

## DISTINGUISHED LECTURE

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### AGRICULTURAL EDUCATION FANTASIES, FACTS, AND FUTURES: A RE-EXAMINATION

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"Fantasies, Facts, and Futures ..." -- a presumptuous title indeed. Since the title of my message sounds presumptuous and all knowing, please allow me to begin at least honest in part. Before the murmurs of pathetically pompous or ridiculous rhetoric start among you, allow me to issue a modest three-part disclaimer.

To speak of fantasies is presumptuous if not dangerous. Fantasy by definition deals with portrayals of the imaginary, vagary, and unreality. Fantasies exist in the mind, and the discussion of the fantasies of individuals and especially groups of individuals has an almost incriminating connotation. But I do wish to discuss some faulty perceptions and possible misunderstandings that we may have regarding agricultural education.

I would hope to deal with some facts, although limited facts at best. This, too, is presumptuous and has some risks. Facts in these times of extreme change are elusive, variable, and heuristic to the point of always being in question.

Thirdly, we must face up to the problem of anyone attempting to speak futuristically regarding anything. There is a hazard that anyone who speaks of futures may be simulating the role of the prophet. History tells us that some prophets have been held

in high esteem and revered by their believing followers, but history also tells us that other prophets were damned as false and destroyed by the very clients they sought to help by looking ahead with them. It had been said that one is never a prophet in their own land, and so to futurize regarding agricultural education in the midst of you who know it best is to risk heresy and the demeaning label of false prophet.

And so without malice aforethought (some who know me well would say without aforethought at all or at least very little aforethought) let me pursue in a most limited way some fantasies, facts, and futures.

Addresses of this type usually have three characteristics: they give testimony to the importance of our profession and our work, they are replete with optimism for our current status and future, and (if the speaker has any sense) they are at least merciful in length. If you accept these qualities as criteria, my presentation will have at least one virtue. It will not go on too long. However, I will assume that a mystery speaker has some prerogatives and is temporarily licensed to reveal his own interpretations, perceptions, and even his biases. Certainly all of you will not agree with or accept all the things I say. But that is by design and it does not bother me in the least because if any two of us continually agree, it is very possible that one of us is not needed. My role as your mystery speaker and that of a clergyman are at opposite poles in purpose. The minister exists to fulfill the Biblical function of comforting the afflicted. My role as a mystery speaker and sincere colleague is to "afflict the comfortable."

### *Fantasies*

Fantasies are fallacious and illusionary beliefs that could, and may be, getting in our way. And so let me start with the first portion of my brief tri-part presentation by addressing this matter of fantasies. It should be said that all fantasies regarding agricultural education need not be matters of vagary and unreality. They need not always lead to intellectual deception. It is very possible that some of our fantasies may well be attainable dreams and futuristic plans for good things to come. However, I will deal briefly with fantasies that could be leading us into a state of complacency and to perceptions of quality that may not exist. And I am starting, by design, with fantasies because they may sound hypercritical or exaggerated and therefore may be irritating. If I treat them first you may have at least partially forgiven me by the time I conclude my remarks.

The first fantasy that I will mention is that of our place under the agricultural sun. It is the belief that agricultural education as we currently know it is absolutely essential to the agricultural industry of this country. There appears to be ample evidence that American agriculture, dynamic and diverse as it is, could operate quite well without our form of agricultural education. The increased efforts of private enterprise to educate various segments of the agricultural population attest to the small if not decreasing role that public school agriculture plays. The emerging role of private consulting organizations, especially with production agriculture, questions the entire matter of public supported, institutionalized adult education in agriculture. And this fantasy of a vital dependency by the industry and people we serve must also be shared by the Cooperative Extension Service.

A second fantasy dealing with the perceived importance of agricultural education is that current programs are indispensable and untouchable components of the public school system. Agricultural education, important as it may be, falls within that category of the curricula labeled elective. It has never been, and cannot be expected to be mandated by State law or Commissioners' regulations. It does not reflect our cultural values in the direct way as do literacy, health and free forms of government. Therefore, agricultural education will continue in public schools only to the degree that it appears cost effective and socially essential to the tax payers. And so the fantasy of being absolutely essential will be supported or destroyed by the level of quality. And that level must be determined by the relevance of the curricular content and quality and quantity of learning.

