PART VIII

EPILOGUE

New Age — Same Risks, New Game

The social upheavals and anti-Vietnam riots of the 1960s led to activist movements opposing industrial toxins, vaccines, and genetically modified foods. Any change could be fair game, even if science-based. People began to lose trust in science. The number of Americans who felt “a great deal” of confidence in science and technology declined from more than half in 1966 to about a third in 1973.

In the late 1970s and early 1980s there was a global economic recession. The U.S. was suffering serious stagflation, an inflationary period accompanied by rising unemployment with lack of growth in business that was related to diminished consumer demand. Inflation soared to double digits. Worse, in the face of rising interest rates—the prime rate reached 21 percent—banks and savings and loan institutions, the S&Ls, were constrained by regulations from allowing market rates on their savings accounts. S&Ls rapidly lost reserves as people pulled their money from low interest accounts, opting for money market accounts. In the end, $1 trillion worth of assets would be lost by the S&Ls and were seized by the government. The savings and loan crisis of the 1980s was the greatest collapse of the U.S. financial institution since the Great Depression.

Public distrust crept into education. In 1980, the five-member school board in the small town of Kanawha in North Central Iowa banned the use of John Steinbeck’s novel The Grapes of Wrath in high school English classes. Despite its historic relevance and enduring legacy for farmers, parents had complained about the harsh language in the book and pieces involving prostitutes. Worse, there was mention of the elephant’s trunk as an analogy to a penis. Few of the good people of Amsterdam Township had read the book, despite that it had put into print the economic struggles of their day-to-day lives. As the battle for the
ban gained momentum, there was even some tsk-tsking that there were communist overtones in the book. The citizens of Kanawha had done nothing new; they were responding to leadership scalawags who resurrected a ban-the-book movement from the 1930s. They were not alone. A thousand miles to the north, in a school in Morris, Manitoba, creationists banished *The Grapes of Wrath* in 1982.

The economic viability of rural North America—and with it, the political culture—had shifted. A new twist, creation science, had emerged in the 1960s in an attempt to explain the fossil evidence of evolution as a record of the Genesis flood narrative and that modern life-form diversity was a result of predesigned genetic variability due to the degradation of the perfect genomes that God had created. Always just over the horizon, in the 1980s it had turned into a pesky and destructive force that attacked science education in high schools and universities alike. Eugenie Scott, who headed the National Center for Science Education, in her book *Evolution vs. Creationism*, explained the biological, geological, and molecular background for the science of evolution. She noted that the disbelief in the complexity of biology suggested not a deficit in evolution but the inability (or perhaps unwillingness) of some minds to grasp the unknown.

In an Iowa statewide poll taken in early 2000, when asked if cuts in state government had any impact on their lives, 70 percent of respondents had answered no. Editorialists in the *Des Moines Register* used this as evidence that Iowa taxpayers weren’t really being seriously affected by four years of budget reductions. That cutting the budget of the highway patrol doesn’t affect highway safety or that loss of support for education doesn’t influence the skills and abilities of the workforce is bonkers—someone out there was living in la-la land. But that was the wrong question. When stated that way, one is surprised that the response wasn’t that 90 percent felt unaffected. The right questions are Do cuts in education have long-term effects on economic development? and Does cutting agriculture and animal health programs have serious impacts on food production? Then let us see what the answer is from a reasoned and clear-thinking group of taxpayers.

Foot-and-mouth disease in Britain provided a stark lesson in 2001—a specter of mass burning of carcasses, loss of farms, and reduced meat production. The disease developed after government policies in the 1980s reduced diagnostic centers and veterinary inspection services, leaving the country with a highly vulnerable food industry. There was no immediate damage, and surely 70 percent of British citizens polled would have said they were “unaffected”
by budget cuts. Yet, disaster arrived when three sequential breaks in the food safety chain occurred together: illegal import of meat from Asia, the failure of restaurant garbage to be cooked before being fed to swine (as required by law), and a failure of a depleted veterinary diagnostic program to quickly recognize the disease when it first appeared. Coming together, these breaks in the food safety chain allowed foot-and-mouth disease virus to spread widely before it could be easily confined. In the end, six million cattle and sheep were killed, costing the British government $16 million—all of this from the nation that gave origin to “penny-wise and pound-foolish.”

