EFFECTIVE COMMUNICATION IN HIGHER EDUCATION

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As was indicated here, much of the program that we have had this morning is very closely allied to this area of communication. In fact, it is so close that during the coffee break I made out some new notes because most of what I had to say in the paper I had prepared had already been well said.

In this area of communication, in the sense that I work with it with various groups around the country, there are a lot of different definitions and there are all sorts of different ideas about what we might call communications. The one that I choose to use in my remarks will be in this context will be in anything that we do to change the knowledge, the skill or the attitude of other persons, and in this business of communication we have a lot of different ways of going about it. Whether we hold a two-week short course in communication or make a 30-minute talk, there are two basic ideas that we try to get over, and these are rather simply stated. The first one is that every waking act, everything that you and I do, is a communication. Every time we come in contact with another person or a group of persons, there is a change in their attitude, their knowledge, or their skill. The way we dress, the way we cut our hair, the things that Dr. Darlow was talking about in the image, all of this, of course, is communication. We communicate by the way we listen. If a student comes in and asks us a question and we say "Why, that is simple", we communicate to him. We communicated that we thought he was simple and that he should have known this -- something that we had been doing for years and was easy for us, but we thought he was simple. But if a person has a problem it really isn't simple, something that one does not understand is never simple, and often by many of these acts that we make we communicate something that we would rather not. We communicate that we are not interested in the problems that our students or our co-workers have, or we make fun of somebody because he has some hobby that we don't particularly enjoy, we communicate at that time, too.

The other basic idea in this business of human communication is that meanings are in people. Regardless of the message that you or I think we are sending, regardless of what we thought it was or what we're trying to put out, the only message that counts is in the mind of the other person. Meanings, actually, are in people. This business of communication between human beings can take place by smoke signals, telephones, wireless, speech, written messages, and all of the various means that we have, and all of them have a great many things in common. We have a message that we want to send, and it may be good, bad or indifferent, but we have a message, and we code it in some method so we can send it. We are the sender, and we hope that we have a receiver. We have at least a captive audience in many cases and they are supposed to be receivers, but they may or may not receive what we have. There are a lot of different interferences that come about in communication, regardless of the method that we use. In using smoke signals it might be too windy that day, in our talking we might use words the other fellow doesn't understand, or our accent might be so different that he would have difficulty with it. All of these interferences are called noises or interferences, and they affect communication, and there are a great many of them. One of the biggest ones is the language that we use, and this causes a great deal of interference or noise or lack of communica-
tion all around the world, but it causes a great deal in our universities, too. The English language is the one within the broad limits of which most of us work, and its limits are pretty broad. The latest dictionary, I think, has about 330,000 words in it, and yet college students can graduate in a lot of different fields with the working vocabulary of about 10,000 words. Few people on this earth have a knowledge of 100,000 words. So we have a tremendous area there for misunderstanding. One of the oldest languages in the world has over 10,000 words that refer just specifically to camels because camels have been the most important item in their civilization for a good many thousands of years, and they can discuss camels real thoroughly with you, but not until after World War II did this nation have anyone in it that could make a watch because there was no word in their language for coil spring and they couldn't discuss it. With well over a thousand languages on this earth, I don't know just how many there are, but there are well over a thousand, there are less than ten within which the atom bomb could have been invented because less than ten languages are complex enough that they could discuss between the people that had to do it the things that made up the atom bomb.

Now this may not seem like a very important topic to be discussing with a group of meat specialists, and probably it isn't, but I think the point I am talking about here is important. If we do not discuss and if we do not teach and if we don't communicate with the people with whom we are working in language that they understand, we might as well be talking about camels in some other language, because nothing is going to get across. With the vast number of words that we have in our language there is a tremendous difference in the understanding of the people that we have.