A third fantasy concerns the ability and feasibility of teachers of agriculture staying abreast of the exploding technical knowledge developing all across the agricultural industry. It is an illusion to think that teachers of agriculture are able to keep technically up-to-date. In many situations they have neither the time nor the ready sources of information to be the Jack of All Trades specialists that we would like to think they are. There are some very serious degrees of specialization and competency priority questions to be considered in this matter of essential technical competence.

I will also maintain that it is a fantasy to believe that teachers of agriculture can or are willing to carry out the expectations held for their positions. The super person fantasy may well be the most serious professional problem currently facing agricultural education. Agricultural education succeeds only to the degree that teachers of agriculture are able to bring about visible cost effective measureable educational change.

However, the agricultural teaching profession has been endangered by role superfluity -- an overload of expectations and job demands that cause competent teachers to seek career shifts and candidates to change career goals at the point of initial employment. This fantasy is in dire need of investigation to determine the essential roles, the undeniable expectations, and the priority uses of time. We have been adding responsibilities and new roles to the agricultural teacher's job since the Smith-Hughes Act, but in all that time we have backed off on very few expectations. And so it is an illusion to believe that we will have an adequate supply of teachers until we get at the real causes of that shortage.

And now before we leave the land of fantasy, it seems appropriate to identify in a brief way several other common illusions regarding such visceral aspects of our program as the FFA, competency based instruction, sex equity, and our approach to research.

We American farmers are very dedicated to the FFA as a strategy for teaching youth leadership, citizenship, and cooperation. We consider it with a reverence held only for such things as Motherhood, Apple Pie, USA, and Chevrolet. But is it an illusion to view the FFA as the optimum teaching strategy for the off-farm agriculture that leads to such places as small animal care programs and ornamental horticulture in urban centers? Is the cross section of an ear of corn really an appropriate organization symbol in these urban settings? And do we have cost effective evidence that the FFA really teaches the affective behaviors that are being called for? The FFA may be doing just that. I hope so. And if it is, then we need concrete evidence that clearly justifies it as an integral part of the curriculum.

As a profession we have bought heavily into competency based instruction. We have expanded our application of it into teacher preparation in the form of competency based teacher education. A result has been increased accountability and unquestionable relevance. However, we might deceive ourselves and our clients if we believe that identifiably changed behavior and measurable outcomes are the best definitions of learning. Self concept, humanistic attitudes, and social skills probably have much more effect on employment success than many of the more measurable competencies. And I have a continuing fear that prospective teachers may complete one hundred percent of a competency checklist and not be able to teach.

In the matter of sex equity, agricultural education appears to be ahead of other vocational service areas. We have the largest percentage increase of females preparing for traditional male occupations. At the teacher level we have also made

considerable equity gains and as many as half the teacher candidates in some states are female. However, numbers in preparation may cause us to believe that the sex imbalance is resolved, and that is not true when a much smaller percentage of females enter teaching than were enrolled in the programs of preparation. Recent research does indicate a positive correlation between gender and job related problems in the early years of teaching.

There is a related fantasy that occupations are determined solely by choice. This would lead us to believe that individuals make a choice and prepare specifically to fulfill their occupational goal. The truth seems to be that we continually foreclose career options all along the processes of maturation and education. Vocational education is not the only way to an occupation. However, vocational education can be instrumental in causing the right foreclosure of career options. And if it is responsive and generalized enough it can be the best route to a successful career.

Our apparent failure to address and resolve these problems raises a vital question regarding our capacity for research in agricultural education.

