

Chapter 8

James Ewing

(1866–1943)

“Oncology ... the most complex and fascinating field of pathology.” (1919)¹⁸⁴

A baby christened James came as a Christmas present to the household of Judge and Mrs. Thomas Ewing in Pittsburgh, Pennsylvania, on 25 December 1866. His mother, the former Julia Ruppert Hufnagel (1829–1902), of Stockbridge, Massachusetts, was of German extraction. A member of the first graduating class of Mount Holyoke College, she was interested in music and social work and became a teacher. His father, Thomas Ewing (1827–1897), of Scotch-Irish extraction, also was a teacher who became a lawyer, a judge, and an elder of the Presbyterian Church.

In 1880, when he was fourteen years old and a student at Central High School in Pittsburgh, James suffered from osteomyelitis of the femur and was confined to bed for two years. During his illness, he was tutored by a genial teacher, Henry Gibbons, “... who balanced delicate shades of meaning in Latin and Greek phrases.”¹⁹⁶ James entertained himself with his collection of mounted butterflies, and won a public contest by providing the longest list of words composed with the letters in “Constantinople”: the prize was a microscope. Microscopes, semantics, and a slight limp were to remain his life companions.

In 1884 Ewing entered Amherst College. From Pennsylvania to Massachusetts, he traveled partly by stage coach and partly by train, and took two days to make the journey. A draining sinus persisted in his thigh, and he was obliged to use a walking cane. At Amherst he read *Les Misérables* and Dante, studied Plato, translated excerpts from the *Odyssey*, and admitted to an awakening in Latin (“a great gut”). He was most interested in the subject of philosophy which, with the help of Prof. Charles E. Garman (1850–1907), brought him a return of self-assurance. He attended prayer meetings and Episcopalian services. He wrote home regularly to Papa and Mama,

and noted the cloudy, rainy, and sometime very cold (minus ten degrees) days. He joined the Hitchcock Society (elocution, debate) and the Delta Upsilon fraternity. He played billiards and, in spite of his lameness, played tennis and took a genuine interest in boxing (the “best exercise”). Occasionally he played poker, sang bass in the moonlight, and admitted to “a great bust drinking with friends.”¹⁷⁷ In the summer of 1885, while spending his vacation in Pittsburgh, he was very seriously ill. His weight went down to seventy-five pounds. In 1888 he received his B.A. degree and a Phi Beta Kappa key (Fig. 8-1).

In the fall of 1888, having passed the entrance examinations, Ewing was admitted to the New York College of Physicians and Surgeons, which had been moved recently to West 59th Street.³⁹³ Payment of tuition left the students free not to attend classes, and many never did, perhaps with good reason: “... not the least depressing ... was the shocking illiteracy of a few of the lecturers.”¹⁷⁷ The main sources of instruction were the private preceptors or “quiz masters” who, as Ewing noted, “brought the art of cramming to the very zenith of perfection” for fees of fifty to one-hundred dollars per course. Ewing registered with one of the best, Dr. Frank Hartley (1856–1913), a surgeon with special interest in cancer of the upper air passages. At the end of three years came the exacting final examinations and the competition for internships. The commencement exercises of what had now become the College of Physicians and Surgeons of Columbia University took place in June 1891. To celebrate his attainment of this goal, Ewing gave up his walking cane.

After graduation Ewing worked for six months in the surgical service of the Western Pennsylvania Hospital of Pittsburgh, then returned to New York



Fig. 8-1. James Ewing (1888) upon graduation from Amherst College, Massachusetts.

City to serve an internship at both Roosevelt Hospital and Sloane Maternity, a coveted position attained only by the best graduates in very competitive oral examinations. He served under Dr. Francis Delafield (1841–1915) and became interested in the laboratories. He frequently assisted the hospital pathologist, Dr. Eugene Hodenpyl (1863–1910), in the performance of his rigorously systematic autopsies.

Horse-drawn street cars trundled along the cobblestoned and weakly-lit streets of Manhattan. In the 1890s, sons and daughters of former slaves were conspicuous along Sixth Avenue, the gay and lively heart of the city. Then, as now, poverty, uncollected garbage, and despair crowded each other in certain quarters of the teeming city. And then, as now, New York City had an ineffable fascination which attracted those with a restless intellect. Ewing would live there for the rest of his life.

