DIVERSITY IN A CAREER IN ACADEMIC GYNECOLOGICAL SURGERY

Ernest I. Kohorn

I was born in northeast Bohemia, mainly because family considerations thwarted my father's ambition to be a philosophy don. Instead, he became the manager in his uncle's factory for weaving and dying cloth. The company offices were in Braunau in Bömen (Czech: Broumov), and that's where I spent the first nine years of my life. This is Braunau in Bohemia as opposed to Braunau in Styria, Austria, where Hitler was born. Because of Hitler we fled to Prague in the fall of 1938 and lived there for nearly a year in a house across the street from the famous writer Karl Čapek. We finally got to England on Aug. 23, 1939, just ten days before World War II started. My father had already been there for two years, but had been unable to obtain visas for his family with the help of either friends or family members in the United States and England. It was an unknown Congregational minister in southwest England who finally guaranteed our visa.

We moved to the village of Belmont in the north of England, where my father had found a job as factory manager. During my early adolescent years, he and I took long walks in the Lancashire moors. My father talked philosophy and history with me, trying to convert me to his way of thinking. In his view, philosophy was the ideal occupation, but one also had to have a more lucrative profession to support oneself. "I mean, Jesus was a carpenter also, you know." I think he sort of indoctrinated me that I would become a physician. My father was a doctor of "book cloth." He was known as "the doctor" because he had a Ph.D. in religious philosophy. When he went to visit friends or employees in the hospital, the physicians thought he was one of them and explained their patients' medical conditions in great detail. He never gave himself away.

Ernest Kohorn is a Bohemian, having been born in Czechoslovakia, and has the middle name of Ignatius after his grandfather, whose only Catholic attribute was that he was reprimanded by the rabbi for eating pork chops at the local hostelry on a Shabbat morning. Ernest had an enforced transfer to England in 1939, so making him more English than the English, without the possibility of being English. He was educated at Bolton School, where he was converted into an English-language purist, and then at Downing College, Cambridge, where he read medicine but played with philosophy and logic. He graduated as a physician from University College Hospital, London, in 1952. After three internships and a stint in the British Army in Libya, he returned to London to train in general surgery, and then in gynecology and obstetrics. He always felt that one focused area of specialty interest was insufficient and therefore became a practicing gynecologic oncologist and a urogynecologist, initiated and directed the Yale Gestational Trophoblastic Disease Center, and also did benchside research into the patho-physiology of hormonal action in endometrial cancer. He helped organize the Society of Gynecologic Surgeons, the New England Gynecologic Cancer Society, and the International Society for the Study of Gestational Trophhoblastic Disease. He was an officer in the Beaumont Medical History Society and is currently president of the Connecticut Academy of Arts and Sciences. He hopes he has demonstrated that one can effectively be jack and master of several trades simultaneously.

I attended Bolton School, which is forty years older than Yale. The headmaster was named Poskit, which in Latin (*poscit*) means "he demands." And indeed he did just that in the best possible way. Bolton School was one of three grammar schools in the United Kingdom that were in the Public Schools Headmasters' Conference. I was taught "good" English, as opposed to the Lancashire dialect. From Bolton I went on to Downing College, Cambridge. This was 1946 and all the Army veterans were coming home. Some 10 percent of undergraduates were allowed to come straight from school. Those of us who went to medical school were able to enter the Army—there was still a draft—as physicians, with the rank of officer rather than as privates.

To become a physician in England, then as now, one had to pass three examinations leading to the bachelor of medicine degree. The first Cambridge degree was in basic science and we had to complete this in two years. The name given to the graduating examination at Cambridge is part I of the Tripos. There is also a part II of the Tripos and in the medical sciences this was previously offered in physiology, biochemistry, or anatomy. For the first time the University of Cambridge offered a part II of the Tripos in pathology and fourteen of us elected to do this. It was a marvelous experience because we were taught basic science and research as well as some applied clinical pathology. At that time, Cambridge did not have a clinical school, so we had to choose a medical school in London. I chose University College Hospital mainly because they played more academics than rugby football and I wasn't a very good football player. When playing I had the position of "right outside" or "inside out."

