Chapter 16

Ralston Paterson

(1897–1981)

"We know now with remarkable accuracy, exactly how much radiation we are giving. Indeed, our dosimetry is now a lot more exact than that of other medical sciences." (1969)[461]

James Ralston Kennedy Paterson was born in Edinburgh on 21 May 1897, the eldest son of Susannah Kennedy (1869–1951) and Reverend David Paterson (1862–1943). A "son of the manse," Ralston was also, on his mother's side, the grandson of a minister: Alexander Kennedy (1840–1908) of Edinburgh, who in 1866 married Susannah Simpson Ralston (1845–1908), and became an Old Testament scholar. On his father's side, Ralston was the grandson of Mary Ann Rogerson (1833–1906), who in 1855 married James Paterson (1811–1886), a tenant farmer and builder at Buckrigg, near Moffat in the Southern Uplands of Scotland. They had thirteen children: two of the six daughters attained arts degrees, and all seven sons went to university, five becoming ministers of the Free Church of Scotland. One of these was Ralston's father. Ralston had one sister, Susanne (1899–1983), and two brothers, Douglas (1901–1947) and Noel (1905–1985).

Young Ralston attended the local elementary school (Fig. 16-1). At eleven, he entered the George Heriot private school, where he proved to be an intelligent and industrious student. His performance earned him the title of *Dux* (first in his class) and in 1915, his final year, the Gold Medal. While in school, he joined the Army Cadets.

At eighteen, his country at war, Paterson enlisted to serve with the Argyll and Sutherland Highlanders (Fig. 16-2). He was assigned to Normandy and saw action in the battles of Ypres and the Somme. In Flanders in 1917, he received the Military Cross in the field as Lieutenant of Infantry.

Although he had contemplated a career in engineering, on his discharge from military service, he decided to study medicine. Together with his younger sister Susanne and his future wife Edith, he entered the School of Medicine of the University of Edinburgh. He was a good student, earning a first in the majority of subjects. He took a second in the class of clinical surgery taught by visiting professor Charles Horace Mayo (1865–1939). As an undergraduate, he expressed the wish to become a radiologist, and worked in the Medical-Electrical Department of the Royal Infirmary, under Dr. W. Hope Fowler. In 1923 he received his Bachelor of Medicine and Bachelor of Surgery degrees with honors (Fig. 16-3).

Paterson served an internship in the Royal Gwent Hospital of Newport and acted as an assistant in the X-ray department. "His absorbing interest in radiology and in anything pertaining to its advancement," wrote Dr. T. I. Candy prophetically, "will assure that the department of which he takes charge will be second to none in efficiency, organization and usefulness."[172]

In 1924 Paterson went to Cambridge and took a six-month comprehensive course to qualify for the Diploma of Medical Radiology and Electrology (D.M.R.E.). He then took charge of the X-Ray Department of the Kepplestone Nursing Home in Aberdeen, but left to go to South Africa where he practiced roentgenology at the Frere Hospital of East London. "His work here," wrote Dr. J. P. Ziervigel, "has brought East London into the front ranks in South Africa for radiology."[172] After fifteen months south of the equator, he returned home. In 1925, in Edinburgh, he took the examinations and qualified as a Fellow of the Royal College of Surgeons (F.R.C.S., Ed.).

In April 1926, Paterson made an application for a fellowship in radiology at the Mayo Clinic of Rochester, Minnesota. "I am extremely anxious to get some experience under a chief of standing in the x-ray

world and feel that there is more opportunity in America than at home." Russell Daniel Carman (1875–1926), the genial and charismatic radiodiagnostician of the clinic, was probably the chief under whom Paterson sought to train but, unknown to him at the time, Carman was found to have inoperable cancer of the stomach and died that same year.

A number of letters of reference were sent to Rochester at Paterson's request. Dr. Harold J. Stiles of the Royal Infirmary of Edinburgh wrote: ". . he is a fine big fellow with brains and a strong personality . . very industrious and keen about his work." Professor Wade of the University of Edinburgh wrote: "Beneath a nature that is, at first somewhat reserved, he is a sound honest fellow at heart. He is what we would call a dour, hard-working Scotsman, conscientious and reliable."[172]

The Mayo Clinic was at the time one of the few institutions in the world where the practice of radiology was divided into three sections. Charles Goldie Sutherland (1877–1951) was Carman's successor as chief of Diagnostic Roentgenology, with Byrl Raymond Kirklin (1888–1957) as his associate. Arthur Ulderic Desjardins (1884–1964)[B] was in charge of Therapeutic Roentgenology, and Henry Herman Bowing (1884–1953) was chief of Radium Therapy. Paterson was tendered an appointment as Fellow in Radiology with an annual salary of $900.00, and entered the clinic on 1 October 1926. He was assigned to serve three months in radiodiagnosis, six months in roentgentherapy, and three months in radiumtherapy. Thus, it was under Desjardins and Bowing that Paterson was first exposed professionally to the purposeful practice of roentgentherapy and radiumtherapy.

Fig. 16-1. "Son of the manse" Ralston, age eight (1905). (Courtesy of Dr. Elspeth Russell.)

