

On Their Shoulders We Stand!¹

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Ladies and gentlemen, today as we begin the Eighth Annual Meeting of the Society of Gynecologic Oncologists, I am truly excited by the fact that we are well beyond our 5-year survival, and it is my hope that, as we increase in importance, this Society will be truly representative of our subspecialty. I do not have the vision to look into the future with prophesy and prediction; I do not wish to comment on the present since that will be done for us during the scientific sessions this week; but I do wish to report on the past in this presidential address, since the past has its effect on the present as well as on the future, and since I believe that there is a time for science, a time for art, and a time for heritage.

Didacus Stella, around 65 A.D., said, "A dwarf standing on the shoulders of the giant may see farther than the giant himself." I repeat, "A dwarf standing on the shoulders of the giant may see farther than the giant himself." On their shoulders we stand! I shall report on five of these giants.

Frederick Schauta was born 128 years ago on July 15, 1849, in Vienna, Austria [1]. He was educated at the University of Vienna and quickly climbed the academic ladder. In 1887, he was appointed Professor and Chairman of the Department at the University of Prague and, in 1891, he ascended to the Chair at the University of Vienna in Vienna, Austria. The great master (as he was referred to) was an excellent teacher, a disciplined scientist, and a diligent surgeon. Historically speaking, prior to the beginning of the nineteenth century, paste and cautery were used almost exclusively in the attempted treatment of invasive carcinoma of the cervix. It has been recorded that the first surgical attacks on cervical cancer were carried out by Osiander, in 1801, who performed a cervical amputation and by Langenbeck, in 1813, who actually did the first vaginal hysterectomy for this disease. On August 12, 1878, in Heidelberg, Germany, Czerny performed what is reported to be the first successful vaginal hysterectomy for a cancerous growth.

Further advances in operative technique, anesthesia, and asepsis led to the

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performance by Schuchardt in 1893 of the first radical vaginal hysterectomy for carcinoma of the cervix. Subsequently, Schauta modified and improved almost every step of the original operation. Schauta did his first operation in 1901, and 7 years later he reported on 258 "Schauta procedures." His most important modification dealt with the exposure of the ureters, based on an exact anatomical dissection, and he endorsed the transvaginal approach because of its lessened surgical risks and its uncomplicated postoperative course. Schauta died January 10, 1919, at age 69.

Ernest Wertheim, one of Austria's most renowned gynecologists, was born on February 21, 1864, in Graz, Austria [1, 2]. After his basic education and medical training, he worked as an assistant to Schauta in Prague and went with Schauta to Vienna in 1891 where Schauta was to be chief of the Frauenklinik I and Wertheim was to be in charge of Frauenklinik II. Wertheim held this position with great distinction for several years, yet he remained as associate professor during this time, since the departmental chairmen were the only full professors.

Wertheim was a great teacher and, indeed, he watched with joy as his senior assistants developed excellent operative skills. He was notoriously brusque in manner, but those close to him identified this with his conscious effort to conceal the depression that plagued him so frequently. Wertheim was not a man of academic interests only; he was an enthusiastic outdoorsman, an excellent skier, one of the best ice skaters in Vienna, and an auto racing enthusiast.

Historically speaking, a German surgeon, Freund, performed the first abdominal operation for cervical cancer in 1878. In 1895, Ries, one of Freund's students, first suggested dissection of the pelvic lymph nodes in conjunction with this operation and, in that same year, an American physician, Dr. John Goodrich Clark [3], then a resident gynecologist at the Johns Hopkins Hospital, in that Hospital's bulletin, reported performing a radical hysterectomy with bilateral pelvic lymph node dissection based on these anatomical findings—4 years out of medical school and at age 28. This was the first radical hysterectomy performed in this country.

Professor Wertheim's first radical operation was performed 3 years later on November 16, 1898. It was a difficult operation and the patient died 8 hours later. In 1912, 14 years later [4], having persisted in this work, Wertheim published his monograph based on 500 extended abdominal operations. It is stated that he performed over 1300 "Wertheim procedures" in his lifetime and that not one patient was lost to follow-up.

Having first approached the disease transvaginally, as taught by Schauta, his Professor, Wertheim soon realized that the blood loss could be reduced, the exposure could be improved, and the accessibility of the ureters was incomparable using the transabdominal approach. He extirpated the lymph nodes by blunt dissection with the palpating finger after the hysterectomy had been performed, and only on occasion was it necessary to divide the tissue by sharp dissection. Wertheim, however, did not routinely dissect the pelvic lymph nodes unless they were enlarged, but he opened the peritoneum to palpate this tissue more accurately.

