THE SWEEPING CHANGES WHICH CHARACTERIZE THE MODERN WORLD HAVE BEEN REFLECTED ONLY INCIDENTALLY IN THE ORGANIZATION AND PRACTICES OF THE EDUCATIONAL SYSTEM. A TREMENDOUS EDUCATIONAL VACUUM EXISTS IN THE AREA OF INTERPERSONAL EDUCATION, IN WHICH THE STUDENT LEARNS TO FUNCTION AS AN EFFECTIVE MEMBER OF A COORDINATED TEAM, RATHER THAN AS AN INDIVIDUAL. UNDER THE EXISTING EDUCATIONAL SYSTEM, WITH THE EXCEPTION OF CERTAIN EXTRA-CURRICULAR ACTIVITIES SUCH AS SPORTS, TEAM EFFORT IS USUALLY NOT ENCOURAGED. SUCH ORGANIZATIONS AS 4-H CLUB AND FUTURE FARMERS OF AMERICA DO EMPHASIZE COOPERATION AND TEAM EFFORT, BUT THIS KIND OF PRACTICE MUST BE FURTHER GENERALIZED TO ACADEMIC AREAS. THERE IS AN IMMEDIATE NEED FOR EDUCATIONAL PLANNERS AND PROGRAMS TO TRAIN PERSONNEL IN ANTICIPATION OF THE FUTURE NEEDS OF STUDENTS WHO WILL BE REQUIRED TO WORK ALMOST EXCLUSIVELY AS MEMBERS OF A TEAM AS OUR SOCIETY MOVES TOWARD EVER GREATER DEGREES OF SPECIALIZATION. THIS SPEECH WAS DELIVERED TO THE 1964 CONFERENCE ON RURAL EDUCATION, NEA (WASHINGTON, D.C., SEPTEMBER 28, 1964). (DA)
Mr. Chairman and members of the 1964 Conference on Rural Education, As you are all well aware it is the purpose of this conference to examine the opportunities which a rural environment offers for bettering the performance of the educational enterprise among rural peoples and, in particular, among rural youth. This objective is a worthy one. Even though we acknowledge the contributions of those who have labored with dedicated purpose in past decades in the field of the education of rural peoples, the world of today differs from that which our parents knew in their youth or even that which existed during our own school years. The new conditions call for a rethinking of our goals and for the creation of new methods to achieve these.

Most Americans have now come to accept that change as an inevitable condition of our existence even though we sometimes feel nostalgic longings for a past which from the perspective of mature years is remembered as being simpler and more peaceful. So also did our parents think of their own youth. The truth, of course, may have been quite otherwise, since sentimental reflection can easily exclude the drudgery and monotony of much of farm life of a generation and more ago, and of the worrisome hard times which appeared with cyclical regularity. There were the events which tested the fiber of a man's being, but they also exacted their toll, both physically and spiritually. Man, however, is gradually coming to believe that it is no longer necessary for him to be a pawn to uncontrolled social forces, a point of view which he has already adopted in his relation to natural forces as he has proved his capacity to utilize these for his own ends.

Each epoch imposes its own limitations and offers its distinctive rewards, and hence it is necessary and good that from time to time we reassess the situation. The opportunities or necessities of the past are not the same as those of today, or of tomorrow. Surely, we no longer offer the possibility of homesteading a quarter section on the frontier as a realizable dream for today's farm youth. Nor does the "Bound to Win" tradition of Horatio Alger offer much reality. However valuable the qualities of honesty, prudence, and dedication to work may have been for the success of the ambitious farm lad who sought his fortune in the city at the turn of the century, today these qualities alone give assurance of very little in a world which asks and needs intellectual, technical, and social skills of its members. Moral virtues are largely a function of personal experience, but the skills we need are acquired in large measure, from a system of formal education. Schooling is both a necessity and an opportunity in a sense different from that period when one could learn from his father the traditional knowledge that was necessary for farming, or from apprenticeship those skills of artizanry. We fail those American youth, whether from the cities or the countryside, for whom we do not provide the educational facilities and to whom we do not convey an understanding of the preparation to meet U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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the requirements of productive adult life, as a part of the formal schooling process.