Cancer of the lung seems to have been Paterson's main interest while at the Mayo Clinic. He appeared as co-author of three papers by Kirklin on the radiographic appearances of bronchial or parenchymal manifestations of pulmonary cancer.[288,356,357] He also made a retrospective study of patients with cancer of the lung who had been irradiated with "high voltage" (two hundred kilovolt) roentgentherapy: all nineteen patients had died within ten months, living no longer than those who had received no treatment, but benefiting by some temporary palliation.[454]

At the end of nine months of service and a special course, Desjardins filled out an evaluation sheet giving Paterson top marks in thirty-seven considerations and adding: "Paterson is a high grade physician and radiologist, by far the best man that has come through the service on Fellowship, one of the few radiologists I know with sound knowledge of clinical medicine."[172] Before the end of Paterson's term, Kirklin arranged for a luncheon meeting to meet with a prospective new chief.

Paul Chesley Hodges (1893–),[B] a dedicated and generous pioneer of radiology, had trained numerous Chinese radiologists at the Peiping Medical Union (1923–1927). He had been appointed professor and chairman of the Department of Radiology at the University of Chicago, and undertook a nationwide search for worthy candidates to fill positions on his staff. After one interview, he offered Paterson a position as chief resident and instructor in the Department of Radiology at the University of Chicago, with a monthly salary of $100.00 and room and board. Surprisingly, on this income Paterson managed to buy a second-hand automobile.[288]

In Chicago Paterson proved himself rugged, opinionated, and highly intolerant of authority. It took some effort to get along with him. However, his knowledge of clinical medicine and radiology was appreciated by colleagues, who gradually found their association with him rewarding. Paterson and Chester Scott Keefer (1897–1972),[B] chief medical resident at Billings Hospital, became close friends. Together, they delighted in educating the rest of the staff, including their chiefs.[288]

Paterson's interest turned to the heart. In co-authorship with J. Murray Steele, Jr., he wrote a paper on the distortion of bronchi caused by the enlargement of the left auricle.[599] They also worked on a paper about the value of roentgenologic study of the esophagus in patients with heart disease, later presented at the annual meeting of the American Roentgen Ray Society in New York.[458] In addition he wrote a paper on radiographic technique.[455] Appreciative of Paterson's talents and convinced that he would have a brilliant career in radiodiagnosis, Hodges offered him a position as assistant professor

of radiology with the then substantial salary of $3,000.00 a year, but to his great disappointment, in July 1928, Paterson left to take a position in private practice in Canada.[288]

In Toronto Paterson was radiologist to the Lockwood Clinic, with an ample income. At a staff meeting of the clinic, he presented a paper, much like his Mayo Clinic work, on the correlation of clinical and pathologic findings in cancer of the lung. This paper was published in Canada.[456] He also presented a paper on roentgenologic aspects of empyema.[457]

In January 1930, in Manhattan, Paterson married his auburn-haired classmate of Welsh ancestry, Dr. Edith Isobel Irvine Myfanny Jones (1899–), who had trained in pediatrics in San Francisco and in Saint Louis. They made their home in Ontario until September 1930 when they returned to Edinburgh. Edith then took the examinations and became a Fellow of the Royal College of Physicians.

In possession of an abundant baggage of radiodiagnostic experience, Paterson was found sufficiently qualified to be appointed acting director of the Department of Radiology of the Royal Infirmary in Edinburgh in January 1931. His younger sister, Susanne Paterson (1899–1983), received an appointment as fellow in gynecology and obstetrics at the Mayo Clinic. She was to return to a long professional practice as a consultant in Edinburgh. Paterson's tenure at the Royal Infirmary was short lived because of a new and challenging appointment that was to change the direction of his professional life.

The Christie Hospital for Incurables, in the city of Manchester, was founded in the nineteenth century in response to public feelings of compassion. Eventually, most patients with advanced cancer were sent there for terminal nursing care. As elsewhere, the name of the institution contributed to promulgating the false concept of the incurability of all cancers. In time, the name was changed to Christie Cancer Pavilion and was housed in an ample Victorian mansion. Early in this century, seven hospitals of the district of Manchester agreed to pool their resources for the treatment of cancer patients. Ernest Rutherford (1871–1937), acting for a local committee, in 1914 purchased the first two hundred milligrams of radium, to be kept in the basement of the Royal Infirmary. In 1921 a generous gift of Lord Mayor Sir Edward and Lady Margaret Holt permitted the acquisition of additional radium and provided for a separate building that became the Holt Radium Institute.

In 1931, in the wake of national awareness of increasing cancer mortality in England and a surging interest in radiotherapy, Ralston Paterson was appointed director of the Holt Radium Institute (Fig. 16-4). A man with unusual talents for planning and

Fig. 16-2. Lieutenant Ralston Paterson in the uniform of the Highlanders (1918). (Courtesy of Dr. Elspeth Russell.)

organization, he proceeded to work for the integration of the Holt Radium Institute and the Christie Hospital under one roof. This all important first step assured the Radium Institute of indispensable hospital privileges for its patients. The marriage of both institutions was never legally sanctioned, but the common-law understanding proved to be fruitful and persisted for decades until the National Health Service sanctified it.