An outbreak of a foreign disease in livestock could be economically devastating. Competing forces are at work in the budget processes so that political plans to economize veterinary and agricultural budgets are always linked to reasons deftly rigged to appeal to those uninformed in the complexities of food supply, a mindless philosophy that asks, Why do we need farmers when we have grocery stores?


Global recession and the fight against rampant inflation slashed demand for agricultural products and led directly to the farmland crisis of the 1980s. The epicenter of the farm crisis was Iowa. For farmers, the boom of the ’70s became the bust of the ’80s. Surplus production continued, land prices had risen, too many farmers were carrying too much debt, interest rates rose to historic highs, and the new Reagan administration tried to cut back on government support. The Federal Reserve Board tried to slow inflation by raising interest rates, but that increased the cost of doing business, especially on the farm. A survey done by the Federal Reserve of Chicago revealed that the farm mortgage interest rate peaked at 17.5 percent, and when farm income bottomed out in 1983, farm sales started and farm protest movements heated up. Many farmers took Secretary of Agriculture Earl Butz seriously when he told them to “get big or get out.”

To promote economic development in selected areas of the country, the U.S. Congress, persuaded by the lack of veterinarians and the importance of livestock in the Great Plains states, had authorized and funded the Old West
Regional Commission. Chartered in 1972, the OWRC was composed of the governors of Montana, Nebraska, North and South Dakota, and Wyoming, with a federal cochairman appointed by the U.S. president; it identified livestock as a major part of the region’s economy. The University of Nebraska proposed a Regional College of Veterinary Medicine, and in 1974 the OWRC approved a plan for the project. In 1978 a nonprofit corporation, the Veterinary Education and Service Program, was formed with state representatives; it hired Burnell Kingery—retired as dean at the University of Missouri—as project director, with a mandate to seek accreditation from the Council on Education of the American Veterinary Medical Association.4

Then in the mid-1980s, following the agricultural economy, numbers of applicants to veterinary schools nosedived. At Iowa State University, in concert with the recession, applications for veterinary school declined rapidly. By 1985 there were barely enough applicants to fill the spaces allotted—down from the 1950s when there were nearly ten applicants for each slot, a time when it had been more difficult to get into veterinary school than into medical school. Nebraska governor Bob Kerrey signed a bill markedly reducing Nebraska’s contribution to the OWRC plan, and support from other cooperating states declined as existing colleges increased proposals for contracts to educate OWRC-area veterinary students.

A Nebraska Livestock Industry Task Force explored the possibility of forming a program with an existing college of veterinary medicine and visited four veterinary schools: two were interested. At Iowa State University, President Parks, for reasons neither stated nor understood, put the kibosh on any contract proposal. With Kansas State University, an agreement was approved where Kansas would take thirty students each year in its four-year program from Nebraska. In 2005 the University of Nebraska terminated the contract in favor of a contract program at Iowa State University whereby students spent the basic science years at Nebraska and the clinical years at Iowa State University.

By the mid-1980s it was clear that most veterinary schools and research institutes were facing problems of both money and facilities: they lacked modern laboratories, animal rooms, and postmortem facilities required to compete for national programs based on isolation of dangerous disease agents. Few had spaces to work with the most dangerous bacteria and viruses that required biosafety level 3 containment—rooms with controlled access, filtered air systems, and heating plants to sterilize water and sewage leaving the unit. There were none of
those at any veterinary school in the Midwest or Great Plains. At the sprawling National Animal Disease Center, the situation was similar: an aging physical plant with no capacity for animal work with deadly pathogens that required biosafety level 3 containment. In contrast, Canada had replaced its out-of-date national laboratory near Ottawa two times with modern facilities since the original National Animal Disease Laboratory had opened in 1961. The nation was being tardy in dealing with advances in modern veterinary science.

