The Paget Tradition Revisited

Kendall Reed, DO, Minneapolis, Minnesota
Theodor B. Grage, MD, PhD, Minneapolis, Minnesota

The life and accomplishments of Sir James Paget were eloquently described by G. Grey Turner in 1931 in a paper presented to the Section of Surgery at the annual meeting of the Massachusetts Medical Society [*1*]. The paper entitled "The Paget Tradition", referred to Paget as "one of the greatest ornaments of the Victorian era." Turner, in recalling Paget's personal *Memoirs* [*2*], concluded that "no work has ever influenced me so much, or been a greater help and solace in time of professional trial. It ought to be by the bedside of every young surgeon" [*1*]. These stirring words stimulated a revisit to the life and works of Sir James Paget "physiologist, pathologist, surgeon and man of honor" [*1*] (Figure 1).

James Paget was born January 11, 1814 in Yarmouth, England. His father, Samuel Paget, was initially very prosperous as a brewer and large ship owner as well as a man of influence in the town. Basically a self-educated man, he was fortunate enough to assume his master's business when the latter died suddenly. This placed him in the position of being one of the chief businessmen in Yarmouth; however, his business capabilities soon failed, leading to one bad debt after another. These debts were ultimately paid in full by Sir James Paget. Although Samuel Paget lost his fortune, he remained public spirited to the end of his life at age 82. The mother of James Paget, on the other hand, was the firm foundation on which Paget based his early years. She was adopted at an early age by an aunt who brought her up in a well-educated and healthy environment. A tall and graceful woman, Paget's mother was intensely devoted to her children and nutured in them a love of art and nature which followed Paget throughout his long life. She bore 17 children in 26 years, of which 9 children grew to full age. James Paget was the youngest of the surviving children.

From the Department of Surgery, University of Minnesota Health Sciences Center, Minneapolis, Minnesota.

Requests for reprints should be addressed to Kendall Reed, DO, Department of Surgery, University of Minnesota Hospital, 516 Delaware Street, SE, Minneapolis, Minnesota 55455.

Young Paget's early education was obtained at a boys school headed by the minister of the Unitarian Chapel. It was a fair education for what it cost—8 guineas per year. Paget felt his early education suffered heavily in this school, not only in his background of the classics, but also his faculty for social life, which followed him into later life. Toward the close of his public school life, he, like so many boys of time, wanted to follow the calling of the sea, but he was ultimately prevented from doing so by his father, which Paget later viewed as a wise decision. In his *Memoirs*, Paget remembered "when the intention to enter the Navy was abandoned, it was decided that I should become a 'Surgeon'—meaning a general practitioner" [*2*]. He was subsequently apprenticed to Mr. Charles Costerton, an active, energetic, and well-educated practitioner in Yarmouth. The deed of apprenticeship to learn the art and mystery of a surgeon and apothecary was drawn up, and payment of 100 guineas was duly executed on March 9, 1830. Thus the career of a truly remarkable physician began. The term of apprenticeship required by the Society of Apothecaries was 5 years, which Paget thought was too long, although he recalled in his *Memoirs* that "many things of great utility in after-life could be thoroughly learned" [*2*].

His spare time was spent in the study of science, of which botany and zoology were his favorites. By 1834 he and his brother Charles had written and published a thin octavo entitled *The Natural History of Great Yarmouth*, which sold quickly in London and Yarmouth for half a crown. Paget described his devotion to botany and its affect on his later life in very practical terms [*2*]:

> I think it impossible to estimate too highly the influence of the study of botany on the courses of my life. It introduced me into the society of studious and observant men; it gave me an ambition for success, or at the worst, some opportunities for display in subjects that were socially harmless; it encouraged the habit of observing, of really looking at things and learning the value of