When I arrived in Cambridge I was terribly young and all the courses seemed exciting. We had the opportunity of attending Bertrand Russell's lecture courses. These took place from four to five on Thursday evenings. By then it would be getting dark. At five minutes to five somebody would always switch on the lights and Russell would say, "Ah, at last we understand what the subject is about." I also went to Susan Stebbing's logic courses. One day my tutor called me into his office and said, "Why are you doing all this philosophy? I thought you were a medical student." I explained that I was interested in philosophy as well as medicine and saw no reason why one couldn't do both. Such admonitions have followed me all my life. I know the academic dogma is to be expert at one thing; I have always tried to be expert at several things. This has worked for me and I hope it has worked for my patients.

At University College Hospital we were taught to be humane physicians under fantastic teachers. The course in obstetrics and gynecology was particularly exciting. The chairman of the department, William W. Nixon, had held appointments in Hong Kong and Istanbul before and during World War II. In his office was an instrument cabinet that swung away from the wall to reveal the transmitter and receiver for MI5 (the British secret service) for the whole of the Middle East. Nixon's was only the second professorship in obstetrics and gynecology in London. One of his innovations was to set up natural childbirth classes, a practice invented by Grantley Dick Reed, a general practitioner in Putney who delivered babies in the home. Reed had an

uncanny gift for spotting any pregnancy that might have complications in labor and referred such patients to Nixon for hospital delivery. As residents, we had to do all the exercises mothers do for natural childbirth. Reed's and Nixon's principle was that mothers needed to train for labor, just as athletes train to run a marathon and rowers train for a boat race. He had every bed in the obstetrics ward wired for fetal electrocardiography, technology that wouldn't be clinically available for another five years. One of the faculty was an expert in transmission ultrasound and another dabbled in MRI twenty years before it had a clinical application. Another faculty member was an Oxford-trained gynecologic surgeon, who worked so fast that the residents could not keep up with her. She had obtained specialty certification (boards) in internal medicine, general surgery, and gynecology and obstetrics as well as obtaining an M.D. by the age of twenty-eight. Several other faculty went on to become famous academics and all were interested in medical students. We were taught that obstetrics and gynecology embraced the whole of internal medicine and surgery with a positive byproduct, the baby, and this was a very exciting approach.

After I graduated as a physician in June 1952, ten of us applied for an internship with our favorite professor, Max Rosenheim, who subsequently became president of the Royal College of Physicians. I didn't get the post and had to look elsewhere. I went to one of the affiliated hospitals, the Whittington, to work for a surgeon named Paul Savage, who had been Bernard Lytton's senior registrar at the London Hospital. He was known as "Savage by name and savage by nature," but he was an expert surgeon. To my great surprise I really liked surgery, just as I had always enjoyed woodworking.

After six months—the standard length for internships in England—I returned to University College Hospital to work in Professor Nixon's department of obstetrics and gynecology. It was traditional in those days to do three internships, so I needed one in internal medicine. I chose the only one available, in neurology. Both the attending consultants in the department were at the Institute of Neurology in Queen Square, the "Mecca" of British neurology. One consultant was a very traditional neurologist. The other, however, was a young man barely thirty years old, who was fascinated by the fact that he had a group of patients who had had hysterical paralysis of the upper or lower limb which gradually converted into organic paralysis over a period of years. Dr. William Goody was a very humane person and from him I learned to do neurological examinations, an art in itself. "When a doctor sees a patient," he taught us, "one should take a proper history and take lots of time for that and then one makes a diagnosis. Then one examines the patient's physical signs. If the result of the examination is consistent with the diagnosis, then you're probably correct. If not, go back and take a history again." That was very good advice and it applies to many fields of medicine.