At Sloane Maternity, Ewing first came under the influence of Prof. T.M. Prudden (1849–1924). He was led to accept a position in 1893 as instructor in histology at Columbia University, and in 1894 went to study pathology in Germany. In 1897 Ewing's father died at the height of his professional activity. "My father ... was a man of tireless energy, pure intellect and complete self-effacement," wrote Ewing.¹⁹⁶ "If I have accomplished anything ... it has been solely be-

cause of his example of unflagging industry."¹⁷⁹ That same year, Ewing was promoted to Assistant in Clinical Pathology under Dr. Prudden. "Prudden brought to his task a poetic imagination, scientific idealism and a carefully trained intellect," he remembered. "... To him I owe my main tendencies and conceptions as a physician and as a pathologist."¹⁹⁶ Hoping to develop a sustaining practice of medicine, Drs. James Ewing and William Stephen Stone (1867–1946) opened an office on West 57th Street. Their few patients allowed for considerable time on an impromptu tennis court in the vacant lot behind their office.

In 1898, the nation's emotions were aroused by the Spanish-American War. The flurry of initial victories, brief hostilities, and minimal casualties all were reasons for rejoicing. But as a disproportionately high number of non-combat deaths continued to mount, there was distress and resentment. In the aftermath, thousands of soldiers and officers were evacuated in hospital ships from Manila and from Camp Siboney in eastern Cuba to Camp Wikoff in Montauk, Long Island. Many of them, including Major William C. Gorgas, suffered from typhoid fever exported from American training camps and propagated abroad, fuelled by lack of proper diagnosis and preventive measures. Ewing volunteered as a contract surgeon to the U.S. Army and was assigned to Camp Wikoff. He examined the blood of over eight hundred patients and reported his carefully noted results.¹⁷⁶ The experience attracted his interest in the subject, and he wrote a total of ten papers on the pathogenesis, diagnosis, and treatment of typhoid and malarial fevers.

In 1899, when he was thirty-three, Ewing was appointed the first professor of pathology at Cornell University (Fig. 8-2). "It was a crowning good fortune to be thrown with such stalwart figures ... and to be one of the instruments through which they worked," he wrote.¹⁹⁶ He gave himself to his tasks with characteristic dedication and devotion. He lectured two hours daily to sophomore students. After an initial presentation of a few minutes from the speaker's platform, he walked around the room, discussing specimens, giving individual explanations, and answering questions. He then returned to the platform and called the class to attention by saying "Gentlemen," although there were usually a few female students present, including his faithful associate, Dr. Elise L'Esperance.^{197,608} To the last of his lectures, he was very popular with the students.

On 10 July 1900, Ewing married Catherine Crane Halsted, a beautiful young woman ten years his junior. "She was beautiful to look at," said her sister-in-law, "as well as beautiful in nature." The blissful union brought Ewing a pleasant measure of participation in the cultural life of the city, which they

both enjoyed. Early in 1902, a son, James Halsted, came to enliven their dwelling on the sixth floor of the Rutland Apartments at 260 West 57th Street on Columbus Circle. Marriage did not detract from Ewing's work. He wrote a treatise on hematology, *Clinical Pathology of the Blood*, which he dedicated to Prof. Prudden, "in appreciation of his constant aid, freely rendered."¹⁷⁹ He also edited a translation of Hans Schmauss's *Textbook of Pathology and Pathological Anatomy*.⁵⁶²

The Ewing's marital happiness was to be short-lived: in the summer of 1903, Catherine was pregnant for a second time when, precipitously, she became ill and on 26 July died of eclampsia. It was, wrote Ewing, "... an event that terrified me by the strange cruelty of its details."¹⁷⁷ Already bruised by previous reverses of fate, Ewing recoiled: "I was bitter to see the best thing I had known in the world come to the worst end I had ever seen."¹⁷⁷ Usually a rather neat dresser, he lost interest in his personal appearance. In his search for moral support, Ewing established a dialogue with his old friend and teacher at Amherst, Dr. Charles E. Garman. He admitted that a vague religious faith was worthless when put to the test, yet he desperately needed a spiritual anchor. In times of deep sorrow, men often enter the sphere of poetry. As a philosopher, transforming his doubts into a study of the ultimate reality of things, Ewing wrote: "The full realization of the spiritual meaning of life and death would almost entirely lift the burden, give peace to the broken heart and largely remove the necessity of an individual recompense."¹⁷⁷ The patient dialectics of Dr. Garman proved helpful, and Ewing thanked him, but the pain was to remain inextinguishable. His capacity for affectionate interchange was permanently marred, and he never remarried. He sought to mitigate his misfortune in learning and by unveiling the mystery of his cruel adversary: he studied the process of toxemia of pregnancy. Six papers he wrote on the subject must have borne his silent tears. To take care of his infant son, Ewing sought the help of his mother-in-law. The baby was put first in the care of a nurse, and later of a governess. He bought a house in Westhampton, Long Island, which became his legal residence and where he spent weekends with friends. Ewing enjoyed swimming, and in later years would invite younger members of the staff to Westhampton to play tennis with his son. Sarah S. (Mrs. James) Halsted often helped with the housekeeping. Ewing actually resided in the Hatfield House on West 28th Street, midtown Manhattan, depending often on bread and cheese for nourishment.