Having invested eight years of his training and practice to radiodiagnosis, Paterson now had to turn to radiotherapy to fulfill his newly acquired responsibilities. His exposure to radiumtherapy at the Mayo Clinic under Dr. Bowing had been brief. He now decided to visit the principal European centers where radium techniques had been developed. He went re-

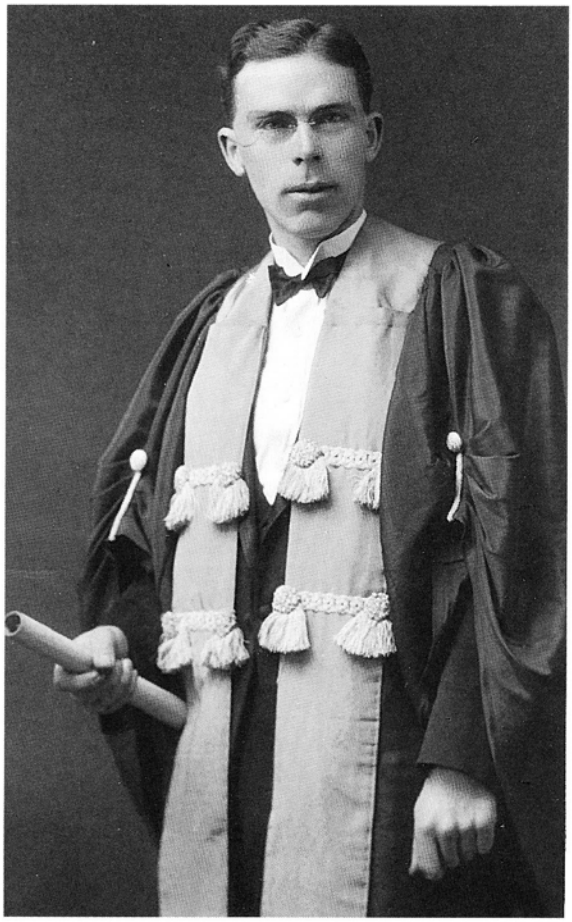

Fig. 16-3. Ralston Paterson, M.B., Ch.B. of the University of Edinburgh (1923). (Courtesy of Dr. John D. Earle, M.D.)

peatedly to the Radium Institute of Paris. Unfortunately, he could not now afford to stay for the required minimum of six months as a working *stagier.* Moreover, Paterson had no gift for languages and, although he had spent four years on French soil, could not communicate well in the language. Nevertheless, he observed Octave Monod (1877–1934)[B] plan and carry out surface radiumtherapy for cancer of the skin with radium element needles or radon mounted on molded Colombia paste. He saw Juliette C. Baud (1893–1979)[B] as she implanted radium needles for interstitial radiumtherapy of cancer of the tongue. He also observed the venerable Claudius Regaud putting into practice the technique he had developed for intracavitary radiumtherapy of cancer of the cervix, using an intrauterine tandem and his colpostat.

Paterson also visited the Radiumhemmet of Stockholm and saw Elis G. Berven (1885–1966)[B] and James Heyman (1882–1956)[B] go through the same procedures with a different dose-time concept. He was particularly interested in the work at Brussels, where Susanne Simon[B] was the capable radiumtherapist and where detailed records of dosimetry were made available to him.

Reflecting on what he had observed, Paterson concluded that the techniques of radium application could be patiently mastered by rote to develop skills. However, what puzzled him most was the dosimetry. In Paris the doses were expressed in millicuries-destroyed, whether using radium element or radon, whereas elsewhere the doses were expressed in milligram-hours. These were expressions of dose at the source: the dose received by any point of a tumor depended on its distance from the source. Moreover, in Paris the radium sources were purposefully weak and the applications protracted, but in Stockholm short, intensive, repeated applications were carried out with stronger sources. To appraise the causes of failure and to be able to teach young physicians, there was a need for both standardization of techniques and a rational dosimetry.

The roentgen (r) had been physically defined and internationally adopted as the unit of X rays delivered at any point. With the help of standard isodose charts, the dose delivered at any point of the anatomy could be estimated. Since radium and X rays were used for the same purposes and were often combined, an expression of radium dosage in roentgens was desirable. Several eminent physicists had attempted such a solution, but the problem required a technical compromise for, unlike X rays, gamma rays did not emanate from a single point source but usually from several sources.

An expression of radium dosage in roentgens became somewhat easier under a standard arrangement of sources, but also required delicate mathematical considerations. Paterson turned to his able research physicist, Herbert Myers Parker, M.Sc. (1910–1984),[B] a very capable theoretician. Together, Paterson and Parker developed a series of rules for the homogeneous irradiation of a given surface area, stipulating the amount of radium and the arrangement of sources necessary to deliver the equivalent of one thousand roentgens.[452,459] This proposal met with great success, and it was followed three years later by a similar system for interstitial implants.[453,460] The blending of Paterson's clinical judgment and Parker's mathematical skill produced the widely adopted Paterson-Parker system for which they are known.

To a greater extent than most of his contemporaries, Paterson understood the need to integrate physics into the everyday practice of radiotherapy. He insisted on giving Parker equal rank with his medical associates. The same status was granted to Parker's successor, the amiable Welsh gentleman Jack Meredith (1913–).[B] "Meredith was a hard worker, a highly respected and charming person who generally wore a happy smile," wrote Dr. Kaye-Scott. Meredith

edited a textbook on the Manchester system which became an indispensable reference to those working in the field.[482] The distinguished London physicist, William V. Mayneord (1902–1988) was credited with having made medical physics respectable. But, Meredith added, "Paterson made it possible."