It is not my purpose to talk about the opportunities which rural life offers for improving the educational enterprise, except in a most general way. The specific examination of these is the task which you have set for yourselves in the next several days. Your direct and professional participation in the education of rural youth gives you a competence derived from specific realities which far exceeds the knowledge which I could muster. What I do wish to talk about, however, is a problem with which some of my colleagues and I have been concerned in recent years, that of the relation between the educational enterprise and American civilization. We have asked what educators must do if they are to meet their obligations toward the young and prepare them for successful participation in family, community, and vocation. We have also asked what are the expectations which our type of society should have of its educational efforts if the needs of the members of American society are to be met. In our deliberations we have made no distinction between rural and urban youth because our focus was upon the general functions of education. Furthermore, it is clear that the transformation of American civilization from its original, traditional agrarian base, has largely eliminated the distinctions which once made the urban-rural division sociologically justified.

The exposition which I shall pursue will turn first to a summarization of the varied culture traditions which were brought by the migrants from Europe and which they perpetuated in modified form in the new environment. This description will serve a double purpose. It will show, on the one hand, that to assume a homogeneity among rural peoples is in contradiction to the facts. Each cultural tradition, which in large measure was also regionally concentrated, originally and in its modern form, possessed family and community organization, agricultural technology, personal and social values, and educational goals and practices which distinguished the one from another. The persistence of these cultural traditions makes it incumbent upon us to view each one separately when we examine a topic of educational opportunities which is the subject of this conference.

By delving into the culture history of the past we also serve another purpose. It will provide a contrast with contemporary America. This is the second major area of my consideration.

Finally, I wish to offer some observations about the organization and process of education. The comments made on this topic, I hope, will have some direct relevance to your future deliberations.

The rural peoples of America are heirs to ancient cultural traditions which reflect their diversity of origins. Each of these in its European setting was the product of a long evolutionary process in which adjustment to distinctive environmental conditions, the slow changes which come from internal forces and accretions from elsewhere, and the effect of world movements as they were then expressed in exploration, conquest, or trade, together combined to produce a characteristic agrarian tradition. The agricultural village, the scattered homesteads of open country neighborhood, the manorial pattern of aristocracy and peasants, the clan organized but
equalitarian, livestock raising Celts of the European fringe, and others, were all expressions of the cultural variations. The British Isles, from which came the majority of our earlier settlers were themselves heir to many diverse cultural successions, and it should not be surprising that its heterogeneity found root in the new world. We should also remember that these western islands and North Europe were originally marginal to the main currents of European civilization and that the majority of the early migrants were marginal within them. Thus the base upon which American civilization flowered was doubly marginal in cultural tradition.

To the Northeast came the Anglo-Saxon Yeomen, where they established their self-sufficient villages with neat commons, square, or green, around which they built the cluster of houses. At one end of the commons they erected their beloved meetinghouse—they didn't call it a church—where as a congregation of equals they met to solve both civic and religious problems. There was little separation in the New England community between that which was public and private, or between secular and Godly. The people came together originally, not just for worship but also for civic deliberations. The New England towns preserve for us, and some of them remain little changed today, an example of community-focused localism. At a later period, New England sent missionaries to Hawaii and teachers to the South during Reconstruction, but could not see the evils of child labor in its own textile mills of the 1850's. It was believed that children when at work were not open to temptations of the devil. The New England tradition gave great value to formal education and their clergymen were trained not only in theology, but languages, mathematics, and the sciences. It is no accident that the great exponent of the common school for all, Horace Mann, was a New Englander.

The Middle Colonies, which extended from New Jersey south to Maryland, received a variety of cultural traditions. Here the mixture of English, Dutch, lowland German, and Presbyterian Scotch-Irish and Celts in the hills, like those of the southern Appalachians, gave distinctions which are still preserved today. Here we find a pattern of town and open-country neighborhood. It was here that the amalgam of the old gave us a new breed, and even the term which distinguished them—Americans. The incipient agricultural commercialism, with its sale of surplus products, foreshadowed the agricultural revolution of the Middle West.

