

A brief glance back at 45 years in veterinary education



Dr. George Shelton

It is my intent to avoid a biographic approach with these remarks. However, reflections from the past can hardly have meaning to the reader without some knowledge of the reflector. Therefore, I beg the reader's forbearance with a brief autobiographic sketch that I hope will provide some basis and understanding of my viewpoints.

I grew up on a small diversified farm in central Texas during the Great Depression and was so fortunate as to graduate from high school in 1941, in the "year of infamy" for our country. For young men between the ages of 16 and 30 at that time, there was trouble ahead as most of us were eventually called to military duty. I completed the preveterinary requirements under an accelerated college program before being called to active duty with the Army Air Corps in late 1942. The next 3 years of military service, including one year of combat duty in the South Pacific theater of operations, had little to do with veterinary medicine, but it did allow me to qualify for the GI Bill of Rights and provided financial support for my veterinary education, which began immediately after the end of World War II.

My exposure to private veterinary practice was limited to a few months of mixed practice in central Missouri—just long enough to become infected with acute brucellosis and just before the diagnosis and treatment for human brucellosis was developed and standardized. As a sick young man hardly able to do farm practice, I was receptive to a call from the new School of Veterinary Medicine, University of Missouri, to consider a teaching position in the Department of Microbiology and Parasitology. The brucellosis was soon cured, but my future in veterinary education was initiated. Forty years later, I retired as Dean, College of Veterinary Medicine, Texas A&M University. At one time or other I was involved in most areas of veterinary education (teaching, research, extension, continuing education, clinical and laboratory diagnosis, and administration, as a teacher, department head, associate dean, and dean). My teaching and research specialty was veterinary parasitology, probably because of the influence of Dr. Richard (Dick) Turk, one of the most able veterinary teachers ever to enter a classroom.

Veterinary education during World War II and the immediate postwar years

During World War II, the US veterinary colleges operated on accelerated schedules, usually some form of a trimester system. There was little continuity or stability of operation because of changing manpower policies at the national level. Some students were allowed to complete their veterinary education under the Army Specialized Training Program. However, there was much confusion and uncertainty regarding the duration and stability of the Army Specialized Training Program, and students left for active duty at irregular intervals during the course of study. After the war, many of

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those same students returned to the veterinary curriculum at the level they were at the time of departure. During 1946 and 1947, one could expect to meet several new students (returning veterans) at the beginning of each semester. From 1941 to 1947, there were 10 publicly supported veterinary teaching institutions in operation in the United States. The class size for most institutions varied between 40 and 70 students. Faculty sizes were very small by today's standards, ranging between 15 and 25 members per institution in all ranks from instructor through professor. Department heads and deans usually carried heavy teaching loads.

Most instruction was given by the lecture method, and textbooks were barely adequate for most disciplines. In some of the clinical areas, the textbooks and laboratory manuals were totally inadequate. In some disciplines (anatomy, physiology, and sometimes microbiology and pathology), the laboratories were the main strength of the instructional effort. In other areas, such as clinical chemistry, clinical pathology, and radiology, the laboratories were weak or nonexistent.

From an overall aspect, clinical education and training was very weak, considering the state of the science and art at the time. "Survival surgery" was severely limited at most institutions. Dr. Bob Pierson stated in his "Reflections" article (Sept 1, 1988, pp 540-544) that he was able to spay one dog and "assist with the suturing of one 'poll evil' operation in a horse" while in school at Colorado State University. His survival surgical experience was 100% greater than mine at Texas A&M University, because I shared the surgical endeavors with another student when we spayed our one dog. I did, however, smear about 10 gal of scarlet red oil on what seemed an endless number of wire cuts, fistulous withers, and similar lesions of horses.

Ambulatory clinics were very limited, or nonexistent, at most schools before 1950. Clinic caseloads were small and there was poor representation of the type of cases young graduates would see after graduation. These deficiencies were not because of a lack of effort or concern on the part of institutional faculties and administrators; they arose from a lack of facilities and resources (funds, equipment, well-qualified professors and scientists) needed to provide a quality veterinary education. Veterinary medicine remained in the shadow of the "horse doctor image" from which it was to emerge during the decades of the 1960s and 1970s.