It is another fantasy to believe that we have built or are succeeding in an attempt to build a research base that is giving us direction. Is it mythical to believe that we have rallied our research around the priority researchable questions or that we have succeeded in carrying out programmatic research? Programmatic research in its most simplistic sense infers activity that is planned and scheduled. Going a step further, it seems appropriate to think of it as answering researchable questions, the answers then provide bases for the next researchable questions. That is to say that programmatic research and development efforts respond to a continuity of questions. The answers to questions give rise to new or related questions and a resulting information or knowledge base is built. And due to the chain effect we learn more and more regarding whatever central inquiry the series of questions and answers are pursuing. We have probably done better with our interdisciplinary research efforts. But a distinction must be made between interdisciplinary and programmatic research. The programmatic idea is one of working in the framework of a common or shared set of postulates or theories. Interdisciplinary research might be thought of as research efforts that rally around a common issue or problem. One approach involves shared beliefs or agreed-upon theories while the other involves the application of diverse beliefs and theories to shared problems. We are probably at a stage of maturity and research competence in agricultural education that allows us to approach researchable questions in a programmatic way and deal with "answers that change questions."

It seems appropriate in this three-phase re-examination that we review some facts. And so allow me to follow fantasies with facts, or actual conditions of the current scene.

### *Facts*

I am tempted at this point to review the history of agricultural education and present an audit trail to illustrate just how we get where we are. However, I have neither the time nor the knowledge of history to do that so I will reflect only briefly on the past. I have a poster on my office wall that says, "You won't know where you're going if you're always looking back," and yet I sincerely believe that the past does cast its shadow on the future.

The Russians probably did vocational education a real service when they launched Sputnik in 1957. That event pushed the curricular pendulum so far in the direction of math and science that it was bound to swing back in the direction of vocational education. Certainly one form of that swing back was the 1963 Vocational Education Act. Agricultural education responded well to these new mandates. A current inventory will reveal that we have done a reasonably good job of bringing our programs into tune with a very complex industry. We have gathered vast amounts of information regarding the agricultural occupations complex and we have learned a great deal about designing and conducting education to prepare people for that agricultural complex.

Last year approximately one third of the agricultural teachers in the nation were full time teachers of production agriculture. Approximately one of every ten vocational agriculture teachers in the nation was teaching ornamental horticulture and nearly half were teaching one or more specialized programs such as agricultural supplies and agricultural mechanics, along with production agriculture. Nearly one half of those teachers were in multiple teacher departments and more than one in ten were in area vocational high schools. These data display a healthy response to federal legislation and school reorganization, but more importantly to industry changes and employment demand.

A current fact that we must face is our severe shortage of qualified teachers. We as a profession have not succeeded in procreating our kind. And since this is an occupational choice shortage more than it is a lack of potential teacher candidates, therein lies a message regarding the image of teaching as a profession. In many states there are nearly enough potential candidates but their choice is not to teach. Given this current situation one might conclude that the image has suffered.

And I suggest that an ironically related fact is that we do know how to prepare teachers. Although CBTE in a pure mechanistic sense is probably not the answer, we may have the most effective teacher preparation program in existence. We are intent and able at relating theory to practice and it is evident not only in teacher preparation but in the work experience programs of secondary and post-secondary students.

As we examine the factual situation regarding teachers we must consider the environment in which they work--the conditions under which they practice their profession. Certainly there are serious problems in contemporary schooling. Project TALENT, funded by the U. S. Office of Education and initiated in 1960, collected data from 40,000 high school students in the United States. In 1975, 1,000 of the original participants were selected for follow-up. Writing of the project, philosopher Michael Scriven claims that "this, the best of all studies of our educational system, tells a sorry story of our schools. The story it tells is one of education for non-citizenship, of education for apathy."

D. Bob Gowin in his new book *Educating* maintains that schooling is not educating. In a recent unpublished paper he describes schooling in this country as sour--a bad mixture of function and purpose. School systems function to get students through the system. But the purposes we have for the system are not achieved. Graduates every year complete schooling without an education (Gowin, 1981). Psychologist Robert Gagne', appraising the contribution of schooling to occupation, family life, citizenship, and life enjoyment, concludes that traditional high school education serves no very useful purpose for the majority of the people. Educator Ralph Tyler notes that subjects taught for purposes of "... general education are not achieving their aims for students." Measurement expert Gene Glass writes that "... schools could do a better job of helping children become literate and employable adults--but they are accomplishing almost nothing toward achieving the goals of helping children develop emotional maturity, understanding, and acceptance of self and others, and the ability to form satisfying relationships."