When we reach the South, we find it is a region of varied ecological areas and rich in cultural diversity. Contrary to our myth of its homogeneity, there has been no cultural amalgamation here except as we see it arising now in Atlanta or Houston, and other cities. The peoples who settled the South sought out geographic areas which resembled those they had left in the British Isles. The Plantation tradition became concentrated in tidewater Virginia, along the southern coastal plain, and later in the Black Belt and the Mississippi Delta. It is a tradition vastly different from the equalitarian democracy of New England. Social distinctions in the Plantation tradition were expressed in a two-class system which separated those who were the owners and managers of land, and those who labored in the fields. Whether the workers were Negro or white mattered little in their respectively subordinate status.

The Plantation tradition originated in the latifundium of the Roman
Empire, and from this source had spread to other Mediterranean countries and eventually had been introduced to southern England and later to Ireland. From there it had been carried to the English controlled Caribbean Island and to the Mainland Colonies. One of its characteristics was the Cavalier spirit, with its code of personal honor. Public life was directed largely toward political affairs, and the courthouse, rather than commerce or the church, became the focus of activity. This tradition badly shattered by the Civil War, has found new strength in recent decades from mechanized, scientific farming.

There were two other traditions that came into the South. One of these, the northern Anglo-Saxons, later to be called the Scotch-Irish, sought out the area we now call the Piedmont. They could live with equal comfort in town or country, be businessmen or farmers. Their clan-like extended families and Presbyterian faith colored their economic and political views. Jefferson, Jackson, and Thomas Hart Benton were men of this tradition.

The other major southern area, the Appalachian or hill country, favored those with a different tradition and a separate migration. These were people who in their homelands of Scotland, England, Wales, and northern Ireland preserved an agrarian tradition which stretched to the early Neolithic. They were not farmers in any true sense of the word but cultivated "patches" of land and grazed sheep and cattle on their remote and relatively barren lands. One early report of the Shenandoah Valley, a route through which these people first moved before they fanned out over the uplands, describes it as a great grazing area. The livestock tradition reached its fruition when the westward migration on the Southern frontier broke out onto the Great Plains. The limited social distinctions between cowboys and the cow owners expressed the equalitarianism, and close tie to nature, and a way of life in which recurrent violence was expected. Those of the Appalachian tradition have never been comfortable in the towns, although their descendants now seek out the cities for their economic survival.

The traditions I have enumerated thus far are all variants of an agrarian past. But Europe also sent us an urban tradition of commercialism and hand manufacturing whose people established our early cities. Boston, New York. Philadelphia and Charlestown were the four sea-port cities into which came migrants from London, Amsterdam, Lisbon, and the other commercial cities of the Old World. In the cities one encountered a diversity of population not found elsewhere. Bankers, merchants, and artisans stimulated economic activities. But wealth and leisure also encouraged the growth of education, the arts, and sciences. The cultural diversity of the urban environment gave us social classes, those of the genteel tradition, those of middling sorts, and the poor. And with class came social mobility--the concept that people ought to have the right to improve themselves, to go up in the world. It was here that middle-class culture was favored.

These, then, were the major cultural traditions of early America. It is not difficult to trace their influence on the subsequent development of American history. Conflict between them contributed to a great civil war. But conditions also favored the appearance of new cultural amalgams.
One of the great developments in the transformation of America began about 1800 with the entry into and the conquering of the American heartland—the great Mississippi Valley. It is here that the first true form of American culture became dominant, first villages, then Main Street towns, with their surrounding countryside of scattered homesteads and rural neighborhoods. It was an American tradition which included Calvinism with its belief in the value of work, and a belief that the purpose of labor was not to accumulate wealth, although that was one of its consequences, but that through man’s labor poverty in the world could be overcome and human drudgery could be removed from the backs of man. Only with the removal of human drudgery could man then intellectually and spiritually become free. You can see that the frequent accusation that Americans are materialists is a misinterpretation of the emphasis that we have given in the past to material things. Whether or not we have begun to lose the spirit that drove these early Americans is another question. And whether or not we now see material goods as ends in themselves is a problem that has to be looked at again. But the original concept, not alone for Midwesterners but for all Americans who were engaged in attempting to realize the American dream, was that materiality was a means toward an end.