For the pig industry, new high-density “confinement” operations increased the risk of respiratory disease and other lethal swine plagues. Despite the bad times, veterinary research facilities began to see increased funding throughout the Midwest. Faced with new emerging diseases in pigs brought on by changes in husbandry, research funding had also improved. At Iowa State University’s Veterinary Medical Research Institute, William P. Switzer developed a team to investigate a serious emerging disease of pigs, atrophic rhinitis. By the mid-1980s his work had developed a successful vaccine used for the control of *Bordetella* infection in pigs. In the succeeding decade, Switzer and his graduate students made major contributions to respiratory diseases of swine. The vaccines that were developed from Switzer’s lab would be judged one of the 150 most valuable contributions in all of Iowa State history, and Switzer would accumulate awards, including Distinguished Professor in 1990, Iowa Inventor Hall of Fame, and the doctor honoris causa honorary doctorate degree from the University of Vienna in 1979.

As dean and distinguished professor, Richard Francis Ross, one of Switzer’s graduate students, would make significant changes in academic veterinary medicine and agriculture. In the 1990s he recruited faculty with outstanding scholarly records for positions of critical leadership. Raising the bar, Ross demanded high quality in teaching, research, and service. At other research universities, investigations on diseases of food-producing animals were making major discoveries, spurred on by administrators who were leaders, not managers — managers lead people to do things right; leaders do the right things.

Contributions of veterinary scientists began to be recognized throughout the world. Four veterinarians were elected to the prestigious National Academy of Sciences: Janice Miller and Harley Moon from the National Animal Disease Center in Iowa, Richard Witter from the Regional Poultry Laboratory in Michigan, and Edward Hoover—trained at The Ohio State University—from Colorado State University. Over twenty veterinarians who contributed to
medical progress, some as scientists and some as leaders in comparative medicine, were elected to the Institute of Medicine, part of the National Academy of Sciences. Veterinarians Myron “Max” Essex from Harvard and John B. Glen of Scotland received the Lasker Award—Glen in 2018 for his discoveries of the antiparasitic drug propofol and for short-acting anesthetics. The ultimate award came in 1996, when Peter Doherty, an Australian veterinarian, won the Nobel Prize for Medicine for discoveries on how white blood cells attack and kill virus-infected cells. William C. Campbell, trained in the Veterinary Science Department at the University of Wisconsin, won the Nobel Prize for the discovery of the drug avermectin and its derivative, ivermectin—both alleviating parasitic infection in livestock and people.

Despite the emerging duties of veterinarians in public health and zoonotic diseases, and their role in food safety, economic downturns occasionally lead to zany changes in the food industry that can lead to disaster. In 1988, an unusual case cluster of human thyrotoxicosis—a increase of thyroid hormone—appeared. It was traced to a slaughterhouse that had put thyroid glands of cattle carcasses in its ground beef; people had been poisoned by eating thyroid tissue in their burgers.

37. THE GENDER SHIFT

The April 1897 issue of the American Veterinary Review carried news from England that Principal Williams of the New Veterinary College in Edinburgh, Scotland, had brought suit against the Royal College of Veterinary Surgeons in London to compel the RCVS to admit for its licensing examination a “lady” who had qualified academically but was refused by the examiners on account of her sex. An accompanying editorial in the journal by an American veterinarian noted that of all learned societies, that of veterinary surgeon was least appropriate for women, and concluded there would be no need for lawsuits “if women, instead of seeking notoriety by any means in their power, would be content to fulfill those duties for which they are fitted by nature . . .”

A half-century later, the view in much of rural America had not changed in a way that mattered. To midwestern farm boys of the 1940s, it had seemed as if most rural veterinarians were honest, capable, and tough men—their work required both strength and physical stamina, and caution was required to deal