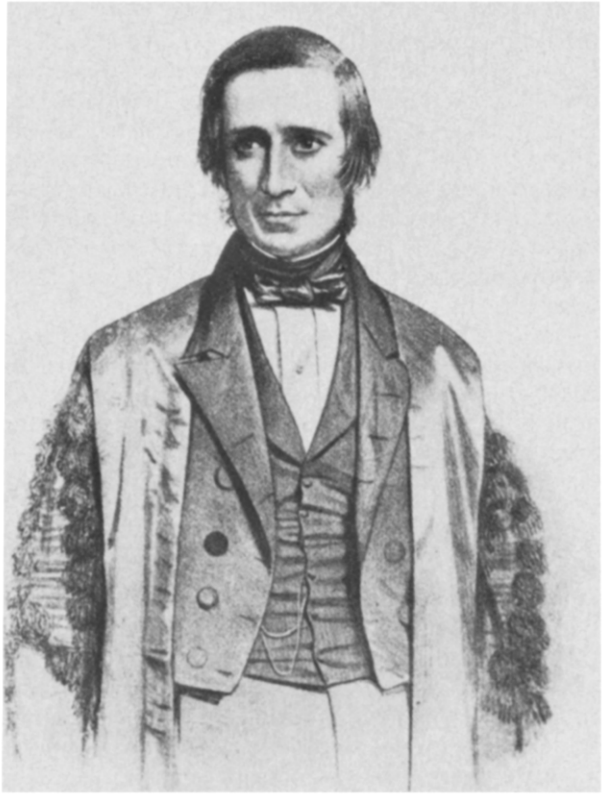

Figure 1. Sir James Paget at age 35.

> exact descriptions; it educated me in the habits of orderly arrangement. I can think of none among the reasons of my success—so far as I can judge of them—which may not be thought of as due in some degree to this part of my apprentice life.

He sums up his feelings in a later quote: "The knowledge was useless, the discipline of acquiring it was beyond all price" [2].

Although Paget spent much of his spare time in botany, he still had the time to teach himself to read French by translating Bichat's *Anatomie Generale* and Chambaud's *Dictionary*. His attraction to the fine arts was a trait inherited from his mother who, along with her children, took weekly art lessons from a local but very capable instructor. This training proved very valuable to Paget in his later years while he was cataloging the thousands of specimens for the museum of St. Bartholomew, as well as the Royal College of Surgeons. At the end of 4½ years of apprenticeship, after obtaining a fundamental knowledge of anatomy and physiology, he entered St. Bartholomew's Hospital (Figure 2) in October 1834 at the age of 21 years. It was shortly after his entrance into medical school that his now famous *Natural History of Great Yarmouth* was published.

Paget's one early attraction was the Hospital's museum which had been donated by Stanley and

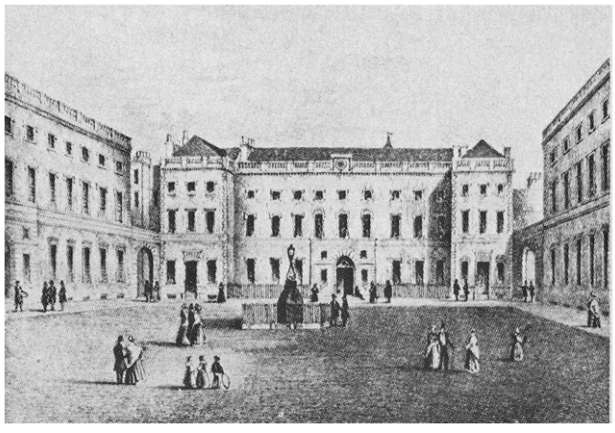

Figure 2. St. Bartholomew's Hospital in 1844.

Abernathy, both lecturers in anatomy. The museum was meticulously cared for under the curatorship of Mr. Boynton, a job which James Paget ultimately assumed. Paget's feelings of this responsibility were reflected when he stated, "The owner of a collection may be, but the keeper must be, a lover of art and science or literature. . .the keeper of a collection is often a far nobler man than the owner" [2].

During the first year of his pupilage the lectures were described as both good and bad. Demonstrators taught daily courses in anatomy, but the students were not strictly guided or directed toward specific goals. In 1834 St. Bartholomew began to hold examinations for several different subjects, and in that year Paget finished first in medicine, surgery, chemistry, and botany. His appearance on the scene was quickly reaffirmed when in February, 1835, he observed small "specks" in the muscle of a cadaver which aroused his curiosity. He was recommended to Dr. Robert Brown (of Brownian movement fame), the owner of the only microscope in the school at that time. Upon viewing these specks and illustrating them for a paper read before the Abernethian Society on February 6, 1835, Paget's discovery was somewhat overshadowed by the opportunistic intervention of Richard (later Sir Richard) Owen, who was ideally situated to exploit young Paget's good fortune. Owen subsequently presented a public lecture to the Zoological Society on February 24, 1836, having described and named the organism Trichina spiralis, the causative agent of trichinosis. Much has been publicized about Owen's claim to the important discovery, however, Paget was not unduly upset that Owen's role was given such magnitude. In a letter to Sir William Hooker, Paget stated that "not being well acquainted with the subject, I thought it best that it should be described by someone of more authority than myself, and Mr. Owen, of the College of Surgeons, read a paper on it at the Zoological Society. . ." [2].