In the unalluring surroundings of an industrial community, away from egotistical academic centers, Paterson's pragmatic leadership brought the Holt Radium Institute to the forefront of therapeutic radiology, attracting students from all over the world. A list of Paterson's associates testifies to the care with which he chose them. Margaret Christine Tod (1900–1953)[B] was his principal associate and deputy. She did important work on treatment of cancer of the skin and also on intracavitary radium treatment of carcinomas of the maxillary antrum and endometrium. Edith Paterson[B] took charge of the delicate task of cancer treatment in children, developing original techniques for irradiation of pediatric tumors. She also took charge of radiobiologic and cancer research in association with their biochemist, Walter M. Dale (1894–1969), and undertook to develop protocols for chemotherapeutic trials. For these trials she employed a randomization similar to that advocated by Paterson in other tumors.[10]

The Holt Radium Institute rapidly became an institution with its own style. Treatments were standardized for the same type of tumor. For reasons of economy, courses of roentgentherapy were limited to three weeks. Elaborate plaster casts of patients were made to facilitate routine daily irradiation. Paterson and his associate Joseph Leslie Dobbie (–1984) originated the small-field beam-directed concept as a technological refinement in roentgentherapy. To facilitate technological accuracy, the pin-and-arch gadget was introduced. Wedge filters also became part of the armamentarium. They were the subject of serious study by F.W. Tranton, clinical physicist. The Research Committee headed by Paterson and composed of John Boland and David Green, physicist, guided the introduction of megavoltage in clinical practice. John Gordon Stewart (1921–1977) was an important part of this effort.

Paterson, Tod, and Meredith introduced changes in the classical concepts of irradiation for cancer of the cervix. Regaud's cylindrical colpostat radium containers were replaced by ovoids with the shape of the isodose curve of the radiator-emitted rays. To integrate the X-ray dosage administered from outside the pelvis with the gamma dosage administered internally from the uterus and vagina, they chose two arbitrary points, A and B, and defined points of the pelvis where both doses were estimated in roentgens. The wide disparity in the intensity with which one and the other dose were administered was not taken into consideration. A retrospective report of results in the treatment of carcinoma of the cervix, showed an absolute five-year survival of all patients treated (Stages I to III) of forty-six percent in 1938, as compared with thirty-eight percent for all of the years 1932–38.[960b]

It was never shown, however, that the above pragmatic innovations actually improved on results previously obtained elsewhere without them, but they certainly conferred a sense of self-assurance on the neophyte and discouraged irresponsible amateurs. These tenets also made easier the understanding, adoption, and teaching of radiotherapy. As a result, the Manchester dosimetry, pin-and-arc, ovoids, alphabetized pelves, mold rooms, etc. changed the character and procedures as well as the appearance of countless departments of radiotherapy throughout the world, and left their mark on them.

Clinical records of patients treated at the Holt Radium Institute were kept accurately by Elsie Royle Mansell. All patients registered were "horoscoped," meaning that their birth dates were specially noted. Paterson pioneered the randomization of cases for scientific comparison: on clinical trials of alternate

Fig. 16-4. Ralston Paterson, M.D., F.R.C.S. (Ed.), Director of the Holt Radium Institute (1931).