The Midwestern agrarian pattern possessed several characteristics which set it apart. The farm, as the land from which a family in its joint efforts wrested a subsistence for itself, now became the acres that were cultivated for the sale of crops in commercial markets. The self-sufficient subsistence did not immediately disappear but it gave way gradually to the spirit of the marketplace and its economic doctrines. In this sense Midwestern farmers were economic radicals in their early days although conservative in matters of community and family. The tenure pattern became one of transferring the economic unit, the farm, intact to inheriting son or purchaser, not its subdivision among the children as had prevailed among much of the South. In world perspective and comparison its people were open to technological change and established a new type of educational institution, the land grant college, to further their objectives. In these and other ways the Midwestern farmers were participants in the emergence of a new agrarian tradition, one that was complementary to other changes that were then under way on the American scene.

Along about 1890—although their growth had begun before the Civil War—the railroad and the industrial cities, symbolized by Chicago and Pittsburgh, had risen to represent a new non-agrarian form of American civilization. For a brief half century these cities, in their raw vitality, represented another frontier of American life, to be superseded once again by the modern metropolis, a new human form of settlement and of human organization. In its cultural traditions the metropolis does have some connections with the commercial cities of the Colonial period, and with those of the Industrial period. But when examined comparatively, metropolis represents an entirely new form of civilization and of human groupings. The break with the past can be understood, I think, if we look to the new cities of the West—Los Angeles, Phoenix and Houston, and the eastward spread of their influence. The cities in the older parts of America are being rebuilt as they attempt to reshape themselves in this new form of American society. The dominant social forms within them are part of the new American revolution. It is to the description of these forms that I shall now turn.
American society today is, in one sense, quite simple in its basic organization of activity, with only two dominant forms of human groupings. One of these is the great superstructure, the corporate organization. The other is the nuclear family. We might add the voluntary association to these, but in one sense it is an extension of either one or of the other two. American society in its emerging metropolitan form consists of the counterpoise between the nuclear family of parents and children—the middle-class family of the suburbs on the one hand, and the public, corporate world of education, health, industry, government and religion on the other. The children of each family must prepare themselves for engagement in this public world of the great superstructures. It is in this aspect that formal education has come to have a different meaning in American life than it had in the past.

Deliberate education in the Plantation South was primarily for those who were land owners only. Formal education in the Hill South held relatively little value because that which you needed to know could be taught by your family. Some of you may know that resistance to public education in the hill country in the early nineteenth century was based on the belief that man was equal before God and that education would create inequalities among men, which, of course, it would. In the Midwest schooling was an adjunct to the community. What Tom Sawyer learned in school only permitted him to read, to write, and to figure, but that which Tom Sawyer needed to know about how the world really worked he learned outside the classroom.

It is in these examples that we see the difference between the function of the educational system of the American past and the educational system as it now operates. The educational enterprise is the link between the family, which no longer has the knowledge or the capability to teach its children those skills and understandings by which learning is tested and used. And so the educational enterprise moves the child through a series of graded steps, which, if he surmounts each one successfully, prepares him for a significant role in the public sectors of our society. For those whom the society fails, either because adequate schooling never reaches them, or because that which the school has to offer is inadequate or discourages children with deficient cultural backgrounds, there is little hope that they will ever be more than a drag upon the whole. It is so clear that those with deficient education, or those who are of the older tradition are today's casualties. The children of our present generation who are being badly educated will be the casualties of the future. And that is one reason why formal schooling has moved from being an adjunct of the family or community to a central position in our kind of society.

The outward manifestation of the new America is found in metropolis, a form of human settlement which has now supplanted Main Street towns and industrial cities that once stood as the social microcosms of an earlier America. Among the older cities along the eastern seaboard and among some of the mill towns of the Midwest and South, the pattern is one of a core city reflecting the organization of an earlier epoch and the more recent proliferating suburbs on their external boundaries. In the West and Southwest, these new groupings did not have to contend with the rigidities imposed by the physical structure and social distribution of an earlier epoch.
Instead of the sharp delineations of a downtown with its concentration of commercial and professional activity for an entire community, of an industrial area jammed along the railroad arteries, and of residential districts reflecting social class, racial, and ethnic divisions in the cities of the early 1900's, the newer western cities responded to other conditions in their growth. With the exception of the monumental civic centers giving symbolic expression to political oneness, like that of Los Angeles county, the pattern has been one of dispersion. The shopping center has taken on most of the retailing functions of the downtown. Many new types of industries can blend into a residential section almost as readily as do schools, hospitals, or offices. The system of wheel-shaped expressways with connecting spokes permit rapid physical movement of goods and people. In brief, this is the physical pattern which gives expression to the social arrangements of the new America.