About 25 years ago I was taking some Animal Husbandry courses at Texas A & M, and if somebody had talked to me then about Spectrophotometric Methods or Mass Spectroscopy, I would probably have dropped the course that afternoon, because I would not have known what they were talking about. This is an example of the rapid growth in human knowledge that Prof. White talked about this morning. I would like to try to illustrate briefly and really make a vivid picture of what this growth in human knowledge means -- this thing it means to you and to all of us who work in agriculture as to the tremendous increase in the way we are developing our knowledge. If we had a box, and it might be as big as this building or it might be as big as this room, and in it we could put on microfilm all of the knowledge that man has had in the various stages of our civilization, and we would try to consider this a box. If we started with whenever man came on earth and call that "zero" up until 1915 and we called that so much knowledge, knowledge about the types of automobiles that weren't very good and we had some airplanes flying around that weren't very good, either, they didn't carry very many people and they didn't fly very far, but we had a lot of knowledge and all of it was accumulated and put in this big box, and then it took us only fifteen years to double it and that box was twice as big, only fifteen years, but this wasn't just the one great period of human learning that this all took place, it kept on moving, and in fifteen more years we doubled it again. Now, we had four times as much just in that period and it didn't ease off any then, either, it kept on growing. As you heard this morning, the time is getting short. Then it only took ten years and by 1955 we had eight times as much, and by 1963 we had sixteen times as much, and this is how fast human knowledge is gaining.

I sometimes wonder if college degrees were granted to the students
for four years work back around 1900 when my father went to college, how can we get a degree in four years now, how can we get that total amount of human learning that a college graduate should have when we have sixteen times as much knowledge.

I would like to try to visualize that in another way -- if we had a line here that represents 100% of human knowledge, and we will break it because we don't know just how high it goes, and other lines that divide it into units of time (indicating), we see two things happening. Back a long time ago the people that lived on earth knew pretty much all there was to know, they knew how to tie a stone onto a stick so they could pound something with it, and then some genius came along and invented the bow and arrow. This was just as big an invention in his day as the atom bomb is in ours -- of course, they said then that there would be no more wars "We've got such a terrible weapon here that it will wipe out anybody on earth, and there will be no more wars". But anyway we kept on developing this knowledge. But most people knew how to do those things, they knew how to control a fire and they knew how to skin an animal and get their clothes, they learned how to cook after so many years. Progress was at first slow, it moved along at a very slow pace, then somebody invented the round wheel and civilization moved away from the edge of the water; Somebody else invented an accounting system so we could start having cities so the people in the cities could trade what they made for what the person made on the farm, and we had to have an accounting system before this was possible, of course, but at the time that this line started moving up. Somebody said "We finally broke the barrier", we got to the point where we could get machines to do the work that our farm animals had done before, we started really moving. As this line started slowly up, then it started moving in this doubling race and it moved up pretty fast. But something happens to that other line, too, and this other one represents the amount of the total percentage of the total knowledge in any given period that you and I might have had. Then what happens to it? It starts turning down. I don't know just how low it will go, but I do know that as we increase this amount of knowledge, that the individual share that each one of has, is bound to be a lot smaller. I think this means one other thing, I think it means that somewhere about this time, we need to start another period of going up about our ability to communicate.

As someone mentioned this morning, it would be impossible for any of us to keep up in any given field if we didn't read what was going on. There are tremendous amounts of research, tremendous amount of new ideas and new recombinations of old ideas or old knowledge, that are constantly taking place. The person that does not read or does not keep up, regardless of what field he is in, is soon lost.

This business of research is one that bothers me no little because of the field that I am working in now. You always hear the economists talk about the allocation of scarce resources. Certainly this is something that has to take place and is taking place all the time. It seems that most of the resources in research, whether it be in the matter of talent, brains, money, or whatever, is put into two big fields: One of these fields is this business of increasing or making easier human life. To teach people how to eat better, to improve the quality of the food that they have, to improve their ability to make it and to make money so they can buy these things, and we improve medicine and surgery and drugs, and so on. The other broad area where most of our resources in research go is into ending human life. We put a tremendous amount of our resources into
This part of the program. The business of how we get along with each other, how we communicate, is one that is mostly left out.