In 1902, the C.P. Huntington Fund for Cancer Research was established in the Alfred L. Loomis Laboratory at Bellevue Hospital, under Ewing's su-



Fig. 8-2. Professor James Ewing at Cornell (1901).

per vision. This fortuitous event was to initiate his interest and activities in the field of cancer. With S. P. Beebe as senior co-author, he undertook a study of the venereal lymphosarcoma of dogs, a true neoplasm transmitted by coitus and capable of metastasizing to inguinal and abdominal lymph nodes. The tumor, first studied by Novinsky, was transplanted easily to dogs of various breeds.⁵⁶⁹ It appeared less malignant than lymphosarcoma in man. They suggested the designation of alveolar sarcoma or endothelioma. Beebe and Ewing observed cases of spontaneous regression which affected, simultaneously, the various transplants in the same animal. When complete regression took place, they verified their inability to transplant anew. They recognized the immunological implications and proceeded to study cell cultures in media containing blood of susceptible as well as of immune animals.^{72,73} This singular tumor also has been considered as mast-cell sarcoma and remains a subject of controversy.^{440,609} These experiments stimulated a study of the existing points of view on the etiology of cancer and brought Ewing to the conviction that the parasitic hypothesis was not a valid one for human cancer. His extensive readings of the world's literature familiarized him with modern views, gave him his basis for a lifelong dialogue with the unknown, and prepared the ground for the major compilation he was yet to undertake.¹⁸⁰



Fig. 8-3. The Memorial Hospital of New York (around 1918) at 106th Street and Eighth Avenue.

The Huntington Fund was responsible for an average of six published works annually, mostly on laboratory research. Ewing attended an International Congress of Cancer Research in Paris in 1910, and returned strongly convinced that clinical cancer research needed expansion. He proposed to the New York Hospital the appointment of a commission for clinical research, but his plan ran into difficulties and had to be withdrawn. Yet the attempt had an unexpected dividend; it brought him in contact with James Douglas,^B a wealthy industrialist. "Douglas," said Ewing, "was a man of ideas, ideals and affairs. It was a liberal education to see him in action and an inspiration to share his spiritual view of the objects and responsibilities of living."¹⁹⁶ Douglas was determined to see Ewing's idea implemented. He asked Ewing in 1911 to draw up a "statement of resources" available to start a cancer center. Excluding the Huntington Fund, the total amounted to \$2,400,000. At the suggestion of Cornell's Dean Polk, they decided to approach the General Memorial Hospital with their offer. "I fear Dr. Douglas will become a victim of his own optimism," said Polk prophetically, "but I will go with him as far as he wishes."

At this point, a note on the previous history of the Memorial Hospital becomes necessary to understand Ewing's subsequent dedication of his life's "lengthening shadow."⁹⁴ Dr. James Marion Sims (1813–1883),

the pioneer gynecological surgeon who founded the New York Woman's Hospital, resigned from its staff in the early 1880s because of opposition by the Board of Lady Supervisors to the admission of and operation upon women with cancer. Just before his death, Sims wrote: "A cancer hospital is one of the great needs of the day ... a cancer hospital on its own foundations, wholly independent The subject of cancer is too large and its interest too great to be lodged in a pavilion subsidiary to any other hospital."⁹⁴ John Edward Parsons (1829–1915), an accomplished court lawyer, an upright and honest realist who was a member of the Board of Governors, took up the challenge, enlisting the financial support of Mrs. Charlotte Augusta (Gibbes) Astor (1824–1887) and Mr. John Jacob Astor III (1822–1890). On 7 December 1887, the New York Cancer Hospital was opened at 2 West 106th Street. Continuing lay and professional opposition and the stigma of the disease, as well as chronic mismanagement, brought the hospital the sobriquet "Bastille of Central Park." Eventually, in 1898, staff pressures changed the name of the institution to the General Memorial Hospital and opened it to use for general purposes. Little by little, cancer patients were crowded in two wards, which were partitioned off from the rest.