The second year of his hospital pupilage (1835 to 1836) was basically unexciting with little practical study or teaching. He was again first in the school exams for anatomy and physiology, clinical medicine, and medical jurisprudence. In May 1836, he passed the College of Surgeons exams for which only 18 months was required in a London hospital in addition to 2 1/2 years of study required elsewhere. He brought the examination to a close by giving an account of the otic ganglion and its nerve communications. His last examiner was Sir Astley Cooper, who asked him several questions which Paget thought he answered poorly.

After passing the exams for membership in the College of Surgeons, Paget entered his so-called "waiting time" (1836 to 1843) in London. He had no desire to return to Yarmouth and assume a dull practice but instead elected to remain in London to await opportunities. He soon became engaged to Lydia North, the youngest daughter of Reverend Henry North. His engagement was to last some 8 years and culminate in "a marriage blest with constancy of perfect mutual love not once disturbed" [2].

In 1836 he began taking pupils into his lodging to supplement his income, but he soon became disillusioned with it and went to Paris by crossing the English Channel in a shabby little boat. There he remained for 3 months and had occasion to see and hear Roux, Lisfranc, Cloquet, and Velpeau. He returned to London in April, 1837, and once again began tutoring pupils for the College of Surgeons and Hospital examinations. However, this again proved unsuccessful and he soon began writing for the *Medical Gazette* to which he was a subeditor for nearly 5 years (1837 to 1842). It was also during these years that he succeeded Boynton as curator of the Hospital Museum at St. Bartholomew's. He was at the Museum from 9 A.M. to 4 P.M. every day except Saturday. His work was tiresome, requiring him to catalog and label all new specimens as well as care for the old ones. The job paid only 40 pounds per year, but Paget survived knowing the curatorship would ultimately lead to the demonstratorship of morbid anatomy, his first office in the school. This promotion made him more fit to be the warden of the Hospital College and led to his employment to write the *Pathological Catalogue of the College of Surgeons Museum*, which in turn led to his college professorship. The curatorship had its defects, the principal one being isolation from his young practice and from the work of a hospital surgeon. Every day for nearly 7 years he received passing grades in reading, writing, and museum work. In the first 3 months of 1839 he had a severe case of typhus. However, he recovered by the summer of 1839 and was appointed to the demonstratorship of morbid anatomy, whose only duty was to perform the medical postmortem examinations. He began teaching some students at that time and soon became very popular. In 1841 he was made a demonstrator of anatomy which was a stepping stone to the assistant-surgeoncy. There followed, however, a considerable protest from others who have been waiting for years for that particular job, and the position was ultimately retracted. He was forced to retain his positions in the musuem and the College as the demonstrator of morbid anatomy, and in 1842 he began to write the *Pathological Catalogue of the College of Surgeons Museum.* The task was much more than that of mere descriptive writing. It involved the rearrangement of the collection and inclusion of specimens selected and purchased from private museums. Besides the College catalogue, the catalogue of the Hospital Museum, and the various articles for journals and other books, he began an anatomy textbook. His manuscript of the first chapter, however, was politely declined, but the notes were ultimately used in his lectures.