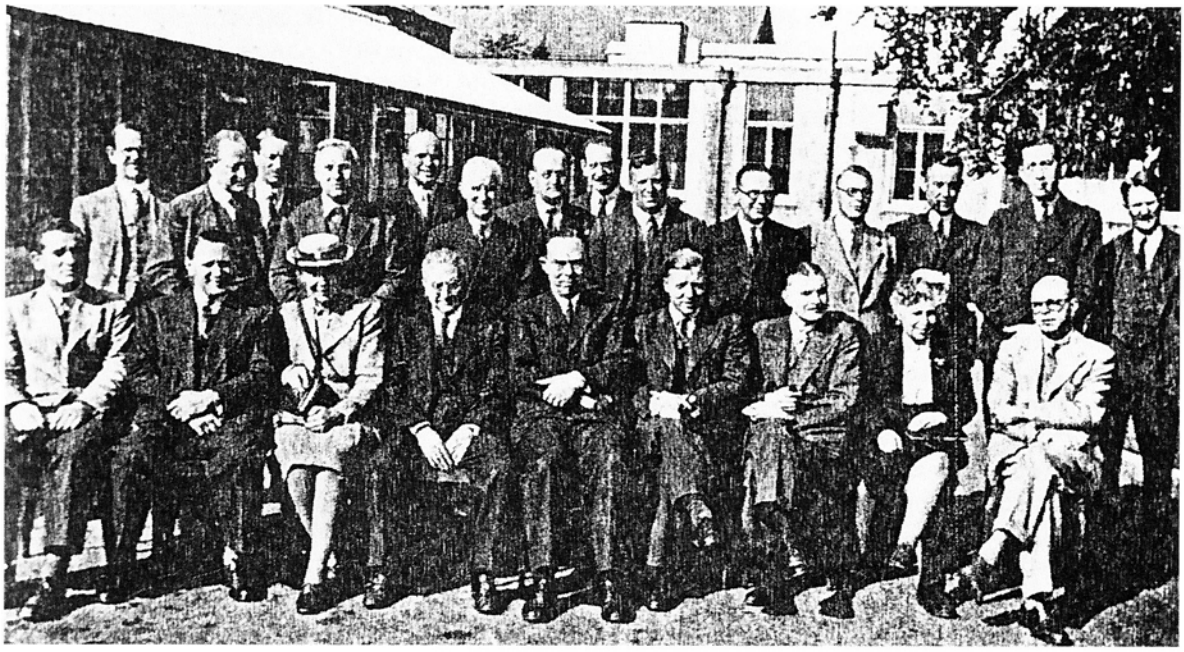

Fig. 16-5. Gathering of former members of the Radiotherapists Visiting Club (Oxford, 1950). *Front row*: Robert McWhirter (Edinburgh), Brian Willingham Windeyer (London), Constance A.D. Wood (London), Gioacchino Failla (guest, New York), Paterson, Frank Ellis (Oxford), John Ramsbotton Nuttal (Leeds), Sylvia P. Widoger (Newcastle), Walter M. Levitt (London). *Back row:* A.G.C. Taylor (Southampton), Anthony Green (London), Robert Morrison (Birmingham), George W. Bloomfield (Sheffield), W. Roy Ward (Northwood), A.A.D. LaTouche (Leeds), George C. Binnie (Stoke-on-Tent), S.P. Raban, Oliver Chance (Dublin), F.E. Chester-Williams (Bradford), John Bromley (Birmingham), J.A.C. Fleming (London), A.J. Durden-Smith (Northwood), Joseph Stanley Mitchell (Cambridge).

procedures, the randomization was based on the even or uneven year of the patient's birth. He was particularly proud of his contributions to medical research. The record room extended to accommodate Marion H. Russel, the dedicated statistician in charge of issuing periodical objective reports on the results of treatments. Follow-up of patients was specially pursued.

Paterson emphasized his policy of centralized radiotherapy, but paid special attention to the strengthening of relations with the "outside clinics," satellite centers through which members of his staff offered consultant assistance. In exchange these centers kept the institute abundantly supplied with patients. The Institute served a population of two million in northwest England, and administered treatment to over two thousand cancer patients each year. Initially, opposition was encountered from surgeons of the Christie Hospital, who claimed the use of radium as a surgical privilege. A Fellow of the Royal College of Surgeons himself, Paterson held fast to the view that radiotherapy should be left to radiotherapists. Gradually his view prevailed. The Institute brought abundant other surgical work to the surgeons.

Although treatments were regimented, personal attention to patients was not. Paterson insisted that patients should not be made to wait unduly for treatments and that they should be given all necessary explanations. He engaged volunteer women to provide calm assistance and comfort. He even encouraged them to wear "pretty frocks" rather than uniforms. A program of public education operated by John Waterfield offered frequent lectures to the laity by members of the institute's staff.

Paterson ran his operation tightly ("as a well oiled machine"). His influence was felt in all of the various activities. He made daily ward rounds in alternate divisions with his associates. Discussions at the bedside often revealed his wife to be the finer clinician. The high point of the day was the noon conference at which new patients were presented. Paterson would solicit comments from or ask questions of his junior and senior associates. He welcomed arguments as a means of emphasizing his views. He made the final decision as to the course to follow, and seldom was there any dissenting opinion. Departures from Paterson's standards brought trepidations.

The staff of the Manchester Institute developed a stylish proclivity for the use of initials instead of names and sometimes of phrases: Ralston Paterson was called, and liked to be addressed as, R.P. Margaret Tod was M.C.T., Edith Paterson was E.P., and Parker was H.M.P. The clinical records abounded