Douglas and Ewing made an offer to the Board of Managers of the General Memorial Hospital to re-

turn to the exclusive care of cancer patients and establish an affiliation with Cornell in exchange for a legacy of one-third of a million dollars and several grams of radium, then worth \$100,000 per gram. The proposal was accepted by the Board of Managers (by a one-vote majority), and Ewing became acting head as well as pathologist of the institution. In 1913, Ewing and Douglas traveled to Europe for a survey of developments in radiumtherapy. The ward partitions eventually were removed, and the word General was dropped from the name of the institution, which became the Memorial Hospital for the Study of Cancer and Allied Diseases (Fig. 8-3).¹⁹⁴

Over two thousand tons of mined Colorado carnotite ores were being exported annually from the United States for refinement in Europe in 1913. Charles Lathrop Parsons (1867–1954), Chief of the United States Bureau of Mines, persuaded James Douglas and Dr. Howard Atwood Kelly (1858–1943), of Baltimore, to form a partnership with the United States government in order to conserve American radioactive resources.⁹⁴ The cooperative agreement gave birth in October 1913 to the National Radium Institute. Douglas and Kelly bought twenty-seven claims in Paradox Valley, Colorado, and the Bureau of Mines undertook studies of ores, locations, methods of extraction, and production. Three years later, each partner received 3.75 grams of radium, which were eventually utilized at the Memorial Hospital of New York, the Huntington Memorial Hospital of Boston, and the Johns Hopkins Hospital of Baltimore.

In 1913, Ewing reported his observation of certain tumors, apparently primary in lymph nodes, presenting structures suggesting endothelial origins. He offered his view that endotheliomas of the lymph nodes are rather common neoplasms, that they resemble large cell lymphosarcoma, and that they are “probably derived from the reticulum cells of the follicles.”¹⁸² In November of that year, Ewing spoke at the inaugural ceremonies of the Research Hospital of the State Institute for the Study of Malignant Disease, in Buffalo, New York. He pointed out the precedent established by the New York legislature in committing funds to cancer research. “I do not look for any startling discoveries,” he said, “reduction of the cancer mortality will come chiefly from separate factors.” He thought well-founded the search for chemotherapeutic agents which “may someday be successful” and also the possibilities of enhancing “Nature’s own devices.”¹⁸¹

From the moment Ewing decided to devote all his efforts to the problem of cancer, he began to gather material for a book on the general principles of oncology. He had come to realize that the morphologic grouping of tumors, without regard to other factors, prolonged the fallacious concept of a universal cause

for all tumors and retarded progress in the knowledge of neoplasia. “I believe, with Prudden,” he said, “that beyond the autonomy of tumor growth, it is difficult to add any element that will apply to all.”¹⁸⁴ He found that significant facts are best revealed in the study of specific tumors. He decided that his book would present the main features of origin, natural history, and morphology of the various tumors, emphasizing the general dependence of clinical course upon histologic structure. He traced histogenesis as far as it was possible.

After seven years of continuous labor, at the end of 1918, Ewing delivered the manuscript of his book. It was a thorough compilation with detailed references. The title, *Neoplastic Diseases*, emphasized useful discrimination among the various tumors.¹⁸⁴ A work of such scope, approached with such devotion, reminds today’s author that it is not the freshness of the water, but the intensity of the thirst that makes the quenching so pleasant. One looks for a dedicatory page or phrase in this most dedicated effort, but in vain. It is certain that in the long lonely hours of his endeavor, Ewing thought of his self-effacing father, of his inspiring teachers, of his beloved wife, of his teenage son, of his young associates, and of his students. The closest thing to a dedication is his humble prefatory statement that his main object and hope is to contribute to a reduction of cancer mortality: thus, the book was dedicated to everyone. *Neoplastic Diseases* became, and remained through four editions, the standard reference of tumor pathology everywhere. For nearly a decade in preparing his book, Ewing wrote on a drawing board on his lap, while seated on a straight upholstered chair in his office. He “worked with zealous ardor, holidays, nights, week-ends, stopping for minutes only to fight the paroxysms of tic douloureux.”⁴ The trigeminal neuralgia lasted for several more years until he agreed to submit to neurosurgery under Harvey Cushing in 1926. The distressing paroxysms of pain were then replaced by chronic painful anesthesia and corneal difficulties, which disabled him for the rest of his life.

In building up the Memorial Hospital, not the least of Ewing’s tasks was to recruit collaborators with a principal interest in malignant tumors. Dr. H.H. Janeway,³ a surgeon from New Brunswick, New Jersey, wrote an article on cancer of the skin which was published in a German journal in 1910 and had impressed Ewing.¹⁹⁸ In 1912, Janeway took charge of cancer surgery and radiotherapy at Memorial Hospital. His principal concern was management of the large amount of radium put at the disposal of the institution, including housing, means of protection, and clinical applications. A good part of the radium was placed in a radon (radium emanation) extraction plant designed by Dr. William Duane (1872–1935),

