

## CAN WE USE THE HARVEST

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Address by Secretary of Agriculture, Clinton P. Anderson,  
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Not far to the South of us, the golden wheat is reaching maturity. It is pouring forth from its fields of growth in a rich harvest that will benefit all mankind.

Tonight on this spot another golden harvest is in progress. And on every other campus throughout the country, the Nation is harvesting its greatest resource -- young minds, grown from the seedbed of democracy, nurtured in the climate of freedom, maturing in the sunlight of truth. This is the most important harvest we have.

People always feel sentimental and poetic about commencement. As you can tell, I too am sentimental about it.

But sentiment need not blind us to the practical questions of our time.

Can we use this harvest of young minds? How? For what purpose?

Many of you have only recently returned to the University after long service in the armed forces. Thousands more will be returning soon. American universities now are reaping in one harvest most of the students of a normal six-year crop plus many additional students who would not have the opportunity to attend except for the GI Bill of Rights.

But the size of the harvest is no guarantee of its value. What is its purpose? What is its use? Is our educational machinery adapting itself to the requirements of the new era? Are those seeking education preparing themselves for the kind of world in which we live?

These are practical questions because your generation must find the solution to the toughest, knottiest problems that mankind has ever faced.

As a point of departure I must express my pleasure in the size of the harvest. I deal daily with farmers and I find them universally worried at the close of this war over the possibility that we may soon develop surpluses of wheat and corn and cotton. Do we fear a like abundance from our colleges and universities? Do we ask ourselves if the crop will really be needed? Do we wonder if there may soon be more graduates than there are spots for educated workers? In other words, would it have been better, all things considered, to have plowed under a portion of the field and tried to do with a more limited harvest?

Let us look for a moment at the rapid spread of educational interest -- the new desire for the training that is to be found in our colleges and universities.

A recent report to the President states that more than two million young men and women will apply for enrollment in the Nation's colleges and universities this fall. Almost half of these will be veterans. This number will top all records of prewar enrollment by approximately half a million. The job of finding living quarters, teachers, and classroom and laboratory facilities for this extra half million students is probably the greatest emergency which our colleges and universities have ever faced.

State legislatures and other public bodies that have responsibility for appropriating funds for colleges and universities must make some grave decisions in the next few months. College officials quite naturally are going before these bodies to make appeals for increased appropriations. These men and women will have a vision that encompasses a college education for two million students every year, not for just the next three or four years when war veterans will make up almost half their student bodies.

I know something of what this will mean for the men and women who sit across the table from these college officials -- the men and women who represent the citizens of their States and who have been entrusted with the spending of public money. I have sat on each side of the table in Washington; first as a member of the House Appropriations Committee when I asked questions and wrote down figures, and more recently as the Secretary of Agriculture where it has been my duty to request funds from Congress.

I hope the public representatives will have the courage to expect much of the future and will build to make permanent this widespread seeking after knowledge, because this broadening of educational opportunities is basic to our democracy. We must not plan a future of limited opportunity for higher education. The only wise and safe course it seems to me is to let college opportunities grow with the advance of science and invention. This thought was most ably expressed in 1820 by Thomas Jefferson when he said, "I know of no safe depository of the ultimate powers of society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome direction, the remedy is not to take it from them, but to inform their discretion by education."

Jefferson, you know, was, among other things, a farmer and a great believer in farming as a way of life; and so I am sure he would agree that agriculture could well use a portion of our educational harvest.

We have learned in agriculture that our harvests have many uses -- that one part of the remedy for a surplus is the development of a new use. New uses are being developed constantly. Soybeans become plastics. Corn products are used to make penicillin. Peanut hulls are transformed into a desirable substitute for cork. The casein of skim milk yields a textile fiber. The list of new uses for farm products is very long, and each new use contributes to the value of the crop.

So in education. If classes swell beyond all old yardsticks, if more millions seek higher learning, then we shall have new opportunities in the development of our democracy. We have long since learned that there are many new uses for educated men and women beyond the old professions -- law, medicine, engineering, preaching and teaching. The forge and the farm are ready for their services in greater numbers. The farm surely is an expanding new market, for science has pointed to the day when the proper tilling of the soil can be counted as a learned profession.