The transformation is not alone that of the distribution of people and facilities for livelihood, it extends to the values we hold of the world and to the modes of action associated with these. Except as it is preserved in small towns and villages, the sense of community with its network of personal relationships, identity with and loyalty to a locality, and the opportunity and requirement for participating and sharing the problems of civic welfare, is no longer operative. Even the small community is unable to retain its isolation from the pervasive social forces of the larger society as has been so clearly demonstrated by the authors of Small Town in Mass Society, as reported by them in their study of an upstate New York village. Many instances could be cited to show the absence of locality cohesiveness in metropolis, (unless accompanied by religious, racial, or ethnic factors). One of the most recent and dramatic has been the challenge to the long established principles of neighborhood as a basis for school assignment by various Negro groups in New York, Chicago, and even in suburban communities. Associated with these changes has been the rise of a new, scientifically based industrialism adding immensely to our strength but also bringing serious dislocations. With the exception of minor setbacks we have enjoyed a period of prosperity extending over a quarter of a century and for most the future is viewed optimistically. But among the responsible voices may be heard some whose words should be heeded. They note that a segment of our population does not yet share in the abundance which our remarkable organizational and technological society has created. It is not too difficult to account for the failure of our distributional system to provide what we reckon is a minimum of goods and services, a level of livelihood which when compared with most of the world's population is still quite high. For example, the hundreds of thousands who have migrated from the plantation areas of the South and Puerto Rico, and from the Appalachian uplands, have not brought with them the education or the industrial skills which permit their ready absorption into the economy of a modern society. These migrants represented a marginal farming population in their homelands and for many of them their status has not been greatly improved in their new environment. Other thousands await the final push of displacement which the agricultural revolution inevitably promises, or the call of faint hope that their lot may be bettered where they are.

There is a further aspect of our civilization which is of utmost importance to any rational system of education. Unlike the simpler forms
of community life exemplified in the New England town, the county and plantation system of the South, or the Main Street towns of the Middle West, it is all but impossible for any individual to experience directly the whole of the metropolitan community. In part, this is a consequence of its massiveness and complexity. In part, it is a function of the restrictions imposed by specialization of activity. Where large organizations are internally segmented, there are within each subdivision several hierarchical levels of status where most individuals are limited by participation to a knowledge of their own specialized activity and those of the levels above and below them. The situation in one's place of residence is a little different. Participation in local affairs is limited to only a few of the aspects which were once concerns of autonomous communities.

Since direct participation in all the manifold variations of our culture is impossible, and since if we are to have a viable society, there must be some device by which at least a symbolic comprehension of the society is achieved if not the advantage of vicarious participation, what course is open to achieve this end? It is our belief that this end can be won only through cognitive understanding of the functions of family and superstructure and of the tensions between them, and of their relation to the individual and his self-fulfillment, of the course of life itself, and of the symbols which express and give meaning. Obviously, only through deliberate education can the cognitive understandings be acquired.

Although the representative and dominant form of contemporary American civilization is expressed within metropolis, we are very far from eliminating cultural differences. For one thing metropolitan society stimulates its own cultural diversities. Furthermore, the agrarian based cultural heritages of the past are not likely to be quickly eliminated.

The geographic isolation of the hill tradition of Appalachia favors its persistence although the consequences of a mass assault by a poverty program is certain to have its effects. The tenants and sharecroppers of the older realm of King Cotton are the casualties of a new agricultural tradition where the muscles of arm and back are no longer needed. Inadequately educated to participate in this new technological revolution they will be displaced and continue to flow into the depressed areas of the larger cities. There they will be a burden upon existing social facilities, but with the hope that their children may be better prepared through education to assume responsible social and economic positions. The rural youth in these two areas of rapid transition or economic stagnation need educational programs which recognize the special situation in which they find themselves. Only a few are going to be able to remain on the land, the others must develop skills which are associated with a technological society and in which the group skills of corporate structure or community living are different than those which are traditional in the rural communities from which they come.