Undoubtedly, there were many factors that allowed our profession to gain a small place in the sun. In retrospect, it seems logical to attribute some of the gain to the following: (1) demand for veterinary education on the part of returning veterans of World War II; (2) perceived need for veterinary services by the animal-owning public as the animal industry recovered from the mobilization of the war effort (7 new veterinary schools were eventually created in response to these 2 needs); (3) the inclusion of veterinary medicine in the great renaissance of medicine and biomedical research that began about 1960—impetus at the federal level provided resources for veterinary education and research never before available, and; (4) the popularity of veterinary medicine among young people disillusioned by their perception of crass materialism, the Vietnam War, and the degradation of the nation's environment during the 1970s and early 1980s. Veterinary medicine appeared to be an altruistic method of service, which appealed to many at a time when materialism and hedonism seemed too prevalent in our country. It remains for future veterinary historians to estimate the impact of young veterinarians so motivated who have entered the profession during the past 20 years. Regardless of this consideration, we were to see an unprecedented demand for veterinary education and a time

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when it was more difficult to gain admission to a college of veterinary medicine than to a college of human medicine.

In my brief consideration of veterinary education over the past 40 years, and especially of the post-World War II era, it is important to give attention and credit to those great teachers who labored against extreme difficulties to give us the best possible education under the circumstances. Each institution had a few teachers who by word, deed, or example gave us the essentials of a good education. Graduates of each institution will recall these teachers, their influence, their loyalty and dedication to the profession, and their efforts to teach us the art and science, the spirit and philosophy of a small and somewhat embryonic profession. Many of them had labored through the war years with an endless stream of young students who knew not the day new orders for military service would come. Now they were faced with an onslaught of veterans seeking a professional education. They had neither the facilities nor resources to meet the need, but there was rarely a complaint voiced from them. They were the dedicated teachers. To them, teaching was a vital and essential service to future generations. May it always be so.

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Veterinary parasitology in post-World War II times

From some aspects one could say that veterinary parasitology was in the voodoo stage in the years 1945 to 1955. Many good studies had been made concerning taxonomy, morphology, and identification of parasites important in veterinary practice. Likewise, some good efforts had been made to elucidate the life cycles of certain parasites known to cause disease in animals. However, critical investigations that would explain and clarify host-parasite relationships in areas such as host immunity, the pathogenesis of parasitic disease in host animals, the ecologic aspects of extra-host stages, critical epidemiologic concerns, and methods of prevention and control were yet to come from the research laboratories.

In all too many instances, veterinarians diagnosed parasitic disease by locating a helminth egg or coccidial oocyst in a fecal sample, a mite on a skin scraping or microfilaria on a blood smear, and immediately reached a conclusion of clinical parasitism. It was easy to prescribe or administer a parasiticide, which was often ineffective and frequently more harmful to the host than the parasites present. Underlying factors such as concurrent infections with viral or bacterial pathogens, inadequate nutritional requirements for the host, and environmental stresses were often overlooked.

Generally speaking, the practicing veterinarian was not to be blamed for an inadequate knowledge of clinical parasitology. The subject area had not been presented in the veterinary teaching programs or at least had not been adequately emphasized to the students. The reasons for the deficient teaching effort usually related to poor development and understanding of the clinical aspects of veterinary parasitology, poor understanding and limited effort to teach the known aspects of clinical parasitology by the faculties, and lack of communication and coordination between the preclinical teachers attempting to teach parasitology and the clinical faculty teaching medicine to third- and fourth-year students.

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Veterinary clinical parasitology comes of age

During the 1960s and 1970s, substantial progress was made in

most basic areas of host-parasite relationships, which allowed the clinical discipline of veterinary parasitology to take its place as an integrated aspect of clinical medicine. In 1957, the placing of Sputnik in orbit by the Russians became the impetus for a great renaissance in research that extended over the next 2 decades. Most fields of science were touched by this new interest and the entire scope of biomedical research benefited greatly. Whereas most research support in the medical arena was allocated for human health studies, there was a major spinoff for animal health because animals were often used in the experimental designs.

Clinical veterinary parasitology received a great amount of research support for studies on host-parasite interactions, which helped us to understand immunologic reactions, pathogenesis, bio-nomics, epidemiology, and other vital and critical aspects of clinical disease. Some funds became available from experiment stations, commercial drug firms, and other sources for the necessary experimental trials under field conditions encountered in normal animal production systems.

