

nature of large animal practice. If my interpretation of these changes is correct, a thorough grounding in the principles of epidemiology, refined diagnostic skills, a keen understanding of the art of working with others in a multi-specialty group practice, and a sure footing in agricultural economics have become indispensable tools in training today's veterinary student to meet tomorrow's agricultural world. As an illustration, the current foot-and-mouth disease epizootic in England may impress us today as an isolated, though tragic occurrence. In the years ahead, epizootics of many dangerous animal diseases could be ever-present threats unless the veterinary medical profession is fully prepared to meet them through both long-range programs of prevention, and immediate control measures.

The need to feed our own growing populace and to help feed others will make unprecedented demands on veterinary medicine in terms of manpower, training, and skills. In an article appearing in a recent issue of the *Journal of the American Veterinary Medical Association*, Dr. J. C. Thompson, Jr., of the Department of Physical Biology at Cornell University, reported that "as the world attempts to solve its food problems, the need for veterinarians will increase tremendously. Without control of diseases and improved survivability there will be little improvement in food productivity from animals."

To train veterinarians in sufficient numbers to meet world-wide demands for their services is, of course, essential. But something else seems to me significant. The world food situation, growing more serious each year, undoubtedly will give rise within the profession to the need for global exchanges of knowledge, skills, and programs of education, and thereby add to the profession a new world-wide dimension. Its impact on veterinary medicine, already acutely felt by medicine, dentistry, and other health professions, could be considerable.

In turning now to urbanization as the second field of consequence to veterinary medical education, I am addressing myself chiefly, although by no means exclusively, to the small animal practitioner. Here, again, we come across the words "density" and "exchange of ideas" as key words characterizing the changes which importantly influence both practice and education. Density, because population growth, crowded living conditions in our cities, and the increasing popularity of companion animals all combine to emphasize the interdependence of animal health and human health. One immediate effect of these factors will be that they will bring into sharp focus the public health responsibilities of the small animal practitioner, an aspect of small animal medicine which has not found in the veterinary medical curriculum the consideration it requires.

Exchange of ideas, because a sophisticated, prosperous, mundane, and acutely health conscious pet owner will expect for his animal the same kind of superior medical service he takes for granted when it comes to his own health requirements. Moreover, as the ownership of a pet becomes for many a source of emotional stability in a society in which the individual is submerged, we must increasingly turn our attention to the fears and anxieties of the pet owner as well as to the maladies and afflictions of the pet. All of these trends combine to create new points of contact and reference between small animal medicine and other professional disciplines, and contain obvious implications for veterinary medical education. The persistent urging by many of our best educators for a surer footing of the veterinary student in the liberal arts and humanities will be vindicated in the clinics of tomorrow.

With these remarks I am already touching on yet another development whose impact on veterinary medicine has been, and will continue to be, enormous: specialization. Unquestionably a boon to the profession, it also causes many of the headaches that plague veterinary medical administrators and educators alike: How can we preserve unity of organization while encouraging diversity of scientific interest and competence? How can we bring the new research findings—doubling, as some say, every five to ten years—to those who, although often still young in years, have become professionally obsolete? How should we design the pre-veterinary curriculum, the professional courses, and post-graduate training to achieve, without becoming superficial, a maximum exposure of our students to the scene of contemporary biology and medicine?

Top advances in the life sciences are the feat of Dr. Arthur Kornberg of Stanford University and Dr. Mehrad Gouliam of the University of Chicago in synthesizing a virus-like substance and thereby creating a primitive form of life; and the human-to-human heart transplants carried out in Cape Town, South Africa, and in California. I am mentioning these two events because they