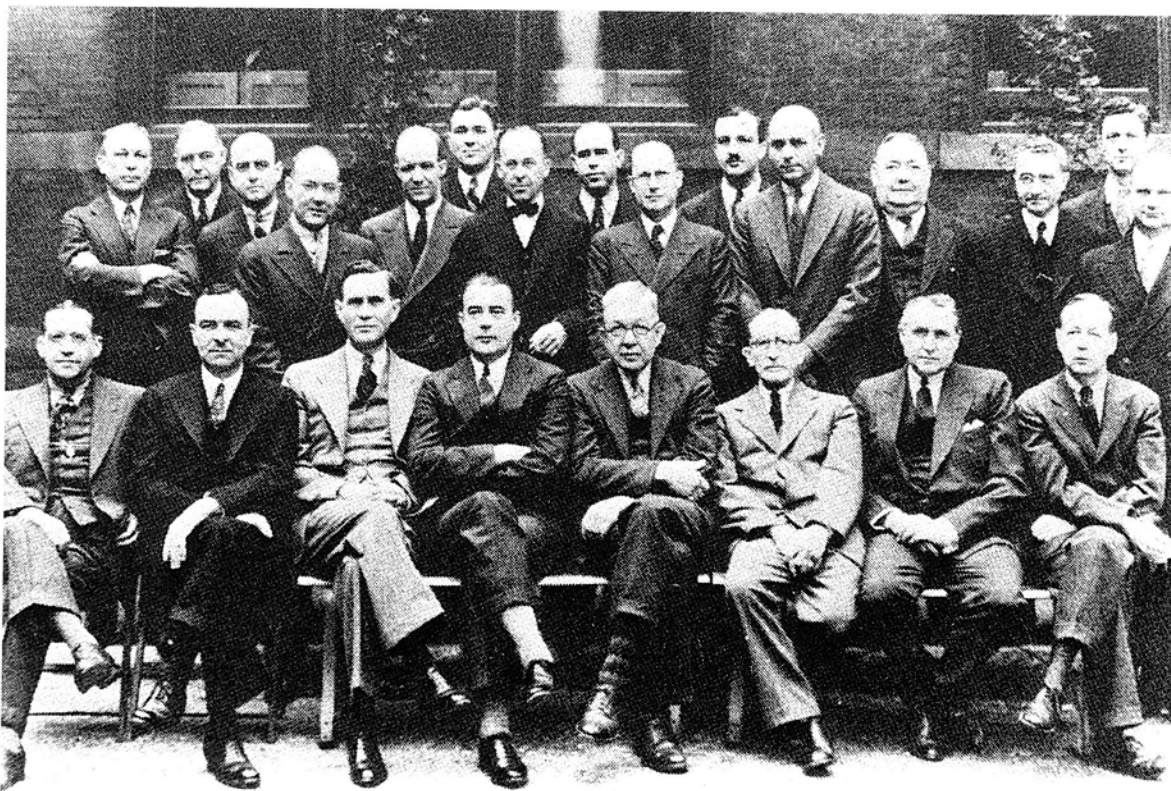


Fig. 8-4. Attending staff of the Memorial Hospital of New York in 1938. Seated: Norman Treves (1874–1947), George Ernest Binkley (1889–1956), Hayes Elmer Martin (1892–1977), William Bradley Coley (1862–1936), Benjamin Stockwell Barringer (1877–1953), James Ewing, Frank Earl Adair (1887–), and Fred Waldorf Stewart (1894–). Standing: Ralph Eugene Herendeen (1886–1966), biologist Halsey Joseph Bagg, Ph.D. (1889–1947), George Thomas Pack (1898–1969), William Spencer MacComb (1900–), Gordon Palmer McNeer (1905–1967), Alfred Franklin Hocker (1903–1948), George Hall Hyslop (1893–1965), Joseph Helms Farrow (1904–), Archie Leigh Dean (1891–1963), Gray Huntington Twombly (1905–), Lloyd Freeman Craver (1892–), superintendent Mr. George Holmes, physicist Gioacchino Failla, D. Sc. (1891–1961), Edgar Leonard Frazell (1907–), and Frank Raymond Smith (1896–).

consultant biophysicist from Harvard. Duane developed the concept of radon glass “seeds” to be implanted in tumors.¹⁶⁸ Gioacchino Failla (Chapter 14), the young and resourceful Memorial Hospital physicist, modified the procedure and introduced gold “seeds” which provided the advantage of filtration.²¹⁶

Other early recruits were Douglas Quick (1891–1966),^B a young Canadian surgeon who took interest in radium-therapy of cancer of the upper air passages; Benjamin Stockwell Barringer (1877–1953),^B who was interested in urological cancer; William Patrick Healy (1876–1954), who chose the study of gynecological cancer; and Burton James Lee (1874–1933),^B who dedicated himself to cancer of the breast.