In 1842, the anatomy and physiology course was separated and Paget was appointed to the physiological lectureship. The summer of 1843 marked the beginning of the "Collegiate System" which Paget was to manage as the first warden. This system came about because of the lack of supervision and guidance in all of the medical schools of that day. The major stipulation of the system was that medical students should live in houses in or near their hospitals, in which certain rules of conduct were observed after the manner of the colleges at Oxford and Cambridge. Six houses near the Hospital were cleaned out, repaired, and finished, and in the place of a seventh house, a kitchen and dining hall were built. Thus, the "Collegiate System" was prepared for 23 students, and Paget was the warden. They moved into residence in October 1843, and from that time forward the School continued to improve. The warden was responsible for only those residents of the College, but anyone could come to him for advice and nearly all did so, which made him known to virtually everyone in the Hospital. Paget advised the students as to their course of study, especially those just entering, and he subsequently received all fees and kept the school accounts. The governors of the Hospital began to take more interest in the School, and its influence in London rapidly increased. Paget was now firmly entrenched with a comfortable position in his physiological lectureship and wardenship of the College.

For the next 8 years (1843 to 1851), Paget lived in the Hospital and was constantly engaged in the care of the College and general business of the School, as well as in the preparation and maintenance of his course lectures to which were added in 1847 the professorship of anatomy and surgery at the College of Surgeons, which he held for 6 years. He finished the catalogue of the Hospital Museum in 1846, and in 1849 he completed the pathological catalogue of the College of Surgeons on which he had worked nearly every day for 7 years.

Paget's physiologic lectures during this period were

given 5 days a week and were enthusiastically attended, although he stated "they contained little original matter or original thought" [2], since at that time he preferred research in pathology. Although he taught on a level of the best knowledge at that time, nothing dramatic was happening in physiology in those years. His lectures subsequently were the ultimate source of the materials for the first edition of *Kirkes' Physiology* textbook. Kirkes was always one of Paget's favorite students.

Paget was a talented and fluent speaker who had a natural facility to convey his thoughts in a smooth, precise manner, although he never delivered a lecture on anything other than things of a scientific nature. In the most important lectures he was to give he would learn "as nearly as possible, every word by heart, writing them carefully, and often more than once, and sometimes speaking them in portions for some days previously" [2]. He thoughtfully described the importance of precise preparation in his *Memoirs* [2]:

> On important occasions, words should, of course, be carefully chosen; sentences very carefully constructed; more so than seems possible without previous arrangement and frequent revision; for occasions such as these, there should be the same care for what is to be said as for what should be written. But there are few, I believe, who trusting to memory alone, will not sometimes, while speaking, forget or be in doubt, and falter, and be in danger of breaking down, unless they can fall back on a habit of speaking off hand and can thus continue to speak till they recover their exact recollection. For safety in this resource all should practice, when they fairly may, the speaking without notes and with little preparation; the consciousness that it can be done in case of need is a wonderful help to the memory, in that it diminishes the fear of utter failure.

He further added [2], "... as between speaking and writing, the choice for words for speaking seems to me the more important. A reader can take time to think what a word or sentence means; a listener cannot; to the reader there is no sound, to the listener the sound may be either pleasure or annoyance, attracting or disturbing his attention."

Besides his physiologic lectureship, Paget delivered a series of lectures on surgical pathology between 1847 and 1852. These very popular lectures formed the basis of his book *Lectures on Surgical Pathology*, that was first published in 1853 [3]. Stephen Paget described these lectures as being "... among the classics of science, both for the beauty of their style and for the wealth of facts and of doctrines set forth in them" [2]. The subjects contained in these lectures were Nutrition (1847), The Life of the Blood (1848), The Process of Repair and Reproduction after Injuries (1849), Inflammation (1850), Tumors (1851), and Malignant Tumors (1852).

Five years of this type of work proved enough for Paget, and in October 1851 he entered private practice on Henrietta Street in London and resigned his professorship and wardenship at the College in 1852. His practice quickly became the most lucrative in London, and he was soon earning in excess of 10,000 pounds per year. His easygoing manner, professionalism, and utmost honesty gained him not only the respect of his patients, but of all his colleagues as well. Paget's words on professionalism succinctly sum up the thoughts we must have all had at one time or another [1]:

> One continually hears it said 'I did my best; but these things will happen'; and yet, what a man has called 'doing his best' was not doing so well as he had done before, or so well as he will do next time. Let me warn you against this. Men constantly say 'These things have happened to better men; they have happened to this or that person of distinction; so I need not be surprised at having them'. There is no more miserable or false plea than this. But there are some people who seem to have a happy art of forgetting all their failures, and remembering nothing but their successes, and, as I have watched such men in professional life, years have always made them worse instead of better surgeons. They seem to have a faculty of reckoning all failures as little and all successes as big; they make their brains like sieves, and they run all the little things through and retain all the big ones, which they suppose to be their successes; and a very mischievous heap of rubbish it is they retain.

