As we approach the century’s end, we customarily consider our progress to date and project a view of our future as we hope to see it. Emergency radiology as a subspecialty has had a brief and dramatic history; it holds great promise for success. I’d like to share some personal experiences that convey a sense of the scale for the growth and development our field has experienced in the past 45 years.

While in college I began working at night as a technologist in radiology, and hence my first-hand experience with emergency radiology dates back to the mid-1950s. This included fluoroscopic evaluation and manipulation of fractures prior to splinting, using a World War II Picker Field Unit. After taking the films and hand developing them, the Emergency Room physician and I viewed them “wet” on a metal film hanger from the fixer tank. The on call orthopedist would put on a lead apron, goggles and have me locate the Pratt-hand held fluoroscopic device. After dark adaptation he would insert his face into the device as I directed a coned beam of X-rays in his direction with the patient’s fractured extremity in-between. The fracture angulation was placed in profile so that the orthopedist could realign the bone or bones while his eyes, face, thyroid, etc. were being directly bombarded by the 25 mA Picker Field Unit. Once he fluoroscoped that way for 5 min. We only did this a few times before my Chief Radiologist, H. G. Reineke, M.D., forbade it. (Early on in my career, I told Dr. Reineke of my interest in his field. Over the years, he has helped me in untold ways to recognize my goal.) The year he became President of the American Roentgen Ray Society (1960), the annual meeting was held in Cincinnati, where I was in medical school. He invited me to dinner to meet some of his colleagues. At the table, I noticed that many of his friends wore gloves, so I asked why, and he simply said that they had all unsightly rashes, cancers, or amputations which would likely lessen our appetite for dinner – hence, the gloves. Of course, all these gentlemen were experts in palpating the GI tract during fluoroscopy. Dr. Reineke told me that the life expectancy for radiologists was improving and that some day it would be normal. The Emergency Department (ED) in those days was simply our hospital radiology department.

Years later, during my residency which was also in Cincinnati, the faculty would schedule residents to be “in the barrel,” meaning in a tiny room off the corner of the ED where we viewed films as they were developed. By 1964, we had a processor, a great advantage over my earlier experience at hand developing films. The ED was still called the Emergency Room (ER) then, though it consisted of many rooms. Surgeons and others, myself included, would moonlight with the few “regular” physicians in the ER, for not until 1966 did Emergency Medicine become organized. Our ER radiographic units were out-of-date tables, tubes, and a Forsythe wall-mounted chest device. We did a few non-screen table-top detail films when in doubt about the presence or absence of a fracture. Incidentally, we usually got to bed by 11:00 p.m. One reason was that the ER physicians felt fully capable of interpreting the overnight films. I slept in the hospital and so would get calls occasionally during the night. When awakened, I invariably saw a really interesting problem – one where the principles of radiographic interpretation paid off for the patient. We reviewed cases the next morning with the faculty in charge. My chairman, Dr. Benjamin Felson, had a preprinted X-ray consult form for skull films which we were to hand out to all patients entering the ED who were able to walk and talk with no palpable skull fracture. They were advised to bring back the consult form the next day if their symptoms continued so that we could take a delayed skull series (the first one). Dr. Felson thought the bones were the least important
item between the hair and the pineal gland. I’m sure we did fewer skull series than than many places because of that policy. Perhaps we were just lucky, but our ED and the main department were close enough so that if fluoroscopy had to be performed, we could take the patient into the main department.

My initial faculty experience was in New Mexico with Dr. Gil Brogdon, Chairman. I saw him design a new Radiology Department with generic radiology equipment adjacent to the ED. This made plain film studies and fluoroscopy available to the ED, while the bulk of radiology could be secured from the rest of the ED. If necessary we could open appropriate rooms and perform studies – even cerebral angiography – in the main department. I covered the ED on rotation; we did not seem to have an excessive load. On weekends, faculty coverage for the resident in the ED was offered upon request.