World War I diverted the group’s attention. Ewing became again a contract surgeon. Surgeon General William C. Gorgas assigned him to the Army Medical Museum in Washington, D.C., where he endeavored to bring pathological anatomy to the same level as clinical microscopy.^{274,187} Physicians in the

American Expeditionary Force returned with enthusiastic accounts of medical work being done in Europe. Ewing recruited young medical officers, some just out of uniform: Frank Earl Adair (1887–1981), George Thomas Pack (1898–1969), Lloyd Freeman Craver (1892–), Max Cutler (1899–1984),^B and Hayes Elmer Martin (1892–1977).^B Each of these men became a world leader in his respective sphere (Fig. 8-4). A young pathologist, fresh from Mallory’s laboratory in Boston, met Ewing at his rolltop desk and accepted a verbal offer of six thousand dollars a year to become his assistant.⁶⁰⁴ Thus Fred Waldorf Stewart (1894–)^B became Ewing’s worthy successor and a world authority on pathology of tumors in his own right.

In 1920 Ewing reported to the New York Pathological Society his observation of a malignant tumor of bone, arising preferentially in certain bones and frequently in teenagers, often accompanied by pain and fever and suggesting osteomyelitis. The tumors



Fig. 8-5. Caricature of Dr. Ewing by one of his students. (Courtesy G. Twombly, M.D.)

metastasized or made themselves manifest simultaneously in other bones, but were characterized by their radiosensitivity. Ewing described the tumor as composed of "broad sheets of small polyhedral cells with pale cytoplasm, small hyperchromatic nuclei, well-defined cell borders, and complete absence of inter-cellular material."¹⁸⁹ He considered this tumor, then commonly designated as round-cell sarcoma, as a special entity arising from the bone vessels and designated it as "endothelioma of bone," in preference to myeloma, which he thought should be reserved for tumors of the specific cells of the marrow.¹⁸⁵ Ewing gave particular importance to the presence of cells lining channels containing intact blood. In a second report in which he admitted that the histologic picture was a complicated one, he referred to it as "endothelial myeloma."¹⁸⁹ He noted that some of his colleagues in the Codman's *Bone Tumor Registry* were inclined to be too free in making this diagnosis. One fact escaped the attention of his critics: Ewing supported their identity also on non-morphologic factors—their invariable radiosensitivity and the fact that, unlike osteosarcomas, they were prone to invade soft tissues and metastasize to lymph nodes. Oberling thought that Ewing's tumor was one of the

manifestations of a multipotent mesenchymal cell capable of differentiating toward endothelium, but also reticulo-endothelial and blood forming elements.⁴⁴⁸ Willis questioned the existence of these tumors as an entity.⁶⁷⁵ Ewing's tumor is still a subject of controversy.²²⁸ It is said that its identification has become easier by electronmicroscopy and by stains for glycogen.

Ewing was among the few who recognized early the potential of radiotherapy of cancer, which he called "the first rational treatment of cancer ever devised."¹⁸⁶ As early as 1910 and again in 1913, he had visited and observed the work of pioneers in France, Germany, and Austria. In 1916, he collected reports of results of radiumtherapy of cancer of the cervix, which he reported to the American Society for the Advancement of Science.¹⁸³ "From the most unexpected source, experimental physics, a new and powerful weapon has been brought into play," he reported.¹⁸⁸ Thus, he heralded the development of radiotherapy. "Radiation therapy," he said, "by demanding a detailed knowledge of symptoms, clinical course and pathology of tumors, has introduced a new era in the study of cancer."¹⁹⁸ He communicated his enthusiasm as he talked to audiences of surgeons, radiologists, and pathologists: "Cancer research has entered a ... fruitful era of therapeutics and more intelligent descriptive study The developments of radiotherapy have opened a new biology of tumors, have stimulated new lines of research and suggested new concepts ... many new facts and principles of tumor growth have been brought to light."^{183,193}

Naturally, Ewing sought to analyze and interpret the morphologic effects of radiations on cells and tissues, and discovered that irradiation revealed unsuspected properties.^{183,193} He found the relative radiosensitivity of tumors a useful way of differentiating among them.¹⁹⁰ As he pursued his inquiry into the fundamental mechanism of radiation effects, he found morphology wanting and the results less satisfying.¹⁹⁸

Ewing's interest in radiotherapy led him into considerations of radiation physics and radiobiology. His colleagues at the Memorial Hospital were trying to improve results by adding to the two grams in their radium pack, by increasing its source-skin distance from 6 to 15 centimeters and by increasing the kilovoltage of roentgentherapy from 90 to 200. He concluded that the results did not improve merely by increasing the dose administered. In Germany, in London, and in Stockholm, as in New York, all efforts were being made to deliver as large a dose as possible in the shortest time.^{567,414} In Chicago in 1924, Ewing listened to Regaud's presentation of his work of the selective effects of well-filtered protracted irradiation: "I find myself quite enthused and electrified ...