The educational problems of these regions which have been in the mainstream of social and technical reformulation, in particular the Mississippi Valley and the Far West, seem little different than those of the great metropolitan centers for which they supply the food and raw products which
sustain the material needs of their massed populations. At least the problems are different in no greater degree than those which distinguish the differing areas of a city and its suburbs. This is not to say that these problems are not serious, it is only to say that they are the ones which are distinctive of a metropolitan form of civilization.

We can say this because the rural peoples who are the practitioners of modern agriculture are also within the orbit of the new metropolitan civilization. In fact, they too have contributed to the sweeping changes which mark the modern world through the adoption of mechanized, scientific agricultural practice and in their inclusion within the massive and complicated corporate structures through which food and fiber are now produced and distributed. In the meantime, the traditional neighborhood and community life, based upon the concept and practice of the family farm, is being altered beyond recognition as local institutional life crumbles before the outreach of the over-arching institutional structure of a corporate society. The non-congruity we perceive is that which exists between the head-long rush to transform the technological practices of farming and the reluctant conservativeness to accept changes in other areas of life. Education, in its forms of organization and in its practices, has been one of the areas resistant to change. For some reason the Tom Sawyer image of a school continues to persist in the minds of parents, local school boards, and perhaps even the minds of professional educators themselves.

The educational enterprise, as I explained earlier, is no longer an extension of the family nor an adjunct of the community. It occupies a crucial position between the family and community on one side and the public world of work on the other. Through the educative process the child is brought to a wider social horizon and is endowed with those skills which can make him a productive adult member of the society. I wish I could say that professional educators had become consciously aware of this new role of education. I fear they have not. But I do believe that there is a wave of uncertainty among educationists, there is questioning for something better, and there is a willingness to try something new.

Of this much I do feel certain, however, traditional education has broken from its moorings. And the new education in its organization, content, and practice will be consonant with the spirit and form of the new scientific, metropolitan civilization. The next few years are crucial ones, but the situation is fluid and favorable for experimentation and change. What is needed most of all is the imagination and courage to try something new and to be willing to accept that if only one idea in a hundred works out, that is a high percentage of success. To effect change will not be easy, however, for there are too many educators and laymen who believe that the educative process is rooted in eternal verities. They cannot see that teaching and learning is as much a variable of the times as are the other aspects of living.

In the closing minutes of this presentation I would like to mention a few of the areas in which I believe changes must and will come in the enterprise of education. Let us start with the concept of planned change.

Although it has more than four letters, for many people "planning" is a dirty word. It smacks of totalitarian regimes in which a powerful few
impose their ideological biases upon the many. There is this danger and we must beware of those easy panaceas which would solve our problems. But prudent, forward thinking about the function and organization of education does not have to be cast in such a mold. The opposite extreme, is, of course, the practice which we now follow, which in its simplest form takes the position which is that all we need to solve an educational problem is to provide a building, add a teacher, supplies, books, and some children; mix well, and in the course of events you can have a graduation ceremony. If the numbers of children increase, then add more teachers, provide them with an administrator, add a few specialists, and nothing more need be done. In the meantime, of course, the taxpayers must be convinced to put up the money for all of this.

Interestingly enough, this simple, commonsense approach to educational development has worked fairly well in the past. But the problems then were less complex, communities were more cohesive, and the great national and international corporate superstructures had not yet emerged with their intricate social and technological interdependencies. The success which we have achieved with educational planning on the local level is no longer adequate. Our horizons must be broadened to encompass regional, national, and even international perspectives. We must move now to create those facilities which will train personnel for planning functions in anticipation of future needs. Inevitably, existing educational groups are going to find themselves increasingly confronted with requests that they develop short and long range plans for educational development, and it is far from certain that these now possess the skills or the experience which will permit them to discharge these new responsibilities with success. In particular, educators are likely to find themselves lacking the sociological, economic, and organizational sophistication which will be required.

As one example, I should like to describe the interpersonal skills which are highly prized in modern organizational systems. These are not the qualities which we associate with the hail fellow, well met, good Joe, nor the easy mannered though often empty headed product of group dynamics. This is not to say that friendliness and courtesy are qualities which are not valued, but these alone are insufficient.