Although rubber gloves had been part of the surgeon's preparation for surgery

for a number of years, Wertheim disliked wearing them, stating to his students, "The surest way to prevent infection is to do a good operation!" Postoperative morbidity was caused principally by sepsis. He originally hoped to solve this problem by the transvaginal excision and cauterization of the primary tumor preoperatively. Later, he chose not to open the vagina from the abdominal side but to remove the liberated organs transvaginally after the peritoneum had been sutured and the abdominal wound closed. Still later, the vaginal tube was clamped transabdominally by the now well-known Wertheim clamp and the specimen was transected distally.

Another significant cause of postoperative morbidity was ureteral fistulization. Important in its prevention was the preservation of the ureteral sheath, thus leaving the ureteral vessels undisturbed. Once a fistula developed, however, waiting 4 months for spontaneous healing was his rule before a surgical correction of the defect was attempted.

In the subsequent Schauta-Wertheim controversy over the surgical approach to invasive carcinoma of the cervix, Wertheim was quick to point up the meaningfulness of regional lymph node dissection and the favorable survival rates with the extended abdominal operation. He said, "The vaginal operation came at a time when one was threatened by the danger of the abdominal operation and it will be discontinued just as soon as this danger is lessened. Furthermore, the vaginal operation cannot possibly extend our knowledge of the manner in which carcinoma spreads itself from the primary focus."

Wertheim died on February 15, 1920, at age 56 of complications from an automobile accident.

Marie Skłodowska Curie was born on November 7, 1867, in Warsaw, Poland [5]. As a child she was small, timid, and nervous; however, from her mother, she developed an addiction for self-education and, since Polish women were denied higher education, Marie gradually discovered the excitement of studying alone, saying, "Think of it, I am learning chemistry from a book." Having intellectual ambitions, she studied in Paris where she established herself in her "seventh heaven" room, as she called it, which had no water or heat but was all her own.

In 1893, at age 26, she finished first in her class at the University of Sorbonne. Two years later, she married Professor Pierre Curie, Chief of Laboratories, and together their scientific search led them to the discovery, in July 1898, of a new radioactive element called radium. Five years later, she and her husband received the Nobel Prize in physics for their advance in radioactivity.

Having discovered it, the Curies felt obliged to produce a sample of their new element and, working night and day in an uncomfortable shed, they finally brought forth, some 4 years later, a few grains of radium chloride from a ton of pitchblende, an ore containing uranium. Its application to medicine had its beginning, accidentally, when Marie Curie noted effects of it on her skin and, intentionally, when Pierre Curie applied it to his forearm, describing in detail the various reactive phases of a moist radioepidermatitis and his recovery from it.

One year later Marie was widowed at age 38 when her husband, absentmindedly crossing an intersection in Paris at lunch time, was trampled to death by a horsedrawn wagon.

In 1911, Madame Curie received her second Nobel Prize, the first person to receive two of them, in chemistry for the discovery and isolation of radium. Also in 1911, the Radium Institute was founded with the construction of the Curie Pavillion and the Pasteur Pavillion with Madame Curie appointed its first director. Still later, she helped establish the Marie Skłodowska Curie Institute of Oncology in Warsaw, Poland. A sculpture, in characteristic stance, graces the garden of the Institute in Warsaw.

On July 5, 1934, at age 67, Madame Curie died of leukemia thought to be the result of long exposure to radiation.

Joseph Vincent Meigs was born in Lowell, Massachusetts, on October 24, 1890, and had a long medical heritage [6]. After his primary and secondary education, he attended Princeton University and Harvard Medical School. In 1930, he began his investigation of all the material in the files of the Massachusetts General Hospital on gynecologic cancer and, after extensive review of these files, he published his classical work on *Tumors of the female pelvic organs*.