James Ewing

Fig. 8-6. James Ewing in 1934 with his favored monocular microscope, upon retirement from Cornell.

by the very scientific and fundamental discussion which Dr. Regaud has given us I am quite sure that it is just through these carefully thought out methods of study that the proper methods of dealing with cancer will be revealed."¹⁹⁰ He felt the exact mechanism by which prolonged irradiation affects the growth of "resistant" tumors was a matter requiring more careful investigation than it had received.¹⁹⁵ Ewing had observed efforts made by French pioneers towards potentiation through the injection of various metals into the tumor and sensitization by simultaneous diathermy of irradiated tissues.¹⁸⁶

American radiotherapy remains in Ewing's debt.⁶⁰⁸ "The rapid adoption of radiotherapy must stand as evidence of intellectual honesty of the medical profession," said Ewing. "The time seems to have arrived when a special license or diploma attesting the operator's competence should be required of all who engage in this work."¹⁸⁶ His open-mindedness irritated the orthodoxy of others. He was accused of partiality to radiation in cancer treatment, but he had extended the same opportunity and enthusiastic support to a variety of other approaches, such as Co-

ley's toxins, Beebe's autolysin, Beard's enzymes, Hordenpyl's ascitic fluid, etc.

In 1926, Ewing noted that the introduction of workman's compensation laws had given increased importance to the theory of the traumatic origin of tumors. "The bulk of sweat of industry," wrote Ewing, "seems to be transuded without influencing the incidence of the main forms of cancer in the workers Experimental efforts to produce cancer by various forms of trauma have not been followed by a single success It is a safe assumption that trauma very rarely produces cancer *de novo*."¹⁹² He made a review of European and American rulings, statutes, and practices and concluded that the following conditions must pertain before trauma is accepted as a possible cause: (1) identity of the injured area and that in which the tumor develops; (2) authenticity and severity of the trauma; (3) previous integrity of the injured part; (4) proper time interval before appearance of a tumor of a "type that could conceivably result from trauma." These tenets have been used time and again in courts, where it is often forgotten that their presence does not actually prove that trauma has caused cancer. As Stewart and Foot expressed it: "To establish the traumatic origin of tumors requires that one be able to prove that trifling injuries are vastly more cancerigenic than are major injuries."⁶⁰⁷

In 1932, at the age of sixty-five, Ewing taught his last course to medical students, and for nearly another decade as Director of the Memorial Hospital continued to work for the institution he had built up to be the most influential cancer hospital in the world.¹⁹⁷ In the 1930s, he traveled to Norway (1933), Brazil (1935), Belgium (1937), and Hungary (1938). Ewing was a man of rare qualities. His associates long remembered the gaunt figure of the "Chief" in a flapping white coat, limping along the corridors of the hospital. His face was thin and his expression serious but not surly. Few saw him smile, heard him laugh, or raise his voice. Very reserved, he was neither cold nor inaccessible. He could be blunt but seldom was abrasive. He was intolerant of carelessness and, principally, of deceit. He wasted no strength in hatred or guile and gave blind support to his associates. Adversity and misfortune had made him sensitive, rather than bitter. He was instinctively devoted and inclined to help others. "His sympathy and kindness became almost legendary," wrote Fred Stewart, "and the very legend of his benignity impressed itself in his character." Innumerable Ewing anecdotes were and are still being told. They were motivated by his eccentricities, and often are found to be apocryphal (Fig. 8-5).

Ewing was one of the founders in 1913, and for many years an important driving force, of the American Society for the Control of Cancer, the precursor of the American Cancer Society. He was also one of the