This week's copy of News Week that I saw yesterday had an article that should certainly be of interest to all agricultural workers, and it was talking about this business of hunger around the earth. They started in this article, and I have no reason to doubt the figure, that every day 10,000 people on our earth are dying of starvation. This figures out to about 417 an hour, or roughly seven people a minute, dying of starvation. This is not because we don't have enough knowledge to feed them, we have the knowledge. We have the improved varieties of crops and of livestock, of methods to convert grain into proteins, there is enough land on the earth and water can be brought to it, but the real reason is that we aren't communicating. The skills and knowledge are here, but the attitudes in most cases are not.

I think this is the real reason why we in agriculture need to be concerned with communication. I worked in a country in Europe last summer with a group of agricultural workers that were Extension people, just as dedicated and just as interested in helping their people as anyone in this room. They were unable to do much in their country for several reasons, and one reason was that all of them were trained either in botany or zoology. They had excellent training, their degrees were as good as any that we would have, but they knew nothing about what was being operated out there on the farm. They had never lived on a farm because in that country, even though it is one of the oldest on earth, it was one of the countries where the rule of law instead of the rule of man prevailed. They had a beautiful civilization when our ancestors were still fighting with clubs, but in this country until after World War II it was not believed that any person had a right to go to school unless he was extremely rich or from a noble class, and this is the type of agricultural workers that they have today. The young ladies who were trying to do Extension work came from homes where they had never boiled an egg or made a bed or sewed on a button, they had servants to do this, so only the type of people who had the servants in their homes could go on for a higher education. Now, this is a barrier or attitude or type of communication that is going to have to be broken down. There are problems from these people that come here from those countries around the earth who think that once they get an education they no longer need to work. This is a problem in communication that we sometimes fail to cover. This ample page of knowledge is continuing to build and you are part of it. You are adding to it, you are assimilating it, and you know it, but this business of getting it across to the people that must ultimately use it if we are to reach these people on earth is one of the places where we often fail. Many of the countries around this world are limited by the fact that most of their farm people are illiterate, they couldn't read anything if they published it for them. Many others, although they have a high illiteracy rate, simply do not believe that it is necessary to help agricultural people. They have never conceived of the idea of putting out a farm magazine or a farm section of the paper, anybody could do the agricultural duties so we don't need to publish anything. So the change in attitudes is one of the basic things that has to do with this business of communication.

I was glad that Lowell didn't tell you when I came up here some years ago that I came as a poultry specialist, but I would like to submit
in mitigation that I got out of the field because it looked to me like we
were producing them just about fast enough and I didn't think they needed
my help and so I got over in another, but in the area that I work now is
the training of these young people to come into our Extension Service.
We are not certainly in my office trying to train anyone in technical
agriculture, this is being well done by this university and by other
universities from whom we hire people, but we do try to give some training
in this business of communication. Not only that, but I work with a lot
of other organizations who for the first time in many cases hear something
about agriculture and they bring me in to talk something about communica-
tion and I try to work in a little bit about our side, too, and there is
one thing that I have picked up from some of the other folk that I have
put into a picture form that I use with our people that I think is most
important in this business of changing people's attitudes, and I think it
has a great deal to do with the question that was asked Dean Darlow this
morning about "Do you recognize good teachers?" We try to talk to these
folks about one outlook of the division of people on the earth. You know
we all tend to divide people into things that we do and the ones that
don't, into the ones that look like us or talk like us, or some sort of
division, we are the believers and they are the unbelievers is the way we
tend to divide people. There is another type of division that we try to
impress on our young folks which we think is important, and this is a man's
approach to his job. The man is in here and he sees his job out there, and
what does he do? Now, this man that we're talking about, it doesn't make
any difference if he is a graduate student, a janitor, or a Dean in a
University, he wants to do the best darn job of doing that job that any-
body ever did and he keeps working up toward it, and usually if he has
that attitude and he gets up here to where he thinks he has completed that
job and he is really putting out, somebody comes along and gives him a
better job. Then we do have another type of person -- we don't have very
many of them, but they see it like this: They are out here and the job is
inside, and they say "Well, I am just filling in on this until I get some-
thing better, it really isn't a very important job and I can do it in my
spare time", or "I can do it left handed". Well, this fellow changes,
too, and he usually comes in this way, somebody gives him a job and then
somebody gives him a lesser job about this size (indicating). Now, this
other job, of course, is the driving course, he is making the wheels turn,
and the second one over there is acting as the brake, he is slowing down
progress, and the difference is in the enthusiasm, and like every other
walking act that we perform, this we communicate. We communicate it to the
students, we communicate it to our Deans. This business of being enthusi-
astic about what we have to give and what we have to offer about this
business of Agriculture is something that is most important, and people
recognize it, they get the message loud and clear.