In 1858 Paget moved his practice to Harewood Place, where he lived most of his remaining years. He was unable to save any money until age 47 because he raised six children, but his health remained generally good except for six episodes of pneumonia between 1851 and 1870. His work day consisted of 12 to 16 hours and he traveled 5,000 to 8,000 miles a year. In 1858 he was appointed Surgeon Extraordinary to her Majesty Queen Victoria. This was followed in 1863 by his appointment to Surgeon-in-Ordinary to His Royal Highness, the Prince of Wales. His progression in the Queen's Court continued, and in 1867 he was granted the title Serjeant Surgeon-Extraordinary and finally his Baronetcy in 1871. His place in the Queen's Court was "completely nonpolitical" [2], according to Paget, but his son Stephen stated [2]:

> It was so far political, in the original meaning of the word, that it was in keeping with the spirit in him which has been described in a different context, as the spirit of order, this hearty acceptance of a place in Society, this proud submission which no more deserves to rise above its place than it will consent to fall below it. Wherever he went he liked to be taken as a surgeon; and if he had chosen any

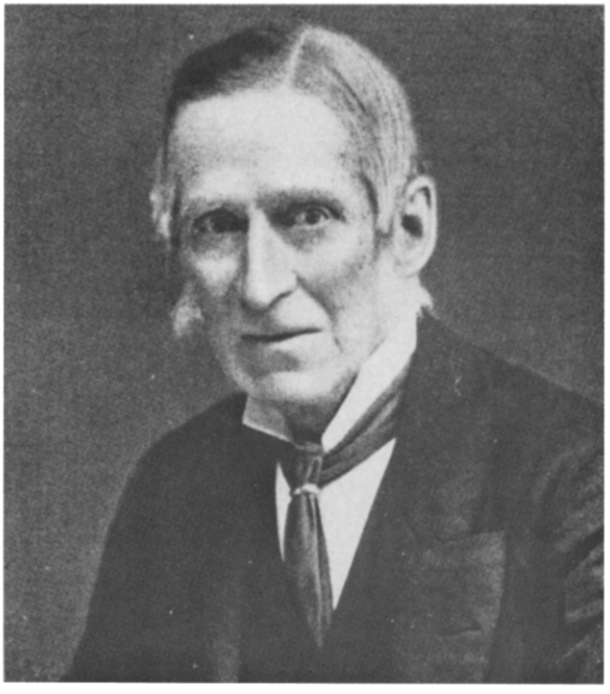

Figure 3. Sir James Paget at age 70.

> other profession, he would have upheld with the same steady insistence, the dignity of work and of the professional life, as the thing that places a man.

A short essay published in 1869 in the *St. Bartholomew's Hospital Reports* was entitled "What Becomes of Medical Students" and was the result of considerable labor by Paget and his colleagues in which he traced the careers of a thousand of his old pupils up to 15 years after entering the school. Of these thousand men 23 achieved distinguished success, 66 achieved considerable success, 507 achieved fair success, 124 achieved very limited success, 56 failed entirely, 96 left the profession, 87 died with 12 years of practice, and 41 died during pupilage. Paget closed the essay with a statement of his strong belief that a man is, in practice, what he was as a student: "Nothing appears more certain than that the personal character, the very nature, the will, of each student has far greater force in determining his career than any help or hindrance whatever . . ." (2).

By 1871 he had resigned the Hospital-Surgeoncy with deep regrets. However, he must have felt a deep sense of accomplishment since the school was prospering and, in fact, was the leading school in London at the time.

Paget began to slow down his surgical practice considerably in the mid 1870s but still was busy in the administrative field as well as in writing. He published in 1874 his now classic article, *On Disease of the Mammary Areola Preceding Cancer of the Mammary Gland* [4]. This concisely written presentation is unmatched by any other for clarity and has essentially not been improved on in definition in the past century. The Royal College of Surgeons elected him their president in 1875, the same year he published his *Clinical Lectures and Essays* [5]. By 1876 he had also presented before the Royal Medico-Chirurgical Society his classic article "On a Form of Chronic Inflammation of the bones (Osteitis Deformans)" which now bears his name [5].