Having now done three internships in surgery, gynecology and obstetrics, and internal medicine, I had to go into the Army. In basic training we were taken to a range and given revolvers to shoot at targets. I kept hitting the bull's eye, an experience that I

found absolutely terrifying; I did not want such a skill. I did various rotations through the south of England to relieve medical officers on vacation. One rotation took me to Brighton, where I visited the Indian-style Pavilion that George IV built when he was regent. There was an exhibit concerning the death of Princess Charlotte, the regent's only legitimate daughter, who died in childbirth after a forty-eight-hour-long labor with a twenty-four-hour-long second stage of labor, the time when the baby is delivered. The baby also died and the obstetrician shot himself six weeks later. I became so fascinated by this tragedy that I decided to write a paper about it. Two famous British obstetricians believed that Charlotte died of bleeding after the delivery of the baby (postpartum hemorrhage) and that the obstetrician was misguided rather than incompetent. In fact, we established in the early 1960s that the princess died of a pulmonary embolism (clot to the lung), a condition that had not even been recognized as a clinical entity in 1818. Her death changed the course of history, since Victoria would not have been conceived if Charlotte's pregnancy had been differently managed.

I was then posted to Bovington, where Winston Churchill, then secretary of the Army, invented the tank in 1916. The Royal Scotts Grays were the regiment in residence. The second lieutenants all walked around in dress uniform, with one yellow leg and one blue leg or one green leg and one red leg. I wore "battle dress," that is, an ordinary military uniform. As a draftee I wasn't about to buy a dress uniform. During my six weeks in Bovington we had an inspection by a major general who visited the military hospital. I was in charge of providing medical care for the families. A woman with high blood pressure during pregnancy, a condition known as pre-eclampsia, had been admitted to the hospital. The general said to her, "You know, my dear, Lawrence of Arabia died in this bed." That was surely good for her elevated blood pressure! Indeed, T.E. Lawrence had died in that room. His death is still the subject of an unresolved controversy. Supposedly, Lawrence was riding a motorcycle in the area and hit a Bentley or Rolls Royce in a nearby lane. The story on the base however, was that he was doing 100 miles an hour—it's called "doing the ton"—on his bike, hit a slick of oil from a tank, and skidded to his death.

Six weeks after I arrived in Bovington, a sergeant at the War Office decided that all servicemen who were married should be sent abroad and those who were single should stay in England. Accordingly, in November 1954, I was posted to the Suez Canal Zone in Egypt at a time when there was still some active shooting in Cairo. I said good-bye to my family, whom I was not going to see for as much as eighteen months, and flew to Egypt in a Hastings aircraft that had small holes in the fuselage, through which one could see the ground. When we arrived in the Canal Zone, I discovered that my documents had been lost and I sat in a tent for six weeks, not knowing what would become of me. A young man due to be posted to Benghazi, Libya, persuaded the authorities to let him stay in Suez because his girlfriend was there and it was I who was posted to Benghazi. This was good because one was allowed to have family there.

Benghazi was a Royal Engineers' garrison and a families' station and Margot joined me in January 1955. It was there that I first made the acquaintance of Americans. A "Truman Four Point Program" was sited in Benghazi, staffed by agricultural and economic advisers. In addition, the State Department had sent over a whole library of American literature, even though 90 percent of the Libyan population could not read English. Benghazi had a university but no elementary schools to speak of. I still have some of those books.

I became the medical officer for this group of Americans. One evening, at a party at the American Embassy, we were told that the vaccine for poliomyelitis had just arrived. All the mothers wanted me to go straight to the clinic and give the vaccine. I persuaded them not to wake up their children and that the vaccinations could wait until the next morning. At 6 a.m. another cable came, warning, "Do not use that vaccine. It is live and several people have already died in the United States." In medicine, waiting is sometimes the wisest course of action.

My wife and I became good friends with Roger Davis, the American ambassador to Libya. He was later posted to Cyprus and was assassinated there in 1965. We had a foretaste of the conflict between Greek and Turkish Cypriots in May 1956, when we passed through Cyprus to and from Libya on our way to vacation in Israel. We took a communal taxi to Limassol, where we caught the boat to Israel, and when we stopped for coffee, met a Greek Orthodox priest in full regalia. When I asked him what the unrest was all about, he replied, "My son, I would not know. I am the Archbishop of Chicago." By the time we got back from Israel, the situation in Cyprus had taken a turn for the worse. There were tanks in the streets and troops everywhere.