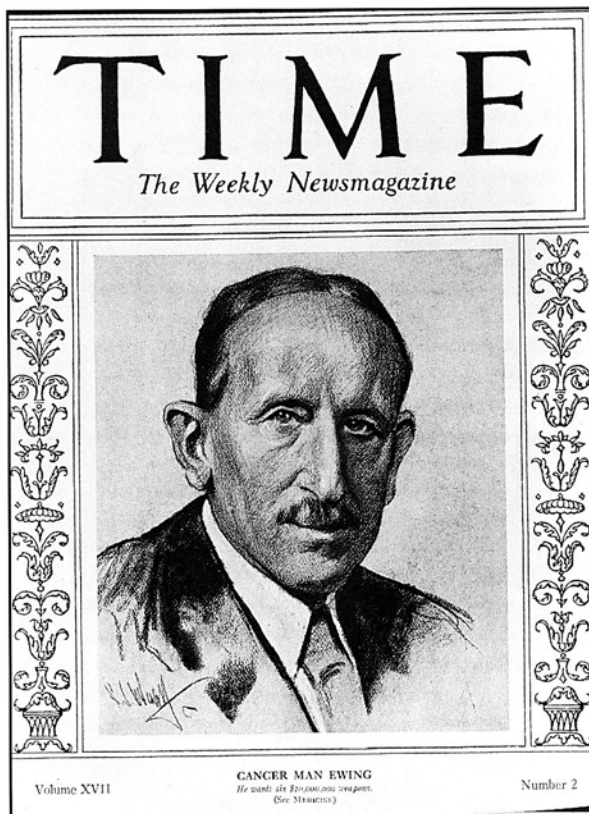


Fig. 8-7. Cover of *Time*, 12 January 1931, which included an article on Ewing written at the time of his retirement from Cornell.

founders of the Bone Tumor Registry of the American College of Surgeons. He was the recipient of innumerable awards and honors: Honorary D.Sc. from the University of Pittsburgh (1911) and from Amherst College (1923); Honorary LL.D. from Kenyon College (1931), from Western Reserve University (1931), and the University of Rochester (1932); he also received an honorary degree from Union College (1938).⁴⁴¹ His associates and former Memorial Hospital fellows founded a society of cancer surgeons, which they named The James Ewing Society. Ewing received the signaled honor of the "Gold-Headed Cane," entrusted to him by his colleagues of the American Society of Pathologists and Bacteriologists and descending from four previous holders: Harold Clarence Ernst (1856–1922), William Henry Welch (1850–1934), Theobald Smith (1859–1934), and Frank Burr Mallory (1862–1941).⁶⁴³ He was also the recipient of the Distinguished Service Medal of the American Medical Association.¹⁶⁷ The municipality of New York established a James Ewing Hospital adjacent to the Memorial Hospital, for the treatment of the city's poor.

Upon his retirement from Cornell in 1932, associates and friends offered a testimonial dinner at the



Fig. 8-8. The modern day Memorial Hospital of New York.

Hotel Pierre in New York. On this occasion, a book was presented in his honor.⁴ This excellent *Festschrift* contained the contributions of a constellation of friends who came forth to offer testimony of their admiration. Sir Lenthal Cheatele, James Heyman, Lazarus-Barlow, Lacassagne, Maisin, Masson, Regaud, Roussy, and Wintz were among the contributors from abroad. One of the contributors to this extraordinary volume was Edward B. Ellis (1877–1954),^B Ewing's faithful chief histopathologic technologist. The book is prefaced by a beautiful panegyric authored by Frank E. Adair, a younger Memorial Hospital associate, who edited the volume:

As a man, Ewing is simple in habits and tastes; sincere, intensely loyal, helpful to colleagues, possessing subtle humor, a lover of competitive sports, tactful in the handling of men and opposing forces, scientifically resourceful and imaginative; optimistic, always idealistic in his belief in men, indulgent to a fault, having an unusual sense of fairness, scientifically aggressive and persistent; one who welcomes and encourages new avenues of approach to problems, a tireless worker, a severe but constructive critic, discriminating in his estimate of scientific contributions; a stimulating teacher, and indefatigable contributor to scientific movements; a scholar beloved by students and colleagues, a physician of the highest ideal (Fig. 8-6).

On 12 January 1931 Ewing's picture appeared on the cover of *Time* magazine. "Not many men have received such formal homage while they were still alive," noted *Time*, adding, "Professor Ewing thinks that the United States is far from being properly mobilized for its cancer war. He wants mightier weapons than any now available—six cancer institutions each endowed with \$10 million. He would have them scattered across the country, fortresses whither crusaders might rally, whence they might sally" (Fig. 8-7). "The approval of one's fellow men is a legitimate ambition of every right minded person," Ewing had said at the testimonial dinner, "and from this standpoint, I am bold enough to regard the compliments of this occasion Man is just what his friends make him. My friends have done well by me."¹⁹⁶ In his later years, he suffered from the inconveniences and pain of bladder calculus. On 16 May 1943 he died of cancer of the urinary bladder.

Names given to organizations or institutions sometimes memorialize individuals beyond recall or even the importance of their achievements. Not so in

the case of Dr. Ewing. Posthumously, his name has suffered reverses as he did in his lifetime. The James Ewing Society already has been renamed the Society of Surgical Oncology. The James Ewing Hospital was

demoted to a pavilion under the Memorial Hospital complex, and has now been renamed the Albert and Marie Schwartz pavilion in recognition of their roles as benefactors (Fig. 8-8).