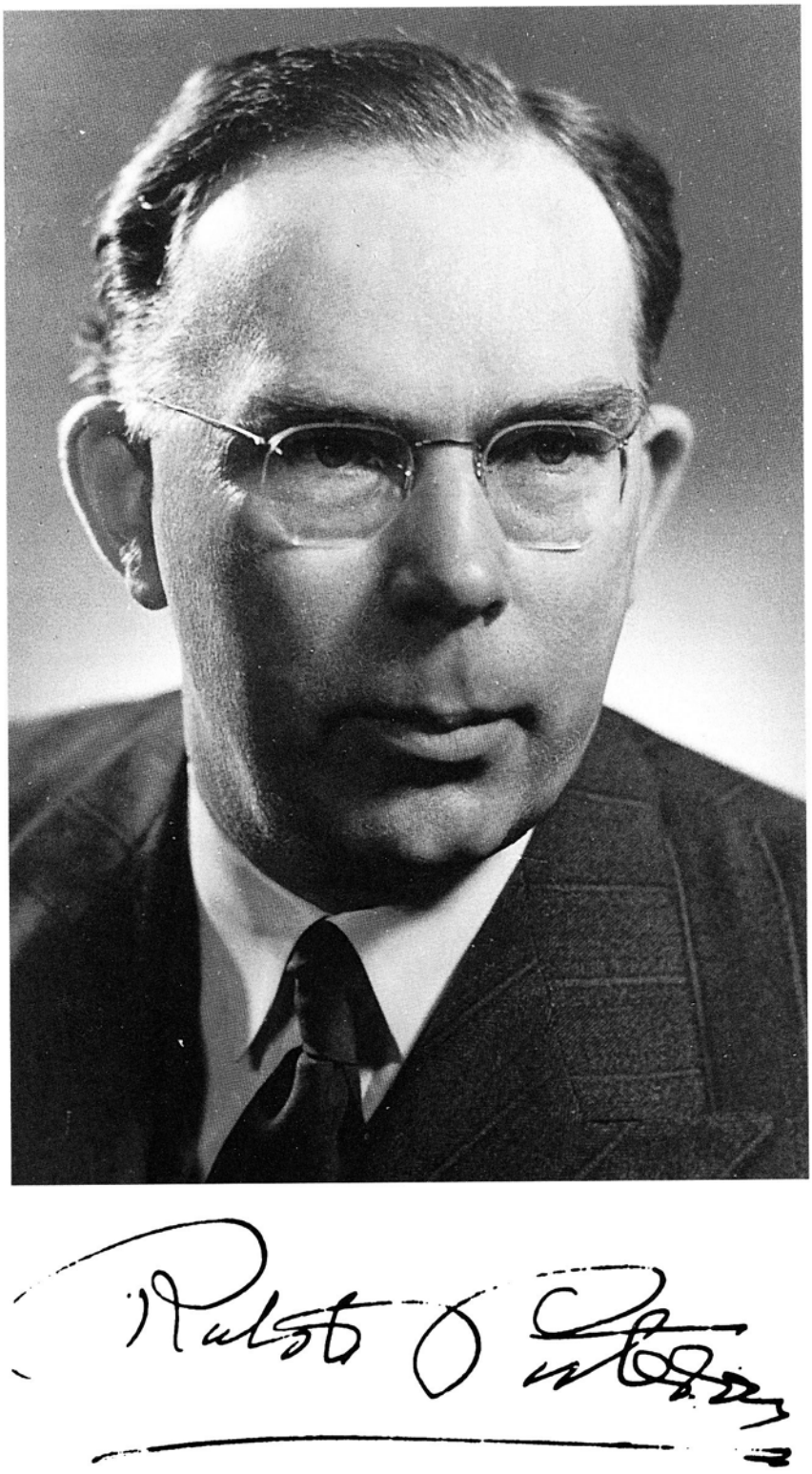

Fig. 16-6. Ralston Paterson, M.D., C.B.E., President of the International Congress of Radiology (1950).

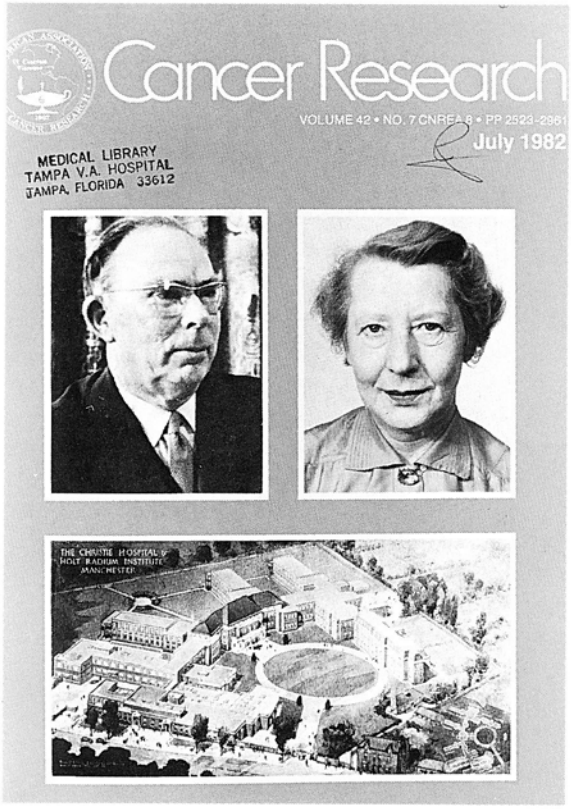

Fig. 16-7. Cover of the July 1962 issue of *Cancer Research* honoring R.P. and Edith Paterson and the Holt Radium Institute.

with cryptic statements, such as NMTBD for "nothing more to be done."

The Radium Officers, whom the National Radium Commission of the British government had originally assigned in 1929 as custodians of radium in various parts of the country, gradually became the natural consultants in radiumtherapy. With time they also assumed responsibility for X-ray therapy. They formed the habit of meeting at one another's place to discuss their problems. Paterson entered this group and promptly became the moving spirit of the Radiotherapists Visiting Club (Fig. 16-5). At their meetings, they exchanged information, ideas, and devices, and discussed cases, untoward effects, and mistakes in an informal spirit of comradeship. They traveled in open touring cars and roadsters, sometimes at dangerous speeds.[462] This group of young, mostly self-taught radiumtherapists, became the nucleus which, in 1935, gave birth to the (British) Society of Radiotherapists, of which Paterson became president. He was also one of the principal architects of a merger in 1939 of this society with the British Association of Radiologists, formed principally by radiodiagnosticians, to form the Faculty of Radiology.

The development of the Holt Radium Institute had gathered momentum and strength when, in September 1939, England entered the second World War. Naturally, there was considerable disruption among the staff and in the operation of the institution, but except for the first twelve days of the war there was no interruption of services.[460b] The radium was lowered into a deep bore hole in case of air raids. Meredith arranged for the operation of a radium emanation extraction plant in a Derbyshire cave, and implants continued to be made with radon sources. In 1943, over three thousand new patients received radiotherapy.

In 1943 the Patersons flew to Australia and visited departments of radiotherapy in Sydney, Adelaide, and Melbourne. At the request of the Australian government, they advised on the organization of regional centers for the treatment of cancer. After the war, Paterson resumed his efforts on behalf of the Holt Institute. With the help of some of his old associates and new ones who joined him, he organized a one-year course of lectures and demonstrations which, after an examination, entitled the registrants to the Diploma of Medical Radiation Therapy (D.M.R.T.). His detachment from the University gave him some difficulties in this endeavor. Similar courses and diplomas were offered at other centers in England, but the Manchester course was best attended because of its strength in physics.