When we returned to England in June 1956, I decided that I would specialize in obstetrics and gynecology. It was then an academic requirement that before actually doing gynecology and obstetrics, one had to obtain one's surgical boards and become a fellow of the Royal College of Surgeons. There are two parts to that examination and I immediately began preparing to take the primary fellowship examination in basic science and anatomy. It is a notoriously difficult exam, with a 17 percent pass rate. Famous surgeons in England had taken it six or more times before qualifying. We lived in turn with Margot's parents in London and with my father in Bolton, Lancashire.

By late July 1956 the Suez crisis had begun and the Army called me back as a "Middle East specialist." I protested that I was about to take my primary FRCS exam and did not want to interrupt my studies unless it was absolutely essential. Five of my colleagues from Egypt and Benghazi were called up immediately, but I was allowed to stay home. I will always be grateful to David Ben-Gurion, the prime minister of Israel, for waiting until the day after the examination to invade Egypt. As it turned out, Anthony Eden, the British prime minister, Ben-Gurion, and the French were countermanded by Foster Dulles, the United States secretary of state, so the Suez intervention was terminated. I reached the south coast of England but never embarked for Egypt. And I had my primary FRCS! Dulles's intervention was, I think, one of his

major political mistakes. The Middle East would look different today if the British and French had been allowed to occupy and organize the Suez Canal. Eden, of course, was incapacitated as a patient at the Lahey Clinic in Boston, his bile duct having been inadvertently severed during a cholecystectomy at Guy's Hospital in London. As this rarely happened in England, he was taken to the United States, where surgeons had greater experience in correcting such surgical misadventures.

I now had to do certain required clinical rotations for the final examination for the surgical fellowship. The first was as an emergency room surgeon at the North Middlesex Hospital. The second, I thought, would be interesting to do in pediatric surgery. I had had a marvelous teacher at University College Hospital, Dr. Bonham Carter, who was also the cardiac physician at the Hospital for Sick Children at Great Ormond Street. Being a surgical house officer at Great Ormond Street was probably the most exciting clinical experience of my life. This was the time when physicians first discovered that babies, soon after birth, who get short of breath and contract "bronchitis" or have heart failure, actually have cardiac or vascular abnormalities which are surgically correctable. Some of these babies also had a congenital communication between the trachea and the esophagus (a tracheo-esophageal fistula), which, if diagnosed early, is also totally curable. We operated on babies with open ductus arteriosus, neonatal congenital constrictions of the aorta (coarctation of the aorta), and other life-threatening congenital anomalies. Many were correctable and I spent my time participating in these surgeries. I came home every two weeks and fell asleep immediately. We had a new baby at the time and one night as I woke up, I said to Margot, "Why don't you feed him orally?" I still hear about that!

Following Great Ormond Street, I went on to two other rotations in surgery back at University College Hospital. I thought hard of switching from obstetrics and gynecology to pediatric surgery. However, I was told that in the next ten years there would only be one new position in pediatric surgery in the whole of the United Kingdom and I knew that was already promised. So I went back onto the obstetrics and gynecology professional ladder as a junior resident in obstetrics at Queen Charlotte's Hospital, founded by and named after Queen Charlotte, the grandmother of the Princess Charlotte whom I mentioned earlier. She was the wife of George III and whatever you think of him, she did a lot of good in the south of England. This hospital was then the leader of British obstetrics. One was on duty every third night and it was a good clinical experience. I sometimes went home only to be called back in when a private patient arrived for delivery. The attending physician came in at the front entrance and I came through the back entrance and tried to arrive before he did. It always worked.