But the cross-breeding is not left to chance. It is conscious and controlled. It is studied and scientific. It utilizes the finest minds our educational institutions can turn out. In this product the farm bids against industry for trained minds.

In our Federal Department of Agriculture we maintain research centers near Washington. When I can take a day away from the office I can go there to witness this hybrid principle in action. A few days ago, I checked the newest manifestations of its value. I looked at hybrid alfalfa that can resist diseases usually harmful to the plant and outproduce old kinds. I saw hybrid potatoes and tomatoes and onions. If you want to know your onions now, literally, you have to know the ancestors on both sides of the marriage of old strains. Yes, even in the field of livestock breeding and specifically in dairy cattle, we have some interesting facts attesting to the value of hybrids, right in an industry that prides itself at every state fair on its display of purebreds! Truly we may be on the threshold of a new agricultural world.

But while our scientist of the future crosses strains and mates opposites, there will be other trained minds at work on the problems of the farm.

In the exercise of soil conservation practices, all the engineering skill we possess will not be too much, for we fight today a battle that up to now has not gone too well with us. The most precious physical heritage of this nation is not its mines of coal, copper or precious metals, not its pools of oil or its pockets of gas, but its top-soil in which food and fibre are grown. Unless somehow through high endeavor we can reverse the processes of three hundred years and eventually preserve, then gradually restore the top soil of our farming lands, a new generation may arise that knows only deserts like those that sweep their sands across many a land that once knew the bloom of agricultural abundance.



In that endeavor, the engineer finds full opportunity for the display of his talents. The soil must be farmed on the contour if moisture is to be retained and water is not to run so rapidly from the hillsides that gullies develop and erosion begins. The needs of the soil itself must regularly be studied and crops so planned that plant foods removed by one crop may be restored by another. Soil conservation is an exact and exacting science, and in its future expansion, the farmer himself becomes the most active practitioner. He is not ready for his task until our schools and colleges have equipped him with tools for his daily guidance, with rules for his daily work.

Nor will the engineer alone find in soil conservation an outlet for science. The chemist is more than ever finding new opportunities in the needs of the farm. I assume you are familiar with the part played by the Department of Agriculture in the development of DDT and the aerosol bomb as aids to the prosecution of the war.

That story was not unexpected, for daily through the years the Department is studying the behavior of insects and insecticides. Never were the studies more interesting or fruitful. Never were they more essential. For instance, when we use DDT as a spray to control one type of insect, we must be careful that we do not over-use it, that we do not spray so liberally that the overdose kills the birds who normally eat and thereby keep down another type of insect. Nature, of course, is in steady warfare among its component parts, and we must be ever on the alert not to destroy the delicate balance between the various warriors which make this planet habitable and our fields productive. It is engineering on the highest level.

We must not leave out the mechanical engineer -- either in the factory or on the farm. Agriculture is having its own industrial revolution just as surely as did the spinning industry in England more than a century ago.

Here we see how science is remaking America, how it gives us the means of prolonging life and making it more enjoyable.

When your State of Michigan was admitted to the Union in 1835, at least eight people out of ten were farmers or other food producers of one sort or another. They had to be unless they wanted to go hungry. In other words, eight persons engaged in food production were able to produce only enough for themselves and two other people. In the short space of a century this ratio has completely changed. With the use of modern science and technology on the farm, one person is now able to produce enough food for nine others. These other people now populate our towns and cities. They are free to engage in business, government, the professions, or the arts. In short, out of this group come those who man our factories, carry on our trade, write our books, paint our pictures, and compose our music.

Because it requires so many machines, farming requires more knowledge of mechanics and a higher degree of skill on the part of its workers. Not long ago I was in South Carolina watching a mechanical cotton picker move through the fields with its mechanical fingers grasping at the bolls to snare the cotton. It is a complex machine, and the man who runs it needs to know far more than the cotton picker of old who moved slowly down the rows with a sack on his back singing with his children or visiting with his friends. The man who operates a modern cotton picker must know something of the science of mechanics.