In 1974, I moved back to Ohio as faculty at Ohio State University. Our Emergency Radiology at OSU then was one room equipped for plain films and chest. One technologist covered both the ED and the rest of the hospital. Radiology residents would go as needed to the Emergency Room after 5:00 pm. Faculty would read out these studies from wall-mounted viewboxes with the residents the next morning. Complicated patient problems requiring urgent fluoroscopy, angiography, or radionuclides were taken to the main department.

In 1976, the ED at OSU moved to a new building. Rooms were added for referring services. Radiology became a two-room “suite” filled with equipment retrieved from the main department; however, we still only performed plain film studies in the ED. That arrangement continued until 1984 when the next ED expansion occurred.

I had heard of occasional places where computed tomography (CT) was considered an ED tool for radiology (mostly for head trauma). In anticipation of this, I requested Hospital Administration to purchase an additional CT scanner to handle the cases that we had to see each day and situate it in our new ED. The ED was ideally located between the inpatient and outpatient sections of our department, so I concluded that both outpatient and ED patients could be accommodated as long as they were segregated to protect both groups. The hospital said it was unable to come up with the money for the scanner (or was uncertain about its value), so I asked for and received permission to purchase a new scanner from professional income. Our justification was the number of CT scans and the continuous operation of the CT scanners already in the hospital. We leased a new GE scanner, installed it and a reading area in <1000 sq.ft. in the ED. During the first years of our operation (1985 and 1986), we lost money. Soon afterwards, however, CT studies in the ED began to take on a life of their own, and by 1987 we turned a profit. That profit grew in 1988 and 1989 until the administrators, envious of our income, exercised their 5-year option to buy the scanner for a very small amount. Since that time they have made two upgrades of the ED scanner, and it is clear to everyone that without the current upgraded CT in the ED, we could not remain a level 1 trauma center.

Largely because of this Emergency CT, I became active in meetings on Emergency Radiology. At the Harvard Emergency Department courses run by Bob Novelline, MD, I met Drs. Gordon Carson, Jack Harris, Alan Klein, Jack Lawson, Jim McCort, and Stu Mirvis. We agreed to form a new society, The American Society of Emergency Radiology (ASER), to promote and develop the subspecialty of Emergency Radiology for our field and our patients. This single action in 1988 has done more to further Emergency Radiology than any other event, and is the one milestone which marks the true beginning of the subspecialty, Emergency Radiology. Jack Harris, MD, our first president, directed ASER growth; he continues to provide expert leadership today!

ASER took a courageous step when it committed to the support of Emergency Radiology – the journal – the one you are now reading. This happened in the year I was President through the efforts of our Executive Committee. ASER continues to define and promote Emergency Radiology to the community not only through this journal but also through its membership, which has now grown to 425 strong. At last year’s annual meeting, Dr. Harris and the journal’s editor-in-chief, Dr. Ted Keats, received ASER’s first Gold Medals.

Two milestones occurred locally at Ohio State: First, on October 31, 1994, my Chairman, Dr. Dimitrios Spigos, initiated 24-h in-house coverage by the radiology faculty; and second, in November 1997, we installed our picture archiving and communication system (PACS) and commenced totally filmless operation in the ED. The first decision led to many articles and a “soul searching” in our own department, our ED, and EDs around the country. We believe that this is the model that will prevail because it most clearly proves our indispensability in the golden minutes following trauma. Our simple mantra was “the patient’s well-being above all.” We implemented the extended hours first until midnight and then on a 24-h basis. The second local milestone – the introduction of PACS – enabled the filmless operation of the ED, which facilitated our communication both within our department and with the ED physicians.

What does the future hold? Your crystal ball is as good as mine, yet we each see different scenarios. I see trained subspecialty radiologists interpreting all ED studies, and performing more ED ultrasound examination on trauma and emergency patients. As radiologists become integral members of the “Trauma Alert,” they will do more emergent aspirations and more direct sequencing of the imaging studies. I also see “timely interpretation” to mean during the patient’s stay in the ED. As our hours expand to accommodate the EDs and ICUs, it will be no trouble for radiologists who are will-