One of the new procedures we introduced at Queen Charlotte's is of interest. At Great Ormond Street, every baby who stopped breathing was intubated and rescue was attempted. Many of these babies had life–incompatible congenital abnormalities. All who died had an autopsy by a famous pathologist, Dr. Martin Bodian. We noticed that all these babies had perfectly normal air passages even though a rubber

tube had been inserted into their trachea, sometimes for many hours. At Queen Charlotte's, we began to intubate the babies who were not breathing properly. The senior pediatricians were horrified and told us to "desist." But we persisted and probably saved some babies' lives. When I later got to The Middlesex Hospital, we designed a trolley—just four wheels and a platform—for a baby to lie on, which could be tilted so the baby was head down. An endotracheal tube was inserted and oxygen was inflated until spontaneous respiration was established. Today this is standard practice. At the time, we could not understand why so many persons from manufacturing companies came along to look at the trolley. It never occurred to us to patent the apparatus. If we had patented it, I would probably be much richer than I am today. That trolley, I'm told, went to Buckingham Palace several times because obstetricians from The Middlesex delivered babies there.

After six months at Queen Charlotte's, I went to the Chelsea Hospital for Women for gynecologic training. It was there that I first became interested both in cancer and in urology in the female. This institution was affiliated with the Royal Marsden Cancer Hospital next door. Radiation therapists from the Royal Marsden came to treat our patients with radium, and our patients went there for radiation therapy.

Following this "basic training," I needed to obtain an appointment as "registrar." I particularly wanted to work with Ralph Winterton, a gynecologic surgeon at The Middlesex Hospital, who was performing lymph node dissections for cancer of the uterus fifteen to twenty years before anybody else did this routinely. But no job was available there. So I waited, rotating through several "locum tenens" positions at London teaching hospitals for fourteen months. That would not happen in the United States because here the residencies are structured from the beginning to the end of specialty training. In the United Kingdom, even now, one changes jobs every six months or every year. When I came back to England after my year in the United States, we trainees tried to persuade our professor of medicine at University College Hospital to implement structured training in the United Kingdom. He was president of the Royal College of Physicians at the time. There was no enthusiasm for our proposal. We were told this was not possible in England.

Finally a vacancy occurred at The Middlesex. Three applicants waited to be interviewed. We waited. Then a young man arrived and was ushered straight into the interview room. He left ten minutes later and we were told the appointment had been made! That person was an Australian test cricketer. Fortunately for me, he was invited to play for Australia four months later and I then got the job. The registrar post at The Middlesex also had duty at the nearby Hospital for Women in Soho Square, the first women's hospital in the world, vying for this position with its New York counterpart, founded by Marion Sims in 1852. Some consultants (attendings) had positions only at Soho and other hospitals and not at The Middlesex, but all were excellent teachers and delightful people. John Dickinson, in particular, taught us that a "digitoma" was a tumor that the doctor felt but did not actually exist. This actually

does happen! Later I extended this concept to catoma (CT scans}, sonoma (ultrasound scans), and magnetoma (MRI scans). Ours was a closely knit, congenial unit and it was a pleasure to learn.

After two years at The Middlesex, I returned to University College Hospital as a lecturer in the Academic Unit. A year later I was promoted to senior registrar, which is what one had to do in order to become a consultant or a professor. The post at UCH was unique because, besides administering the clinical affairs of the hospital, one was allotted four independent beds under one's personal supervision.

One weekend, just about that time, we went to visit Cambridge. We lived about an hour away and used to shop and go punting on the "Backs" a few times a year. I asked Margot to go into one of the academic apparel shops and find out what one had to do to obtain the scarlet gown in the window. She came out and said, "You have to become a master of surgery." Not until much later did we discover that the scarlet gown was that of a doctor of medicine (a postgraduate degree in Britain) and the black gown was that of a master of surgery. So I got myself a master of surgery degree. About seven general surgeons obtain this degree out of the fourteen who take the examination every year. The exam lasted four days. One was allowed to smoke in the Senate House, where the exam was held. The first question on the paper was: "Write on the subject of your choice for two hours." I chose the topic "when a surgeon should not operate" and wrote about trophoblastic disease. At the end of the fourth day, one had to appear before the examiners wearing an academic gown if one had passed the examination. I had returned my rented gown, convinced I had not passed. My name was called and I had to borrow a gown from some poor chap in order to go to meet with the examiners. I think these eminent general surgeons had never heard of trophoblastic disease. Of course, chemotherapy for cancer was then in its infancy but trophoblastic neoplasia was curable by the use of chemotherapy, whereas resecting the tumor that is often present frequently served to disseminate the cancer. Some twenty years later, I attended a dinner of alumni of the Soho Hospital for Women. Sir Arthur Porritt, now Lord Porritt, who had just stepped down as governor general of New Zealand, came up to greet me by name. He had been one of my examiners. I did not know him personally and had not met him again until this encounter.