In 1947 Paterson published his book, *The Treatment of Malignant Disease By Radium and X-rays.*[461] Honoring its subtitle, *Being a Practice of Radiotherapy,* the book is a technological vade mecum of modalities of irradiation and elaborate considerations of brachytherapy. The book failed to emphasize the considerable importance to the radiotherapist of clinical skill and an understanding of pathology of tumors. However, it responded to a demand resulting from the scarcity of centers with thorough training in therapeutic radiology where technical experience and knowledge of cancer were properly blended. Meredith's book, *Radium Dosage, the Manchester System,* was even more appreciated because of its modest scope and basic strength.[431b] It was widely used. In time the Holt Institute saw its equipment properly expanded to include linear accelerators and betatrons.

The sixth International Congress of Radiology had been scheduled to be held in Germany in 1940. The designated president was the venerable Hermann Holthusen (1886–1871), of the Sankt Georg Hospital in Hamburg. Because of the war, the event was canceled. After the war, it was decided to hold the Congress in England. The logical choice for the presidency was Albert Ernest Barclay (1876–1949), but he was in poor health. Ralston Paterson was cho-

sen instead. The Congress took place in London, 23–29 July 1950. Paterson had four effective vice presidents: Seymour Cochrane Shanks (1893–1980) for diagnostic radiology, Brian Willingham Windeyer (1904–) for therapeutic radiology, Frederick Gordon Spear (1895–) for radiobiology, and William Valentine Mayneord (1902–1988)[B] for radiation physics. It was the best-organized and attended congress of radiology to that date. Thirty-nine nations sent official delegations to London. Paterson was the first and, to this date, the only radiotherapist to be president of the International Congress (Fig. 16-6).

An impressive number of Paterson's senior associates went on to positions of leadership in radiotherapy in the United Kingdom: Robert McWhirter (1904–) went to Edinburgh, Geoffrey Walter Boden (1908–1957) to London, Joseph Stanley Mitchell (1909–) to Cambridge, Benjamin Jolles (1906–1985) to Nottingham, John Ramsbotton Nuttall (–1986) to Leeds, John Struther Fulton (–1967) to Liverpool, Keith G. Halnan to Glasgow, Glynn C. D. Evans (1911–1961) to Cardiff, and Peter Bertram Kunkler to Leeds. Thomas Allistair Watson (1914–), John M. W. Gibson, William Duncan, and S. M. Jackson went to Canada. John Boland (1916–1986) went to New York.

Many of Paterson's junior associates, all trained under him, have also had brilliant careers as radiotherapists: David Georges Bratherton went to Cambridge, W. D. Fraser (1919–1981) to Nottingham, N. T. Nichol to Leicester, A. B. Goodman to Canada, Frank Batley (1920–1983) and William Charles Constable (1929–) to the United States, and Olive Chance (1903–) to Dublin. Among the junior associates of foreign origin, Ethlyn Trapp (1891–1972), Ivan Hamilton Smith (1909–) and James Stuart Lott (1920–) returned to Canada. Prabhat Banerjee (1928–), originally from India, also went to Canada. Ivor Fix (1924–1985) originally from South Africa went to the United States (subj. note 16.1).

Testifying to the world-wide scarcity of training programs in radiotherapy and also to the appeal of the Manchester course, those who went there were legion. Some stayed for the DMRT, but many did not. Although Paterson adamantly discouraged attendance by those planning to practice general radiology, quite a few came. Among the Europeans were M. J. O'Halloran from Ireland, W. Jasinski from Poland, Henri Lokkerbol from the Netherlands, Milan Spoljar from Yugoslavia, and Claudio Valdagni from Italy. From farther away were Fernando Germano Bloedorn[B] from Argentina, Joseph P. Concannon from Canada, H. David Friedelberg from Rhodesia, Rutherford Kaye-Scott and Arthur G. S. Cooper from Australia, Helmut Kasdorff from Uruguay, Santiago Londoño from Colombia, Osolando Machado[B] from Brazil, Jose Noriega-Limón from Mexico, Mayer Zaharia from Peru, and Nirode Byali Roy from India. Many who had received their training elsewhere also went to Manchester to round out their experience, but principally to take Meredith's course of lectures on physics and radium dosimetry. Among these were: Ralph M. Scott and William T. Moss from the United States, and Victor A. Marcial from Puerto Rico. However, the list of those who stayed for varying periods of time is much longer.

The seventh International Congress of Radiology was held in Copenhagen in July 1953. Jens Nielsen (1900–1964), director of the Radium Station, was vice president in charge of radiotherapy. Nielsen extended an invitation to all registered radiotherapists for a luncheon at his institution. During the luncheon, he made an impromptu proposal for the creation of an International Club of Radiotherapists. The proposal met with warm approval, and a committee was elected to decide on the details of organizational structure to be presented at the next meeting. The committee consisted of Ralston Paterson as chairman, Elis Berven and Magnus Strandqvist from Sweden, and Simeon T. Cantril from the United States.

Fig. 16-8. Pen portrait of Paterson by Topolski. (Courtesy of Dr. Keith E. Halnan.)

Promptly, all present received a short typewritten message from Paterson calling a meeting of the "embryo" International Club for Thursday, 23 July 1953, at the Dormus Medica of Copenhagen. At the meeting, the recommendations of the committee were discussed and modified, and a final organizational structure was approved. Those in attendance provided additional names from their own and other countries, and a total of seventy-seven were formally accepted as founding members. Ralston Paterson was formally elected the first president. Jens Nielsen was to serve as European Secretary and Simeon T. Cantril as Secretary for the Americas. Paterson kept a keen interest in the organization. He and Edith Paterson attended subsequent meetings in Mexico City-Cuernavaca (1956) and Langrisser-Munich (1959). They were not present at the meeting on Mount Gabriel-Quebec (1962), but attended the following ones in Rome-Tarquinia (1965) and Tokyo-Hakone (1969) (subj. note 16.2).