John Sawhill, writing in the *Saturday Review*, maintains that "... the point of schools is not to reform society but to teach children and we are paying an unacceptable price for ignoring this dictum" (Sawhill, 1979). Most of us who engage in public education would agree with the fact that we ask our schools to do too much. Racial, economic, and sexual inequality, poor parenting, malnutrition and crime are all factors that can affect an individual's capacity to cope with society. Lately we have asked our schools to impact all of these. In many situations basic skills are being neglected because of the emphasis on

correcting social ills. We do not know what constitutes an optimum effective learning experience--is ability grouping or social and racial integration most important? What is good for the teacher is not always good for the students. Facts just do not support the claims that higher salaries attract better teachers, smaller classes increase learning, and publicly financed teacher training improves the quality of performance.

These testimonials are not intended as a tirade on the inadequacies of public education. They are offered as descriptive facts regarding the problems that exist with today's schools. And any re-examination of agricultural education cannot fail to be concerned with the institutions that house, manage, and in a large part control, the fate of agricultural education.

Some very positive facts that are specific to agricultural education should be mentioned. We have a professionalism that is the envy of other groups in education. And that professionalism will become increasingly important at a time when there is little evidence that we can expect to see increased professionalism throughout public education.

We have captured, and it is probably factual to say earned, a loyal and dedicated population of advocates. Time and time again in the past few years we have seen examples of strong support for education in agriculture. But a close examination of the facts will reveal that advocacy was strongest where quality was evident.

And so the facts of the present are both negative and positive. Schools are experiencing problems and the quality of their performance is often in question. It is a time for agricultural programs to be a stronger-than-ever component of the system. We have the relevant intended learning outcomes, the instructional strength, the professionalism and the support needed to make agricultural education more important than it has ever been in the system of public education.

### *Futures*

And now to the final third of our tri-part--futures, or third wave wagers regarding agricultural education. Futures forecasting is a risky business at best. There are many different forecasting techniques in use today. Perhaps it will give futurizing at least limited credibility if we recognize that there are several categories of methods employed for arriving at futuristic conclusions. Extrapolating is done to project present trends into the future, usually with the assumption that a given trend will follow a predictable course. A combinatory approach relates various kinds of changes to one

another so that interrelationships and consequences can be better understood. Consensus is used to solicit the opinions of different individuals to gain the benefit of their collective insight. A creative approach is often used to speculate about events to come which realistically cannot be projected from current trends.

As we pursue a few wagers about the third wave, I make no claim to be using any of these specific forecasting strategies. However, I am confident that the futures efforts I have reviewed used many combinations of these strategies.

The term third wave is borrowed from Alvin Toffler who gave us *Future Shock* and followed it more recently with the new title *Third Wave* (Toffler, 1981). If we accept Toffler's description of what is happening and will happen, then we must conceptualize it in terms of successive, overlapping dynamic waves of change.

Approximately 10,000 years ago some unknown genius, quite likely a woman, took a seed, planted it, then cultivated it for the first time, thereby discovering that in a limited way we can make nature do what we want. And this discovery started the wave of change we call the agricultural revolution. This wave spread across our planet resulting in new civilizations and new ways of life.

Then approximately three hundred years ago the industrial revolution exploded. It started in Britain and began to spread; and that launched a second great wave of change in human history (Toffler, 1981). We do not have time here to discuss the tremendous world-wide impact of the industrial period and the industrial societies that this second wave created. But it is clear that all industrial societies are dependent on fossil fuels and mass production. They are based on certain classical industries--steel, rail, textile, apparel, and automobile. All require huge inputs of energy and capital. All of them produce huge amounts of pollution and environmental damage. They not only develop systems of mass production, but systems of mass distribution. Without mass distribution, mass production makes no sense. Industrial societies share other common features such as mass communication, mass education, standardization, synchronization, and centralization.