In early 1965, Professor Nixon told me, "You'd better get yourself a BTA." A "BTA" is a British degree—"Been to America." Where to go? Perhaps I should have gone to New York as a trainee pelvic surgeon with Dr. Alexander Brunschwig at Memorial Sloane-Kettering Cancer Center. But I did not want to exchange London for New York. An opportunity was presented to come to Yale, because Professor Nixon was a friend of Prof. Charles Lee Buxton, the famous chairman of Yale's Department of Obstetrics and Gynecology. Professor Buxton wanted ultrasound introduced at Yale. So he and Nixon arranged for me to go to Glasgow for several months to learn the technique of diagnostic ultrasound that had been initiated by Prof. Ian Donald, who had recently been appointed professor and chairman at the new Queen Mother's Hospital

overlooking the River Clyde. We did ultrasound all day and in the evenings I helped Professor Donald build his fifth boat. He also took me sailing on Loch Fine, where he had a weekend cottage. Scottish sailing is not for the faint-hearted; it was pretty stormy and I had only previously sailed on a tranquil Mediterranean. Moreover, Professor Donald had been defibrillated in Pittsburgh about a month previously and was on his fourth pig heart valve for mitral stenosis. Fortunately, both of us weathered that storm on Loch Fine.

When I came to Yale, I was dismayed to find that the powers that be hadn't procured a proper ultrasound scanner. I had to make do with a simple A-scanner, which produces only vertical blips and not the two-dimensional "sonograms" to which I had become accustomed in Glasgow. I did one of the first studies of serial head measurements of babies in utero to demonstrate fetal growth. Prof. Edward Hon, the inventor of modern fetal electrocardiography, was doing his research at Yale at the time. I showed him the manuscript I had written about ultrasound cephalometry. Dr. Hon crossed out every second word in red ink and sometimes put in a substitution. I was devastated, but it was a salutary lesson in clinical reporting. The paper was published. I also did a study of the safety of ultrasound by placing an ultrasound probe against the heads of newborn babies—with their mothers' permission, of course—to determine whether there were any associated electro-encephalographic changes. None were observed. It was already known that with pulsed ultrasound the amount of energy received by the patient was too small to be measured and could only be calculated.

Then I did a project on endometrial cancer with Professor John McLean Morris, the head of the gynecology department at Yale, and Dr. Maclyn Wade, who was then an assistant professor. We did not then understand why the "bad" cancers, especially with people who died, were referred to the university health services, while all the early cancers of patients who did well and survived went to the gynecologists in private practice. It turned out this was because the private doctors did not want to have any deaths or even morbidity among their patients. The realization that cancers with a higher histologic grade were associated with a worse prognosis led to the system of histologic grading of gynecologic malignancies which is now standard in the United States and has been adopted internationally.

From New Haven I went back to my old job at University College Hospital in London. The Ministry of Health had purchased three ultrasound machines for the London teaching hospitals and the chief of radiology at University College Hospital, Dr. John Hodson, had been asked to test these to determine whether the funny shadows that Professor Ian Donald was getting in Glasgow were real or useful. Since no one in London knew how to use the machines, I was asked to help. One Diasonograph was at University College Hospital, another at St. Thomas' Hospital, and yet another at Guy's Hospital, all gathering dust. I was given an electronics engineer, Roland Blackwell, with whom to work and commenced scanning babies and pelvic masses in August 1966. That November, Dr. Stuart Campbell, one of Professor

Donald's trainees, was appointed senior lecturer in the Institute of Obstetrics, Queen Charlotte's Hospital. We had to beg the Ministry of Health to transfer one of the dusty Diasonographs to the institute.