The organizational pattern of modern America is moving away from the traditional line-staff pattern of industry, the military, and educational institutions such as the public school systems of our large cities. The newer social arrangement is what might be called the "team." In this grouping one finds assembled a variety of individuals with varying but complementary skills each one of whom must contribute his knowledge if the problem which confronts them all is to be resolved. It is this type of organization which is building rockets at Huntsville, which is launching space ships at Cape Kennedy, which is solving problems in research laboratories, in universities, and in industry. If you examine as a specific situation the need to develop a team to build a nuclear powered submarine, which prompted Admiral Rickover to discharge his blasts about the quality of education received in the American schools, you will discover that his real complaint was not that of the technical skill of those he recruited, but the problems associated with welding them into a cooperatively working unit.
In the days when the technological processes of agriculture required
group cooperation, the American farmer met and solved the type of problem
about which I am speaking in a most expeditious manner. In the silo
filling team of the dairymen, in the harvesting and threshing crews of
the "ring" of work sharing farmers, each individual contributed his
special skill to a neatly functioning group which needed neither straw
boss nor top sergeant to shout orders as to what was to be done. But the
young men who grew up in this world of specialized roles and cooperative
labor didn't learn the skills they needed to take their part in the group
in a classroom. There was little need for them to be taught, or even to
be considered worthy of academic concern, because the "real" world gave
them the experience they needed. Today, this is no longer the case. There
is the real world of the adult in which each of us must share and compete,
but we no longer share an apprenticeship in it as we come to maturity, as
the youth in rural and small town America once did. Fortunately, such pro-
grams as the Future Farmers of America, and the 4-H Club programs provide
some kind of experience in group activities, but these do not reach a very
great number.

What, then, is the relevance of what I have been describing to educa-
tion, to educational planning, and to the opportunities of the rural en-
vironment for education. If you accept that the development of organiza-
tional skills should be a significant part of the educational experience
of the young, then with the exception of extra-curricular activities in-
cluding team athletics, and a few subjects in which students have labora-
tory experience, our curriculum, the subject matter, and the method of
teaching provide almost nothing. In fact, in this sense our traditional
classroom is archaic. There, the students under the guidance of tradition
bound teachers follow the time-worn pattern of "assign--study--recite." This pattern is so hallowed and so deeply ingrained that we have not as
yet really examined it to see what the consequences are. But it should
not be difficult to see that it violates almost every principle we know
about the creation, utilization, and transmission of knowledge. Students
do not work with problems; they learn rules and facts. Students are not
taught how to develop roles in the cooperative uncovering of the relation-
ships which explain the dynamics of a process, they are forced into the
straightjacket of individual effort, and are oftentimes penalized if any
sharing is discovered. The peer group clusterings so evident among high
school students, but also extending downward to lower age levels are often
viewed with suspicion, and, until recently, many teachers have condemned
them as undemocratic. For some reason we have isolated learning from the
forces which bring humans into cooperative relations with each other.

Knowledge of the functioning of groups is the kind of sociological
sophistication which I meant when I said that educational planners needed
to have a broader perspective than the strictly pedagogical. Knowledge
of groups and of their relation to learning constitutes, for me, one of
the significant opportunities to do for rural youth what is now being done
so badly in most of our schools.

I fear I have already gone on too long, even though there are other
areas which should be discussed. Permit me to say just a word about one
of these, educational research. The American agricultural system is
without question the most advanced of any in the world. There are many reasons why this is so, but chief among them is the research conducted by the experimental stations of our state agricultural colleges, and of the dissemination of this knowledge through an extension service. Now this experience should provide us with some wisdom and give us a model to follow. If education is to advance, then the energy and the funds which must be invested in research about teaching and learning must be immensely greater than the piddling amounts which are now available. And this research must be of a kind in which we do not do research upon, but with the full participation of teachers and students. Research and planning are correlates of any effort to utilize the opportunities which reside in the individual, in the community, and in the physical surroundings. But we must also remember that the necessities of preserving and advancing our type of civilization require the best education possible for our youth.

May I close by saying that it has been a pleasure for me to be with you this morning and to offer these few ideas for whatever worth they may have in your deliberations and future activity.