What the futurists are telling us now is that the second wave which brought the industrial revolution is starting to diminish. A new wave of change is gaining momentum and we are seeing the emergence of a new civilization, as radically different from the one we know now as the industrial civilization is from the agrarian period that preceded it. The third wave is bringing about a new civilization based on new principles, some of which

contradict those on which industrial societies ran previously. We are experiencing the development of a new emerging system, new levels of technology, new industries, new information and communication systems, new family structures, new corporate forms, new values and attitudes toward time and space, new life styles, and new work habits (Toffler, 1981).

It is in this third wave that we attempt to be futuristic regarding agricultural education. We have no facts about the future, so predicting its particulars can be hazardous business. But allow me to make a few wagers regarding the future.

The agricultural industry will continually become more complex with many specializations within it. This will require agricultural education to supply better educated workers. A high technology agriculture will require increasing numbers of technical level workers, which will bring increasing attention to post-secondary agricultural education. It is likely that family farms will continue to become larger and decrease in number. Corporate ownership may become more common both in the form of the family corporation and farm ownership by larger corporations with non-farm as well as farm interests.

Certainly, we will experience new approaches to the use of water and energy in all forms but especially in the fossil fuel forms. Agriculture is our only truly solar based industry, but it will face interesting competition for the huge amount of fuel energy required to keep it operating. All segments of the agricultural industry will follow the economic trend of increased investment and an increasing substitution of capital for labor. This will very likely result in a boom period for new technologies, new computer applications, and wide use of other forms of high technology devices. The computer is already becoming common place on farms but we are probably in the early stages of its expanded uses. And so, advancements in the high technology industries will impact agriculture as they are impacting all other segments of business and industry. If we contrast the increasing costs of energy and commuting with the declining costs of telecommuting (or telecommunications and computing) we see inevitable changes coming. Paul Vaughn, in a recent paper regarding the agricultural industry, commented "If the automobile industry were as efficient we could purchase a Cadillac with the quality of a Rolls Royce for \$500 and it would get 40 miles per gallon" (Vaughn, 1971). Toffler, in a paper given about the same time, quoted a computer ad that said if the auto industry had done what the computer industry has done in the last 30 years, a Rolls Royce would cost \$2.50 and get two million miles per gallon (Toffler, 1981).

Agricultural prices may strengthen as we abandon our policy of cheap food in this country. As commercial farms and ranches become larger, the number of subsistence and part-time farms may also increase. McCracken and Newcomb, in a recent paper, refer to the increase in the rural living idea; this back to the land movement will call for increasing assistance from agricultural education (McCracken and Newcomb, 1981). Jasper Lee, in a paper addressed to the same subject, sees "... little impact from the rural living idea because the persons involved are seeking a way of life rather than a serious role in agricultural production." (Lee, 1981). The implications of this trend may cause a serious curricular dichotomy for agricultural education. On one hand we will be asked to assist the population living on a little land. They will be seeking a humanistic avocational education. On the other hand we will have the corporate family, a computerized, high energy consumption farm with greatly increased needs for highly technical, management intensified, and politically influenced education and training.

Our futuristic examination of vocational education and specifically agricultural education will be brief. Ruff, Shylo and Russell in their publication from the National Center for Vocational Education used a Delphi (consensus) futuring strategy to identify events that have high probability of occurrence in the next decade. Allow me to highlight from this work only selected events that could impact upon occupational education (Ruff, Shylo and Russell, 1981).

There will be an up-grading of many occupations caused by high technology. This could mean a significant expansion in post-secondary programs and shifts in dollar support from secondary to post-secondary. There will be a continuing federal emphasis on serving special populations. Due to this, an increasing number of vocational students will be those who are educationally disadvantaged which will, in turn, place increased emphasis on basic education (basic skills and low level work skills).

Herein lies a potential problem for agricultural education. Our strength in humanizing vocational education with remedial efforts, personalized work experience, and the strongest student organization in the educational system, may do us an injustice. Vocational agriculture at the secondary level could become an alternative education form. We could be called upon to help those who cannot make it in a high technology society.