And so I would hold out the hope that the educational harvest will not overwhelm us by its abundance, that the farm which requires new and complicated machinery will see that equipment made in factories where intelligence draws ever higher premiums and where a college preparation has new importance. It is not too much to believe that an atomic age will not find satisfaction with indifferent and uneducated workers in any field.

Perhaps I should stop there, but the harvest itself interests me. We have learned much about food values in recent years. We know a great deal about vitamins and minerals as well as calories. But in our laboratories we also find evidence of a food value not yet identified. We know that "Nutrient X," a still unidentified food factor, plays an important part in nutrition. There is a parallel in the field of education. I wonder if education for the world ahead may require not only the old essentials but also may need to be fortified by qualities which have hitherto not been stressed, for while we are educating the heads of more and more people, we must also educate their hearts.

Modern science and invention have so revolutionized transportation and communication as to reduce the world almost to one community. We must accept the fact that we are all citizens of the world and adjust our thinking and actions accordingly. You may not like it; you may have done nothing to bring this about; you may even wish it were not true. But there is no use trying to fool ourselves about it. I am convinced that we cannot sit back and continue doing largely the things that we have been doing in the past. American educators are faced with these new problems, and our viewpoints toward higher education must be changed to meet them.

Surely it is obvious that the first requirement of world citizenship is that we learn to live together in peace. We are all familiar with the implications of atomic energy, cosmic rays, and biological warfare. Man has truly unlocked some of the great secrets of nature, but it yet remains to be seen whether he will use this knowledge for his betterment or for his complete destruction.

In a recent booklet, "Modern Man is Obsolete,"

Norman Cousins has said that man has it within his grasp to emancipate himself economically; that if he so wills he is in a position to redirect his competitive impulses so that he can step from competitive man to cooperative man. But he continues with the thought that while man is willing to mobilize all his scientific and intellectual energies for purposes of death, he has so far been unwilling to undertake any comparable mobilization for purposes of life. It is this latter thought that prompts me to say that we must give more attention to education of the part.

How can we mobilize? And in what cause? I have been talking with you about what science is doing for our farms -- and to our farmers. Agriculture, of course, is only one of the many fields in which science will continue to enrich our world if we direct it into proper channels. The study of science is the pursuit of truth. What we do with truth, once we have discovered it, is a responsibility of citizenship.

For we can use our scientific knowledge for good or for evil. We can keep it to ourselves or we can share it with others. If we are truly to mobilize all our intellectual energies for the preservation of life and for its enrichment, then we need some giant magnet that can draw all the molecules of our existence into the single pathway, into the one magnetic field that gives force and flow and direction to all our lives.

All of our experiences of the past few months have persuaded us that one of the great fields in which all nations of the earth can meet on common ground is in the relief of hunger in its world-wide aspects. The activities of the newly constituted International Emergency Food Council and the longer-range efforts of the Food and Agriculture Organization of United Nations are aimed at the ultimate elimination of hunger throughout the world. We have seen how hunger prompts the conflicts that arise between nations, how it has been a fertile and ever-present cause of war.

Now the nations of the earth propose to do something about it; to endeavor to match the abundance of one nation with the needs of another; to make food and the knowledge of its abundant production prevent hunger from being the cause of international discord.



Our country and the world have a great need for this new abundance in our educational harvest, just as there is great need for the full production of our fields and factories. We must learn to use the harvest of our schools, just as we are learning to use the harvest of the fields -- for the benefit of all peoples, for the preservation of peace, for the cause of freedom everywhere.

The world has the food resources and knowledge to achieve freedom from want. It remains for educated minds and hearts to make sure that we do what can be done, that we use the abundant harvest now, and that we develop those international practices and agencies that promote what Joseph Conrad called the solidarity "which binds men to each other, which binds together all humanity, the dead to the living and the living to the unborn."