Doctor Meigs' greatest contribution to gynecologic oncology was made through his technical virtuosity and through his rekindling an interest in this country in radical pelvic surgery for the treatment of invasive carcinoma of the cervix. He had become dissatisfied and discouraged over the high incidence of local recurrence following radiation therapy. Doctor Meigs was a meticulous surgeon, having tremendous respect for living tissue. He almost never operated without an audience. He began his radical surgery in 1939 and in 1944, he published his first paper, "Carcinoma of the cervix, the Wertheim operation." He stated that radiation was not the ideal method of treatment for carcinoma of the cervix, that radiation reactions were occasionally very severe, and that lymph node metastasis was unlikely to be controlled by radiation therapy. Time and again he stated that lymph nodes can be removed surgically, a distinct advantage over radiation, and he sincerely believed that all patients with lymph node involvement in the irradiated series must die of their disease. "Being surgically oriented, the charm of his humane bias is refreshing, if not scientifically based," so said one of his fervent admirers [7]. Doctor Meigs ultimately came to believe that there was no competition between irradiation and surgery and that not all patients were cured with surgery, but most of the time he employed surgery.

The "Meigs technique" for radical hysterectomy and pelvic lymph node dissection is classical, as reported elsewhere [8]. Two of his observations: First, "It is often noticed that, even though the operator thinks he has removed a large cuff of the vagina, when the specimen is opened, he is chagrined to see how little he has removed"; second, "From a large experience, we believe that positive lymph nodes cannot be determined by inspection, palpation, or visualization and that the only proof that lymph nodes are positive or negative is by pathologic examination." Thus, he modified the Wertheim concept by doing bilateral pelvic lymph node dissection routinely. Doctor Meigs stood more than 6 feet tall. He had an attractive smile and just the slightest trace of cynicism. He was friendly yet not patronizing, although he was obviously glad to be a New Englander and a Bostonian. Doctor Meigs died on his 71st birthday on October 24, 1963, of a coronary occlusion.

Alexander Brunschwig was born on September 11, 1901, in El Paso, Texas [9].

After receiving his undergraduate and graduate degrees in Chicago, he went abroad to study. The scope of his genius is reflected in the variety of his academic talents and achievements and their recognition around the world. While still a medical student, Doctor Brunschwig worked out the principles of placental perfusion. He wrote more than 400 articles in his lifetime and his report on peritoneal physiology will forever impress your speaker. One of his most senior trainees described him as serious, cultured, scholarly, and inspirational, with an admiration for brilliance, accepting nothing but excellence. "Perhaps his seeming lack of humor and compulsiveness stemmed from the immense responsibility he felt in attempting to salvage the lives of patients who were deemed hopeless by others in our profession." He was a gentle and compassionate man. His imperfections and eccentricities, the impish twinkle in his eyes, his staggering gait, and his bulging briefcase had to be experienced to be appreciated. Doctor Brunschwig's human frailty could also be recognized since, when he realized he was overstating a conclusion, he would develop a convenient lisp and a distracting cough which would be most disarming to the young interrogator.

To review his techniques, results, etc. seems unwise since we are living the "Brunschwig procedure" at this time. He performed approximately 1000 pelvic exenterations during his lifetime. Doctor Brunschwig has touched the lives of all of us, either directly or indirectly. A senior citizen of our profession once said, that every surgeon has borrowed from and operated from the courage of Doctor Brunschwig and each owes him a great debt of gratitude. Doctor Brunschwig was forever loyal to his hospital and he became known as "Mr. Memorial."

Doctor Brunschwig died on August 8, 1969, in New York City.

Other giants get honorable mention, but time does not permit appropriate recognition: Ephraim McDowell, who performed the first successful abdominal operation for an ovarian tumor on Christmas Day, 1809, in Danville, Kentucky; Jules Cloquet, who described the eponymic node as an absorbant gland in surgical anatomical dissections; Walter Schiller, who capitalized on the principle that anaplastic cells lose their ability to secrete glycogen; George Papanicolaou, whose work in cytopathology went practically unnoticed from 1928 to 1943; Antoine Basset, who was first to describe the single *en bloc* resection of the vulvar and regional lymph nodes with a superior incision extending from one anterior iliac spine to the other in the treatment of invasive carcinoma of the vulva; and Frederick Taussig [11], who modified the Basset procedure for surgical treatment of invasive carcinoma by utilizing three incisions, one in each groin and one around the vulva.

Seventy-five years ago, Doctor Taussig [10] taught general physicians that no longer does the practitioner have the right to declare a patient inoperable and, thus, decide her destiny, without the confirmatory opinion of a specialist. Paraphrasing, my chief, Dr. Norman F. Miller, said, "To consider a situation hopeless is often to render it so."

I have spoken of the giants, those who are now deceased, but among the living are also giants and some of them are here today. As we move on in the scientific work of this meeting, let us be motivated by the fact that these giants were dwarfs once too!

I thank you for this honor!

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