The preparation of teachers for the third wave will be increasingly difficult. There is little hope that teachers will be adequately prepared technically at the point of entering the profession. Their backgrounds of practical experience will

continually become more limited. Therefore, inservice education must be considered in a far more comprehensive way than in the past. This may be difficult in an era when we cannot expect increased professionalism on the part of teachers and the struggle to determine who is in charge of teacher education continues. As a profession we will be required to make a decision regarding adult and continuing education. We must decide whether we are serious about responding to this area of increasing need or do we really want to turn the responsibility completely over to the Cooperative Extension Service and private enterprise?

There is a large potpourri of trendy high probability events that must be recognized now and dealt with at some point as we move into the third wave. Secondary and post-secondary student populations are decreasing rapidly. This decrease will be as much as 30 percent in some states within the next ten years. Schools are finding it extremely difficult to get smaller in an organized systematic way. The demographics will change rapidly with a shortage of young workers and thirty-five percent of those over age sixty-five remaining in the work force. Private schools will continue to increase their numbers of students, largely because of our rapidly changing value system and disenchantment with contemporary public schools. There is an apparent correlation between incentive or financial ability to attend private schools and the academic ability of those who do. This could explain, in part, the lowering S.A.T. scores of public school graduates over the past ten years. It is sobering to think that public school populations are not only decreasing in number but have a lowering intellect. This is mainly the pool from which our vocational students will come to us in all areas of occupational education.

The list of trendy events can go on. Economically we can expect increasing energy costs with gasoline costing \$10 per gallon by the year 2000, shortages of resources, and world competition with an increasing economic interdependence between nations. We can expect limited public funds and increasing demand for cost effectiveness and efficiency.

In the business arena high technology will be a major influence. Decentralization and changing roles of management and labor will be evident. We will see new smaller unit industries emerging with increased use of high technology. It is predicted that by the turn of the century at least 80 percent of the jobs will require re-training.

Socially we can expect an aging population, diverse values, declining support for institutions and a varied family structure. Some of these changes will be positive and easy to accept, while others will cause major revisions and new strategies for coping with them.

Perhaps I should end this futuring by quoting my Grandmother. She probably had a more realistic attitude regarding futures than I do. I recall her saying, "Thank God for one thing about the future--it comes to us one day at a time."

### Summary

I will close by telling you what I hope you already know. We have a strong program and an able profession in agricultural education. We were established under the healthy condition of being needed to serve our nation's most vital industry. Over time we have been called upon to change and the record will show that we have handled our past well. But now we enter a new era--a third wave that may compel us to restructure our organizations, whether social, political, or educational. This wave will very likely cause us to question our very deepest assumptions about economics, social justice, and politics as well as family life, personal values and our concepts of work.

Educational institutions will continue to face problems but we must not isolate nor insulate our programs from the rest of the education enterprise. We cannot go it alone. John Kennedy said, "Choose your enemies wisely." That is not appropriate for agricultural education in these times. So remember Bill Drake as saying, "We must choose our allies astutely." And we do have loyal supporters and influential allies. If you doubt this, seek out the help of the Farm Bureau, the Grange, or their counterparts in your state.

We must stay pliable, open, and responsive at every level. The sorest boil on the buttocks of education is probably the idea that what is ought to be. If I were ever to have the opportunity to speak to this group again, my topic would very likely be the roping, throwing, tying, killing, and cutting of sacred cows.

At every level we must work smarter, not harder. It will be important to ask ourselves, "Are we doing things right?" But much more important to ask, "Are we doing the right things?"

We are mature enough, wise enough, and strong enough to engage in some risk taking. And we will probably need to take some risks in the future.

My hope and prayer for agricultural education is that if Alvin Toffler or someone else writes another book called the *Fourth Wave*, he will mention us. I would want him to be able to credit agricultural education for its important contribution during the *Third Wave*, and perhaps futurize regarding its potential for the *Fourth Wave*.

(Continued on page 26)