Thank you.
DR. WALTERS: Thank you, Alex. I think you have communicated loud and clear to this group.

We have just a few minutes for questions — let's take about three minutes for questions or for comments relating to these last three papers, and the floor is open now for questions or comments.

MR. FRANKLIN: Dr. Warren, your visualization of the increase in knowledge in recent years is very impressive. Can you give us perhaps in a general way how that was arrived at?

DR. WARREN: The information that I got there was at a symposium in Chicago with Prof. Huxley.

Now, it naturally would have to be a subjective judgment, I don't believe there is any way to measure these different steps. It may be overstated, it may not, I couldn't guarantee the figure, but we do know that it is increasing at a terrific rate.

DR. WALTERS: Thank you. Are there other questions? Other comments?

Well, Gentlemen, it seems to me that our speakers have certainly challenged us to re-evaluate the need for greater concern for the welfare of our students by asking some very pointed questions. These questions have concerned our obligations and our opportunities as college and university professors, charged as we are with the all-important task of taking the leadership in creating an appropriate atmosphere for the thinking and learning processes among our young people who come to us year after year. Few would dispute that this, the field of education, is without doubt man's greatest opportunity and challenge. Someone has defined education as "A slow progression from cock-sure ignorance to thoughtful uncertainty". Yes, education within itself is a continuous process, something you do not get merely by coming to college. It involves, among other things, an accurate and a disciplined learning. Perhaps you have your ideas as to what a well-educated person should be. I personally like Huxley's definition, and it goes something like this: "That man, I think, has had a liberal education, who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that as a mechanism it is capable of; Who's intellect is a clear, cold, logic engine with all of its parts of equal strength and in smooth working order; Ready like a steam engine, to be turned to any kind of work, whether it is to spin the gossamers or to forge the anchors of the mind; Who's mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations: One, who, no stunted ascetic, is full of life and fire but whose passions are trained to come to heel by a vigorous will, the
servant of a tender conscience, who has learned to love all beauty, whether of nature or of art, and to hate all vileness and to respect others as himself”.

LOWELL WALTERS: Again, our thanks to the Committee, to our fine speakers.

Mr. Chairman, this concludes our part of the program.

(Appause.)

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CHAIRMAN KEMP: Thank you, Lowell, and thank you, Gentlemen, for participating in this program.

I couldn't help thinking as the speakers were speaking of a cartoon I saw today which depicted the Galilean on a hill speaking to a large group of people, and two people were over to the side and one remarked to the other "I wonder why they are listening to him, he hasn't published anything"? So perhaps this will give us room for thought along this line.

Our next report is the report of the Personnel Committee, and Larry Kunkle will give that.

MR. L. E. KUNKLE (Ohio State): Chairman Kemp.

The Personnel Committee has assumed some responsibilities to undergird the Executive Committee. We try to keep this meat flock of innocent and pure lambs together, so in this period of reciprocity I would like for our projectionist to turn on 100 feet of KodaChrome and let you see each other as you looked a year ago when you headed for lunch.