In the meantime, Campbell and I carried out the first early-pregnancy ultrasound investigations in England. Up to that time, nobody knew what a baby looked like before about eighteen weeks' gestational age. X-ray only showed the fetal skeleton at about that time. One could not make first-trimester fetal diagnoses. Suddenly it was possible tell whether there was one baby or there were two babies, whether there were abnormalities in the pregnancy, or whether a hydatidiform mole was present. One could see fetal deformity by about fourteen weeks' gestational age. We could see the placenta. We were significantly lucky, because Ian Donald had developed a 5-megahertz ultrasound probe, the energy of which could penetrate to the posterior part of the uterus. In Denver, Colorado, the other place where diagnostic ultrasound was being developed, such a probe was not available. They only had a 1.5-megahertz probe with which only the front of the uterus and an anterior-lying placenta could be visualized. We could very easily see both a placenta previa, when the placenta is ahead of the baby, and a posterior placenta.

When we had sufficient patients to be sure of the results, we wrote a manuscript. I then made one of the big mistakes in my life: I let Stuart Campbell's name go first, because his last name precedes mine alphabetically and he was junior to me. As a result, he became famous. Then we discovered that Ian Donald had not published his findings on the subject of ultrasound placentography. The editor of the *British Journal of Obstetrics and Gynecology* delayed publication of our manuscript for six months while Professor Donald wrote his paper; and the two papers were published back to back. Such is academia. But we were happy and thought the delay justified.

In November 1966, I received a telephone call from Professor Edward Quilligan, who was now chairman at Yale. He asked if I would please come back to New Haven and "teach them how to do ultrasound properly." I agreed, but warned him that I wanted to be a gynecologic surgeon. "That's just fine," Quilligan said. "You can become a gynecologic surgeon, just do the ultrasound first." My wife and I thought it over and finally made a commitment to come to Yale. The trouble was that I had refused to have my fingerprints taken by the immigration authorities when I first came to the United States. Consequently, I had entered the country on a J1 visa that required me to stay abroad for two years before I could return. The wait was arduous for the Yale administration but marvelous for me, because it allowed me to pursue my other interest in tissue culture of human cells, a field that was in its infancy at the time.

I wanted to find out why progesterone inhibited endometrial cancer. Nobody knew how that worked. I obtained a position at the British Cancer Hospital in Professor Peter Alexander's department in Block X. I learned how to do tissue culture and worked out how progesterone works on the endometrium (the lining of the uterus). When I finally came to the United States, I continued this investigation, combining

the culture work with electron microscopy in collaboration with Dr. Millie Gordon. We confirmed the development of a fascinating organelle that appears in the endometrium between thirteen and sixteen days of the menstrual cycle. It is called the nucleolar channel system. It is found not in the nucleus but in the nucleolus of the endometrial cells. We showed that this system was induced by progesterone and that it was not produced by many of the progestational agents in pill medication. To this day, however, nobody has any idea what the nucleolar channel system does. I plan to continue my research in this area after I retire!

When we finally arrived in New Haven in August 1968, I set up a Diasonograph in the radiology department of Yale-New Haven Hospital and saw increasing numbers of patients in consultation. Soon obstetricians realized that this technique provided clinically useful information. By 1972, I had come to realize that one could not do radical pelvic surgery and at the same time be available for the obstetricians to do ultrasound. So I handed over the ultrasound operation to Dr. John Hobbins, who went on to make the Yale ultrasound department a respected leader in the field.