Very rapidly, veterinary parasitology became a legitimate and respected preclinical science in the veterinary curriculum. It was an area in which it was exciting to teach and do research. It was, however, a true challenge to incorporate the discipline into existing veterinary teaching programs. Many students saw veterinary parasitology as a never-ending list of difficult scientific names and complicated life cycles. Improvements came gradually as instructors realized the difference between "nice to know" and "necessary to know." New and better textbooks became available and, gradually, the clinical teaching staff began to include the scientific and technical aspects of parasitic disease, treatment, and control as a part of the regimen of veterinary medicine. The major thrust for this accomplishment came with the development of the specialty boards such as internal medicine, dermatology, and ophthalmology.

Other developments affecting veterinary parasitology

Other developments somewhat outside the research and clinical areas of veterinary parasitology were to have a rather drastic impact on the discipline. The decline of the small family farm resulted in great changes in animal husbandry. Livestock production became more specialized and producers became more skilled in practices of management. Improved pastures were more frequently used, better nutrition was provided, and grazing rotation schemes were established. Likewise, there was a gradual enlightenment of other segments of the animal-owning public concerning better health care and disease control. Just as was the case in human parasitology when better sanitation became available because of the flush toilet and closed sewer systems, many parasitic diseases virtually disappeared in animals raised with improved animal husbandry. Veterinary parasitisms were affected to a lesser degree than human parasitisms by improved sanitation, but a considerable number, such as lungworms in swine, gapeworms in poultry, and nodular worms in sheep, are seldom seen today. Other parasitic diseases that continue to exist in certain locations are of limited clinical importance as a result of improved control practices and much better nutrition.

Although these are commendable developments to the animal production industry, they tended to reduce the interest and excitement of clinical parasitology to veterinary parasitologists whose interest in the discipline were stimulated by the challenge of problem solving. Just possibly these developments could have been the motivation behind the career shifts of several veterinary parasitologists who moved into roles of educational and research administration as deans, directors, presidents, and similar areas of responsibility.

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Drifting into educational administration

One such assignment, which may have led to my efforts in educational administration, was a long period of service as chairman of the admissions committee at the College of Veterinary Medicine, University of Missouri. This was a challenging and interesting responsibility that I found both pleasant and at times depressing. It was a pleasure to interact with the bright and eager young candidates, but sad to know that some of the most sincere and dedicated would never gain admission because of the demanding requirements and keen competition.

One day my dean called me into his office to ask if I would be interested in a part-time appointment in the dean's office. My answer that I was happy with my current responsibilities and had no formal preparation for administrative work did not discourage him. He surmised that very few people at that time had appropriate education and training for veterinary administrative work and "anyway, most of the responsibility is just one darn problem after another." In his opinion, common sense and a stable emotional system were the major requirements for some degree of success. Some 25 years later I find very little reason to argue with his philosophy.

Major progress in veterinary education began in the early 1960s. Deans appointed at the schools initiated after World War II as well as many located at the original 10 schools were builders and entrepreneurs who saw an opportunity to use public interest in veterinary medicine as well as better state and federal support to move veterinary education out of the dark ages. These leaders were for the most part younger men—hard drivers, visionaries, and good salesmen for the profession and veterinary education. They were able to convince university administrators, state legislators, and persons in responsible positions at the national level that veterinary teaching institutions were ready to play major roles as members of health science teams. As the veterinary institutions moved into biomedical research in an important way, they gained greater respect throughout the health science establishment. Veterinary institutions at Pennsylvania, New York, California, and Minnesota were leaders in this regard.

Beginning about 1976, there were strong indications that the best days for veterinary education were over. Each year the battle to retain federal support for veterinary education became more difficult. The competition for federal funds for facilities and equipment grew intense as the limited available funds diminished and were no more. Later in the decade federal funding for biomedical research was no longer able to meet the demand.

Almost in synchrony with diminishing federal support for veterinary education there was a new wave of veterinary teaching institutions opening in the United States. Most of these institutions developed in the southeastern United States, but schools were also opened in New England, Wisconsin, and Oregon. Before the tide turned, 9 new institutions opened between 1973 and 1985.

