but was not useful for many surgical operations where control of the blood pressure would be helpful if not essential. To this end Jimmy carried out many clinical trials with agents such as Arfonad and Trophenium and added a considerable amount to our knowledge and to patient safety with the techniques of induced hypotension.

When Dr Gillies retired in 1960 Jimmy was appointed as senior lecturer and head of the University Department of Anaesthetics and his reputation and standing grew apace. In 1961 he was elected to the Board of the Faculty of Anaesthetists, virtually replacing Dr Gillies in that year. This showed the cohesion and wisdom of the Scottish Fellows of the Faculty. There were no reserved places on the Board for Scottish consultants and Scots had to be pretty unanimous in their support to have one elected. From all points of view this was an excellent and perceptive choice because he did a superb job until his term of office ended in 1977. I

joined the Board in 1968 and found him to be a power in that land just as two previous Scots, John Gillies and H H Pinkerton had been. His was always a wise voice in Board discussions and he was an excellent contributor to debate. Over a critical period he made the most significant contribution to Board debates and was an excellent Vice-Dean.

When Dr Wylie was Dean of the Faculty there began a strong move to break away from the Royal College of Surgeons and to set up a separate College. The move was initiated by an active group on the council of the Association of Anaesthetists. In due course the Association held a referendum on the question, polling all the anaesthetists in the UK. This produced results which were capable of many interpretations. It seemed to me then that referenda are devices designed by activists to undermine the due process of representational debate and decision. Certainly at that time separation would have cast the specialty to the wolves while simultaneously causing severe damage to the Royal College of Surgeons.

The discussion, which was initiated by Dr Wylie did encourage the council of the Royal College of Surgeons to seek changes to their Royal Charter to accommodate some of the major concerns of the anaesthetists in relation to their status and privileges within the College. Anaesthetists did not then have the resources to disengage from the College but this charter was to give them control over their own affairs within the College.

As a digression I would like to refer to the part played by the late Sir Alan Parks in 1980 when he was the President of the College. He ensured that the finances of the Faculty would be separated from College finances so that it became possible some ten years later to achieve separation with elegance and with decorum toward the surgeons.

Many anaesthetists throughout the world must feel grateful to the College of Surgeons for support during the forty-four years in which the specialty matured. Our sister colleges and former colonies followed the same pattern of support. Jimmy Robertson saw clearly that the time for separation had not then arrived.

It was on the topic of separation that Jimmy and I had out only joint publication in the form of a letter to the British Medical Journal on 4th March, 1978. Together with Cecil Gray, Robert Macintosh, Donald Campbell and others we sought to shed light on the Association's attempt in the form of an Editorial in its house journal, Anaesthesia, to influence the electorate to vote on to the Board anaesthetists who wished to see the dissolution of the Faculty itself. We were of the opinion that that was unprincipled behaviour.

Jimmy's voice was a strong and important one in the debate to accept the new consolidated charter in 1977 which the College had negotiated with the Privy Council to accommodate many of the aspirations of the two Faculties. He strongly represented the view of the Scots that it should be accepted.

At that time he was invited to put his name forward for election as President of the Association of Anaesthetists, an honour given to few, but he refused because of his fundamental disagreement with the views and actions of its council on the question of separation from the College of Surgeons. He discussed this with me and said that he was refusing as a matter of principle.

I recall also the occasion when the Royal College of Surgeons of Edinburgh offered accommodation to the Scottish Standing Committee of the Faculty. He put it to the Board and said that he saw an inherent danger in the offer of splitting the Faculty into two divisions, which would inevitably lead to a separate Scottish Faculty based in the Edinburgh College, a course which would later also be followed by the Glasgow College. The dental surgeons have always been handicapped by a three way split. We debated this and agreed with him, whereupon he confessed that he had already refused the offer for those good reasons. I believe that such action was not uncharacteristic of him in his office as head of department. It is alleged that he would call the consultants to meetings and say that it was not so much that he wanted to consult them about what to do as get their approval for what he had already done.

His notable administrative ability was also recognised at home and he was invited to join the Board of Management of the South Eastern Regional Hospital Board in 1962. His election to the Fellowship of the Royal College of Surgeons of Edinburgh without examination in 1963 and on to its council in 1973, were uncommon honours for an anaesthetist.

Looking at his career from that time on, one would wonder how he managed to do all that he achieved in the time available. I have a clue about this. He worked unremittingly at home in the evenings often into the small hours and virtually put some extra working days into the week.

When Dr Gillies was head of the department it was a sub-department of Surgery and came under Professor

Learmonth. For example, papers published by members of the department had to be approved by surgery. The equipment grant was common with surgery so that anaesthesia received minimal and grudging support. I imagine that Jimmy made it a condition of acceptance of the post of head of department that the departments were separated, and would be given decent space, and from then on anaesthesia flourished. He organised his department most efficiently and was a tremendous advocate for the specialty in the hospital and in the region. Trainees flocked to the Royal Infirmary because of its recognised excellence, the research output was impressive and the administrative substrate was of the best in the UK.

The excellent training scheme for registrars attracted the most able trainee anaesthetists. Among these were Walter Nimmo and Gordon McDowall, Gordon Drummond, Tony Wildsmith, Gilbert Park and many others, who have since conspicuously advanced knowledge in the specialty.

Apart from organising the training schemes and re-housing the department physically, Jimmy continued to make a solid contribution to the basic work of the department - that of giving anaesthetics, setting up and running the Intensive Care Unit and really looking after the needs of all his staff. He followed the careers of all his registrars most assiduously and was ably helped in this by Dorothy Taylor who was for so many years the mother of the department. She organised all the social and formal occasions and looked after a very large family.

He later was made Reader in the University and finally Professor in 1968. All of his friends and colleagues were surprised that the chair took so long. There was obviously a certain lack of recognition of the specialty in university circles since the subject played a minor role in undergraduate education.

Clinically, he worked in the transplant unit with Professor Woodruff an early pioneer in transplantation. It required someone of Jimmy's strength of character to do this on a routine basis but I suspect that there was some meeting of minds to compensate.

It is not an intention of this address to recite a Curriculum Vitae of Jimmy. Most of you will be aware of the many offices which he held, not because he sought them, but because such was his integrity and application to all tasks which he undertook that he was the first person to be thought of when some difficult and demanding responsibility presented itself. As one of his many contributions he did trojan service on the Scottish Council for Post-Graduate Medical Education to the benefit of all of you here today.

He served for a very long time on all bodies which had any say in our affairs in Scotland and his contributions to them were recognised by many awards. His accomplishments will be the stuff of legend.

When I was invited to give this address I was of course asked for a title. I have to admit that having then little time for thought I said that I would talk on the recognition of excellence, with the idea that perhaps I might digress into the general theme. However as I progressed it became apparent that in Jimmy Robertson I had a subject from which no digression was necessary in order to illustrate what I had in mind. His life was indeed one of the pursuit of excellence and it has been a most satisfying experience to try to illustrate this for you in relation to the times in which he served.

I wish to thank your Honorary Secretary, John McClure, and also Archie Milne, Willie Macrae and of course Pat Robertson for the help which they all gave me in the preparation of this address.

Dr Sally Edwards, President of EESSA, and Sir Gordon with Mrs Pat Robertson.