I became a gynecologic oncologist and carried on with my tissue culture investigations. Also I began to see patients with hydatidiform mole and trophoblastic disease. We now know that hydatidiform mole is an abnormality of ovulation where all the genetic material comes from the male and the genetic material from the ovum is lost. The malignant counterpart is choriocarcinoma. This was a fatal cancer until 1956, when chemotherapy was found to induce nearly universal cure. Because of this, choriocinoma is called "God's first tumor and man's first cure." During the period when I was waiting for a job at The Middlesex Hospital, I had a post at Charing Cross Hospital, where Dr. Kenneth Bagshawe was one of the innovators of that chemotherapy treatment. Yale's medical oncology service had recognized expertise with methotrexate, the medication most commonly used in trophoblastic neoplasia. We also had diagnostic ultrasound that made possible the diagnosis of hydatidiform mole. This dual capability enabled me to establish the Yale Trophoblast Disease Center, which for forty years has served as a referral center for patients with this rare but curable disease. It has been a very successful unit and I am proud to say that no patient who was primarily treated at Yale died. This is one disease where management should be centralized, ensuring that the patient is treated by physicians who have specialized experience and expertise.

My second longstanding interest, in addition to trophoblast and gynecological cancer, was why women and men are either continent or incontinent. In my early resident rotation at the Chelsea Hospital for Women, we had seen a great number of patients with urinary incontinence, but nobody at that time knew why they were incontinent. The urology department at Yale were very kind and allowed me to use their urodynamic clinic on a Monday morning while they had grand rounds. When Dr. Edward McGuire finished his residency, Dr. Bernard Lytton, then the chief of urology at Yale, sent him to the Royal London Hospital—a reverse BTA—to find out why,

under certain conditions, pressure in the urethra was higher or lower. Dr. McGuire brought back investigative techniques capable of solving that problem and eventually elucidated the pharmaco-physiology of continence and incontinence. For this work he was awarded the Golden Cystoscope of the American Urologic Association.

As I was the gynecologist, all these patients were then being referred to me and I in turn sent them on to Dr. McGuire. He taught me urodynamics and I taught him gynecological surgery—it was a good symbiosis. When Dr. McGuire submitted his first paper on the subject, the journal initially rejected it. The editors did not understand. At a national meeting we had an intense discussion with the editor of the journal. "You mean that it is the pressure to the outside of the urethra that is causing the difference," he said. "The pressure to the outside of the urethra must be greater than pressure to the outside of the bladder, otherwise we'd all be wet all the time." Finally he understood what we were talking about and the paper was published the following month.

I will mention one more thing. When I came to the Yale Medical School in 1968, chemotherapy was just beginning. Leukemia was being treated quite effectively, but medical oncologists were not interested in gynecological cancers because patients with ovarian cancers invariably died. They still do to a large extent, unless they are diagnosed very early, but patients now live significantly longer with a reasonably good quality of life. Then, the average patient survived only nine months. There was an ongoing clinical trial at Yale when I arrived. It had been started by Dr. Maclyn Wade and Professor Alan Sartorelli of the Pharmacology Department at Yale. I was invited as a coinvestigator and took over when Wade left for California. The medications were 5-Fluorouracyl and Uracyl mustard, the latter drug invented by Dr. Sartorelli. The patients probably did not live longer, but for the first time in the treatment of ovarian cancer, the fluid in patients' lungs and bellies, which previously required multiple significantly uncomfortable interventions, was brought under control. More effective chemotherapy for ovarian cancer did not appear until the early seventies, with the advent of Adriamycin and then Cis-platinum.

Those have been my professional life experiences and interests. None of them would have been possible if it hadn't been for my wife. I first saw Margot Lytton coming down the stairs on the arm of a tall, blonde, good-looking young man at a party of the London Jewish Graduates Society. To my relief, a friend told me that the young man was in fact her brother. I've been admiring her—I was going to say chasing her—ever since. I had the privilege of growing up as a physician at a time when the knowledge explosion of the twentieth century was beginning. Doctors were still physicians, not "caregivers," and everything was new and exciting. I tasted much and savored the experience. Many in academia advised me that in order to succeed professionally, one needed to pursue one objective, one gimmick, single-mindedly. I never heeded that advice, but instead explored many aspects of the new knowledge in medicine. I hope I have made some small contributions.