It is difficult to explain the impetus for such expansion (approximately one third of the veterinary institutions existing today). Certainly, there was a great demand for veterinary education on the part of highly qualified applicants. Nevertheless, veterinary education is high cost at best and one wonders if the leaders in states establishing new veterinary colleges truly considered the costs as well as the need for more veterinary graduates 20 years in the future. Regardless of controversial considerations of supply and demand for veterinary services in the future, the new institutions gradually came "on line" and all appear to have adequate to very solid educational programs in operation today.

With these changes at the national level, the problems and

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concerns of deans of veterinary medicine at the home institutions also became a new set of realities. Inflation in all areas of the medical arena became overwhelming in the late 1970s and early 1980s, and state appropriations were not keeping pace. Most deans found themselves serving as fund-raisers and retrenchment supervisors. Tuition rates were increased rapidly but could not fill the gap between "income and outgo." Most deans were spending more and more time at the state houses serving as unofficial lobbyists for their programs.

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As dean positions were refilled during the mid and late 1970s, the entrepreneur types were replaced by resourceful survivors. If they were not resourceful the tenure was usually short indeed. In my opinion it was not a fun time to be a dean (if there is ever such a time). If the dean was not sufficiently stressed by the fund-raising needs, his or her life was made more miserable by the endless demands of federal, state, and institutional regulations and the accounting made necessary to prove compliance. The areas of equal opportunity, building and equipment safety standards, and toxic hazards and waste disposal alone were enough to test the emotional stability of the already harassed dean.

The dean was usually considered responsible for the academic programs in all areas—teaching, research, and service. Unfortunately, this was often the last area to receive the dean's undivided attention. Usually the academic activities (curriculum, instruction, and admissions) were handled by an associate dean and appropriate faculty committees. One could argue that this is appropriate and certainly institutions can function efficiently when the chief academic officer is outside the academic loop, but there are serious problems with such arrangements. In my opinion the dean should be deeply involved with all areas of the academic program.

There is a great need for veterinary institutions to face and solve many problems at the working level of the faculty and staff. In the area of curriculum and instruction alone the needs are legend:

- Greater emphasis on veterinary ethics and humanities;
- Better understanding and application of human relations;
- Better teaching and much greater exposure to business and management;
- Much greater emphasis and appreciation of self-learning and independent thought and study;
- Greater awareness of areas of veterinary activity outside routine veterinary practice.

Probably there are other concerns of equal or greater importance to the profession. Regardless of what subject areas receive highest priority in the curriculum, we have an overriding responsibility to teach the student to think and reason, to be prepared for change. Today as never before our graduates should be entrepreneurs.

There have been many efforts to accomplish curriculum modification and reform during the past 20 years. Some progress has been achieved, mostly in the areas of clinical education. However, in my view, the reforms of curriculum and instruction have been superficial and inadequate to meet the needs of the profession in the 21st century. We are all aware of the well-established faculty resistance to major curriculum reform. Reform can never be accomplished without total commitment by the veterinary deans in consort with strong support from university administrators and a united veterinary profession. I sincerely hope that the studies, plans, and projects initiated by and through the Pew program will be the im-

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petus for major curriculum reform. A great effort on the part of all concerned will be necessary.

As one closes one's personal efforts following a lifetime of work in veterinary education, it would be easy to make a list of efforts and some accomplishments and feel satisfied with the record. Unfortunately, the list of accomplishments pales into insignificance when the list of failures and unfinished efforts is considered. Perhaps this is as it should be! Regardless, there is sufficient challenge left for veterinary educators for many generations to come.

I am glad I had the opportunity to be a veterinarian and to spend my career in veterinary education. The most gratifying and rewarding part of my responsibilities was the interaction with the fine young men and women who have entered our profession during the past 40 years. We have been fortunate to get the very best. The most difficult and frustrating duty was attempting to deal with the internecine politics of upper-level university administration. It seems to me the situation has become steadily worse over the past 20 years. Additional levels of governance have been created at so-called system levels. Many more administrators, vice chancellors, and vice presidents have been employed as the universities grew larger. This development has created much greater potential for conflict and confusion as administrators jostle for power or turf.

At times my service has been exciting and exhilarating, at times it has been hectic and frustrating, but it has never been dull.

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Dr. Shelton recently retired as Dean, College of Veterinary Medicine, Texas A&M University. He now makes his home in Columbia, Mo, and keeps busy with hobbies and traveling.

For this feature, the editor seeks and welcomes contributions from veterinarians who are about to retire or have recently retired.