

RANGE MANAGEMENT

Editorial

A TECHNICAL EDUCATION ISN'T ENOUGH¹

AMER LEHMAN

*Colorado State Director, Farmers
Home Administration, U.S.D.A.,
Denver*

The problem of how and what we teach, always baffling, becomes more so as knowledge expands and society becomes more complex. The nature of the problem is little different for range management than for other disciplines.

My exposure to the problems of undergraduate education has been from three perspectives—as a trustee of a Land Grant University, as a not always eager employer of the technically-trained graduates of Land Grant Universities, and as an operating rancher who obtained a smattering of technical training both “on-the-job” and through the limited channels of continuing education. The animal seems to me to have pretty much the same shape from each perspective. From every angle, I am convinced, it is plain that a technical education is not enough.

Americans have a natural disposition to value education in utilitarian terms. I have often found myself arguing to a potential drop-out that he will be unable to make a decent living if he doesn't get the best education he

can. This may be true, but it is a superficial and degraded justification for education. It makes the ability to identify grasses an end in itself instead of a means to relate a renewable resource to the needs of society. This kind of emphasis reduces education to a kind of glorified vocational training.

We have somehow come to the conclusion that there are two kinds of people—those who have intellectual capacity, and those who have vocational capacity. Earl McGrath of Columbia's Institute of Higher Education was apparently responding to his recognition of the need for a new approach when he accepted the presidency of the new Eisenhower Liberal Arts College. He defined its goal with the statement “most colleges define excellence in terms of the students they do not take. This college is going to measure excellence in terms of what it does for the students it does take.” There is no preponderance of evidence to sustain the idea that people must be sharply divided into two intellectual groups. Recent studies in Harlem, in the slums of London, in the Soviet Union, and in the depressed areas of this country are to the contrary. Robert Hutchins makes a harsher judgment of this conception. He says simply “the overwhelming deficit in the American character is its lack of respect for the mind.”

This utilitarian mischief is compounded by the demand for specialization in a world overwhelmed by the scientific revolution and the explosion of knowledge that has occurred in this generation. When the typi-

cal department head lays out an undergraduate curriculum he has trouble even finding room for English composition and a course in the history of Western ideas. Indeed, sometimes he doesn't. This happens even though the technical subject matter he chooses to cover may be invalidated by the very process of a new discovery that stimulated him to include the myriad of technical material in the first place. Employers in both the private and public sector prefer to direct much of their own specialized training to meet their own special needs. The undergraduate school, if it does nothing else, should train the mind of the student to deal with new and emergent situations, how to identify, gather and interpret honest data, and the audacity to reexamine the contemporary truth.

The emphasis ought to be more on the principles of basic sciences, and less on technical elaboration. The exceptional student who is destined for specialized graduate work will not be handicapped by a more liberal undergraduate program. On the contrary, it should better prepare him for graduate work. These students are the people who will be headed in the direction of leadership in any society. It is easy enough for anyone to fall into the pattern of having plenty to do in his own narrow professional world. He should not be preconditioned to this attitude as an undergraduate. John Gardner, when he was president of the Carnegie Foundation, referred to the indoctrination of graduate students “in a set of attitudes appropriate to scholars”

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as the "anti-leadership vaccine" that leads to the notion that the world needs only experts. The "publish or perish" gambit, no doubt, adds its bit to intellectual parochialism. The outcome of this process inevitably tends toward a pattern of intellectual snobbery, with the pure scientist looking down his nose at the applied scientist and the social scientists and humanists looking down on both with no communication between them because they speak different languages. This condition leads to C. P. Snow's concept of two "scientific" worlds that must learn to communicate. It seems to me that if we educate for two worlds and expect communication simply to grow like cheatgrass we will fall flat on our faces. A contemporary example in point is the history of Keynesian economic ideas. Presented in the early 1930's, they were not accepted by a majority of businessmen and politicians for more than 30 years.

Obviously, the dilemma suggested puts on one side a great number of under-educated technicians and on the other side a group of narrow intellectuals creating a technological monster that could swallow us all. The solution must be some kind of a middle ground in education to produce people who can manage technology for humanitarian ends. The American university very properly in the last decade has become a focal point for the examination of social, economic and political concerns. President Clark Kerr of the University of California states the proposition by saying the university is becoming "a prime instrument of national purpose." If this objective is to be achieved, students in the scientific colleges must be much better educated in the social sciences; and the liberal arts students must be much better

educated in the basic sciences. This is as necessary to the graduate who goes back to operate the family ranch as it is to the graduate who enters the public service.

The typical technically-trained graduate who enters Government service has an understanding of the making and administration of public policy derived largely from a Junior High School course in social science. The private citizen and the employee of the Department of Agriculture lives and works with people. He must have some basic ability to understand them and to communicate with them. The disciplinary words that come to mind are composition, speech, psychology, sociology, history, anthropology, political science, community planning, marketing, finance, public administration. Obviously, the idea can be reduced to an absurdity in the space of a single breath. The point is, the specialist must gain some competence as a generalist within the limitations of the four years allotted for his major field of study.

The dilemma is not a new discovery. Universities have been busy with self-examination for years. "Interdisciplinary study", "institutes", and "symposia" are the big words in the conventional wisdom. Dean Clark and Thurman Arnold were bringing psychiatrists into legal courses in family relations more than 30 years ago at the Yale Law School. But the idea has apparently not yet had any significant impact at the undergraduate level. Honor programs and seminars have been more widely used. But they have been pointed primarily at the exceptional students who need them least and who run pretty good seminars in the dormitories and the off-campus bars. These programs should reach the average students who identify the off-campus bar as a

place to buy beer. These devices and many others can contribute to better undergraduate education.

It is my belief that the most important change that could occur would be renewed concern among teachers for the importance of teaching. I recently had a conversation about this general problem with a nationally recognized professor in one of the physical sciences. He suggested with a twinkle that perhaps student advisors ought to guide students toward three hours under Professor Brown and five hours under Professor Smith instead of five hours on taxonomy and three hours of art appreciation, if we want to produce well educated graduates. He was implying, of course, that Brown and Smith were excellent teachers who related the subject matter of their discipline to the reality of the student's world. I know he does this himself because his students reflect the kind of intellectual motivation most of us would hope for in all undergraduates. When teaching becomes only a prescribed liturgy on the path to the heaven of research, students will not be stimulated.

The schools of range management have two advantages over the rest of the academic world if they choose to be innovators. They are still young enough to escape to some degree the rigidity of institutionalized patterns. More important, because man is a part of the ecology, range management has a unique and dramatic opportunity to relate itself to the history and future of civilization. If the opportunity is fully exploited, range management schools could set an example in undergraduate education that I believe would soon be recognized by the community at large.