In addition, Paterson traveled to Brazil (1948) and was a member of the British medical delegation to the USSR (1956). He also traveled to British Columbia, New Zealand, India, Hong Kong and Thailand (1958). He was appointed Commander of the Order of the British Empire (CBE) in 1949. He was president of the Faculty of Radiologists (1943–1946), and later honorary president and gold medalist. He became the first professor of radiotherapy at the University of Manchester, and later emeritus professor. Among other honorary memberships, he held that of the Health Physics Society.

In 1962, at sixty-five, Paterson retired from the Holt Radium Institute and from medicine ("a waste of expertise," lamented an admirer) (Fig. 16-7). He went to his farm in Moffat, in the Scottish southern upland where his ancestors had lived and where many of his cousins remained. Not far from a spectacular waterfall, the Grey Mare's Tail, with the beautiful countryside at his doorstep, amid the heather and grassy slopes of wild harebells and bog myrtle, he sought to deal with the challenging problems of nature in stimulating freedom. With a dedication appropriate to an enthusiastic young rancher, he gave himself to the vicissitudes of breeding and marketing sheep, attending auctions, etc. For the last nineteen years of his life, sheep were the subject of his interest. Although he appeared no longer concerned with radiotherapy, he maintained an interest in former colleagues and inquired about them and their families. Mrs. Paterson has continued with the activities required in keeping sheep, to which she is as dedicated as her late husband. The Patersons had three children: Elspeth (1932–) and Colin Ralston (1936–) became physicians; David Irvine (1930–) is a Civil Engineer.

On 16 December 1969, before a meeting of the Netherland Society of Radiology, Paterson gave a paper in which he stated that a better understanding of the mode of action of radiations offered greater promise of major advances in cancer treatment than chemotherapy.[462] In 1973, before the British Institute of Radiology, he offered his reminiscences of the Radiotherapists Visiting Club, and emphasized that radiotherapy was as yet the only means other than surgery capable of curing cancer.[462] On Paterson's retirement, Eric Craig Easson (1918–1983) was appointed director of the Holt Radium Institute. Two other former senior associates became directors in succession: Robert C. Gibb and R. C. S. Pointon.

Ralston Paterson died in his sleep in his home on 31 August 1981 (Fig. 16-8).[348,433] He was a man intensely dedicated to simple ideas. "He was extraordinarily intelligent and pragmatic, and had a contagious dynamism," wrote Noriega-Limón. He disapproved of the private practice of medicine and favored socialization. Ironically, with the establishment of the National Health Service in England, he saw himself obliged to take a part-time position as a private consultant in order to keep his own economic equilibrium. At the Holt Institute, Paterson's presence was always felt. He was surrounded by admiring associates and his students' attitudes bordered on adulation. "One has rarely an opportunity to meet such a man in a lifetime," wrote Dr. Banerjee. Descriptions of Paterson's character by those who knew him are often tempered by second qualifications. He was poker-faced and steely-eyed, but friendly; a stubborn dictator, but not unkind: in short, a gentle despot. These retrospective descriptions of the man's character do not gainsay or diminish the very important role played by Ralston Paterson in the rising recognition of therapeutic radiology as a respectable medical specialty.

Subject Notes

16.1 In addition to those mentioned in the text, the following were senior associates of Paterson: Moya C. Cole, Maureen B. Duthie, Kenneth S. Holmes, W. Jackson, A.G.G. Melville, M.A. Stewart, I.D.H. Todd, Hugh C. Wamington, J.A.C. Fleming. The following were junior associates: F.M. Benton, D.G. Bradshaw, Peter Coy, P.M.C. Corlette, Maureen A.C. Cowell, J.A. Dalby, Finbar H. Cross, Fran Kelly Mark McEvely, N.T. Nichol, J. Archie Orr, Dorothy Pearson, D.J. Riordan, and J.E. Stapleton.

16.2 The International Club of Radiotherapists was originally limited to one hundred members with no more than fifteen for any country. It met officially at the time and in the country where the International Congress of Radiology was held. There were also interim regional meetings in the vicinity of Rio de Janeiro (1954); in Ringfield, Kent, England (1958); in Sao Paulo, Brazil (1961); in Caracas, Venezuela (1964); in Punta del Este, Uruguay (1967); and Houston, Texas (1970). After Ralston Paterson (1953–56), Jens Nielsen became president (1956–59), then Jean Bouchard (1959–62), J.A. del Regato (1962–65), Robert McWhirter (1965–69), and José Noriega-Limón (1965–69). The last official meeting of the International Club of Radiotherapists took place in Madrid in 1974. On that occasion, the membership unanimously decided to become the International Society of Radiotherapists and to open membership to all those eligible under the rules. Unfortunately, the committee elected to proceed with the wish of the membership, and confused the issue with that of creating a section of radiotherapy in the International Congress, a worthy endeavor but a different one. The International Club ceased to exist, and no international society of therapeutic radiologists came into being. The American members of the International Club, starting in 1955, met twice annually, inviting other American radiotherapists to their informal meetings. These gatherings led to the founding of the American Club, and later to the American Society of Therapeutic Radiologists, now ASTRO.