The year 1877 marked the peak of Paget's career as an orator. In that year he presented his now famous *Hunterian Oration* [6] before the Royal College of Surgeons, the Prince of Wales, Mr. Gladstone, the Duke of Argyll, the Duke of Westminster, and numerous other members of Royalty, as well as the leaders in his profession. His son Stephen eloquently described the setting [2]:

> He stood under Reynolds' magnificent portrait of Hunter; and the fog outside rather added to the effect of the scarlet gowns, and the keen faces of the physicians and surgeons all watching and challenging him. He spoke slowly and steadily for the hour that is allotted by custom, to a Hunterian Orator, without once hesitating or losing the charm of his voice.

Mr. Gladstone proposed a toast to him at the festival dinner that evening and Paget replied [2], "There is only one way in which it may be possible to surpass Mr. Gladstone as an orator, and that way I will put into practice. You all know that, although speech is silvern, silence is golden. You shall have the gold."

By 1878 Paget had completely given up operating and quickly noticed a sharp decline in his income, but he no longer had significant financial problems. Now, at the age of 64 he began to travel extensively in Europe lecturing, giving addresses, and receiving a multitude of honorary positions and degrees. In 1891 he published his *Studies of Old Case Books* which he prepared from literally thousands of notes from his early years [7]. His last 20 years of life were rich and full, as witnessed by his close friendships with such men as Tennyson, Browning, Huxley, Darwin, and Pasteur. He was a pallbearer at the funerals of both Tennyson and Browning. Ironically, his last public address was given in 1894 to the students of the Abernethian Society, to whom he had given his first address some 60 years before on the subject of Trichina spiralis. His final advice was that all students should keep science and practice together. He stated [2] It is often said or implied that in our profession, a man cannot be practical and scientific; science and practice seem to some people to be incompatible. Each man, they say, must devote himself to the one or the other. The like of this has long been said, and it is sheer nonsense.

Lady Paget died in 1895 and Sir James never truly recovered from the loss. His health began to fail in 1897, but he continued his reading, particularly

theology, with an undying fervor for knowledge. He maintained a singular clearness of mind to the time of his death on December 30, 1899. His funeral was held in Westminster Abbey where he had borne the pall for Tennyson and Browning. Several years before his death he beautifully expressed the idea that "To degenerate and die is as normal as to be developed and live; the expansion of growth and the full strength of manhood are not more natural than the decay and feebleness of a timely old age" [*1*] (Figure 3).

G. Grey Turner concluded his tribute to Sir James Paget in 1931 with these fitting words, which are difficult to improve upon: ". . . Sir James cannot have known what an influence the web of his life was to have on his fellows. But if his record helps us to nobler things and guides us aright in times of difficulty, he will rest content" [*1*].

Summary

Sir James Paget (1814 to 1899) is well-known for his classic article on breast and bone disease. However, the life of this famous English surgeon, pathologist, physiologist, and botanist should not go unnoticed. His early dedication to botany and science primed him for the position of one of the most respected physicians of his time. His life was one of continuing progress, starting with his association with the then unstable St. Bartholomew's Hospital in 1834 and culminating in the late 19th century with numerous awards, and clinical and administrative positions, as well as honorary titles bestowed upon him by royalty and colleagues. His ability as an orator was unmatched, and his philosophy regarding the practice of medicine as well as everyday life offer much to us today.

References

1. Turner G. The Paget tradition. N Engl J Med 1931;205:622–9.
2. Memoirs and Letters of Sir James Paget. London: Longmans, Green, 1901.
3. Paget, Sir James. Lectures on surgical pathology. Philadelphia: Lindsay and Blakiston, 1854.
4. Paget, Sir James. On disease of the mammary areola preceding cancer of the mammary gland. St. Bartholomew's Hosp Rep 1874;10:87–9.
5. Paget, Sir James. Clinical lectures and essays. 2nd ed. London: Longmans, Green, 1875.
6. Paget, Sir James. Hunterian oration. London: Longmans, Green, 1877.
7. Paget, Sir James. Studies of old case books. London: Longmans, Green, 1891.