The part education has to play in bringing the technics of group living in line with scientific and technological advances is of vital concern to all educators, whose opinions vary concerning the best way to accomplish this purpose. The following plan, as outlined by Paul R. Hanna, professor of education, Stanford University, Calif. is presented for careful review and reactions.

IT IS OBVIOUS to anyone who is thoughtful about modern society, that we live in a highly interdependent world community that exhibits all the neurotic tendencies of a frustrated and confused individual. Upon further analysis, it is clear that much of this cultural frustration and confusion is the result of rapid advances in science and technology on the one hand, and on the other hand, the relatively slow adjustments in the laws and institutions and the adaptation of old values to new conditions. We speak of this imbalance as cultural lag.

This cultural lag is now accepted by many leaders in public education as a major concern of the schools. The lessening of this lag or imbalance is listed as a major goal of education. Many proposals for curricular organization designed to contribute to such an objective are being seriously considered today.

But before we discuss the educational task of lessening cultural lag, we need further examination of the lag itself. Only as the nature of the cultural imbalance is understood and the steps that must be taken to improve balance agreed upon, will the school possess the directives for the curricular job ahead.

Our Evolving Community

To start the deeper examination, look at two terms: community and communication. Both words stem from the same Latin root, communis, meaning common. When the tools and technics of communication are largely confined to the face-to-face conversations of family and neighbors in the immediate environment, then the term community definitely refers to the limited social group who, through common vocal exchange, work and play together daily. For such a community, narrowly confined through primitive communication, the laws and institutions are correspondingly simple and restricted to the same local community over which daily face-to-face contacts are made. Note the close identity of the geographic area and of the humans caught up in these two terms when used in connection with a primitive culture.

Then notice what modern tools and technics have done to change communication. By means of electronics it is now possible for each of us in this nation, and for most of us throughout the world to communicate with all other humans. The telephone, telegraph, air-mail, the press, radio, cinema, and a host of available and projected communication devices are breaking down the limitations of distance and physical barrier. No one today need be isolated from his two billion neighbors. For most of this earth’s population there is an eagerness to examine the common news and ideas that come to our senses from the entire globe over the modern communication systems.
While we have changed the geographic bases of communication, we have at the same time been forced to change the concept of community. In turn we have come to think of wider and wider circles of human association: the state community, the regional community, the national community, and finally, the world community. As we have become aware of these widening communities, we have tried to create the laws and the institutions which would regulate life for the vastly increased number of people in the enlarged geographic areas. When we developed the motor car to replace the horse-drawn vehicle, we widened the community to encompass the new land area upon which dwelt the people who came together by automobiles for almost daily business and amusement.

And within the boundaries of this new community we established traffic laws, police, and courts to cope with the emerging communication and transportation problems common to all. Likewise, as we move outward with the airplane as a means of communication, we once more must draw a wider geographic circle to include those who are now neighbors in a national or continental community. It must follow that we struggle to create a new set of institutional controls, through such agencies as the Civil Aeronautics Administration, to assure the smooth operation of the new communication within the expanding community.

The lesson to be learned from this analysis of the mutual enlargement of communication and community is a simple one: the advances of technology in our time develop pressures upon most of our economic, social, and political institutions, each of which was designed to cope with a prior set of simpler tools and processes within a narrower community. The problem confronting us is one of modifying old institutions and creating new ones rapidly enough to prevent more and more serious maladjustments through lag or imbalance in the cultural patterns. During the current century this process of rebuilding laws and institutions has not kept pace with material advances and thus we inherit our current confusions.

The Schools and Cultural Balance

There are many forces which will operate to bring about better balance in our culture: some of these forces will work more or less independently of human design while other forces will operate in the direction of lessening tension only if we humans collectively and wilfully set the forces in motion and carefully direct them. One of the most powerful of these latter forces is public-school education.

Historically the curriculum of our schools has always responded to social pressures. When our Puritan forefathers decided that more universal knowledge of the Bible was essential for each human to enter the Kingdom of God, the schools were made compulsory and each child was taught to read. Reading, as a curricular subject was a direct outcome of the analysis of the leaders of that day who deliberately set a curricular pattern to achieve their great objectives.

Another illustration of more recent date will enforce the thesis that the school curriculum has been used effectively to attain long-term ends. More than a generation ago, the city fathers of Chicago conceived a great plan for the development of the Lake Michigan waterfront. This plan was embodied
in a textbook and placed in the hands of Chicago high-school pupils. For several high-school generations the plan was studied, argued pro and con. There in the schools the seeds of the Wacker Plan took root, and as these young citizens came into political power in Chicago, increasingly they put into effect more and improved features of the great concept of the front yard of the city beautiful. One can point out that the plan failed to provide for an adequate backyard for the city, but the lesson remains that the school curriculum has tremendous potentialities for achieving long-term goals.

To return to the problem of lessening our cultural lag: obviously during the rest of this century most of our creative energy must be directed to the designing of institutional controls for our larger community. Those laws and customs which operated well enough in our narrowly confined communities of long-power communication are not suited to the much more complex associations brought on in the larger community by electronic communication. Here, symbolically, is the major task for the curriculum of our schools. During this present period we must give children and youth the learning experiences which will equip them for the creative tasks of social pioneering in the larger community.

Planning of Curriculum Essential for Assuring Goals

Learning experiences adequate to develop understanding of and loyalty to the larger community will not come without large-scale curricula planning. The naive idea that a child-centered curriculum will of itself assure such more universal ends has been under attack for a long time. There is a growing conviction on the part of many educators that a child-centered curriculum may even develop self-centeredness which may be the antithesis of selfless interest in the larger community. And surely, a child progressing from grade to grade in a school where there has been no overall agreement on the curricular pattern for building the larger community, has no more than a chance opportunity to be exposed to the experiences out of which the desired behavior might emerge.

The Method Is Pupil Interest

It must be stated emphatically, however, that the psychological case for interest and effort in education has been proved beyond a doubt. The learner will acquire such behavior as is meaningful to him and seems to him to achieve his purposes. Any teacher who has been alert to the effect of pupil interest on learning is fully aware of the skill pupils attain in passive resistance to tasks for which the learners can see no purpose; and on the other hand, all teachers who know the art of teaching have seen how eagerly effort is put forth and how great is the learner's retention when interest directs learning activity.

The quarrel is not with the important place of child interest in learning, but with the idea that the curriculum of our time can be left to chance overall design. The task of building the larger community is so crucial that we dare not leave its achievement to the emerging whims of children, or the caprice of individual teachers. The task of so great importance calls for an overall framework which will be the product of the combined judgment of the leaders in
our culture. Once such a framework has been agreed upon in broad outline, then the particular thread and color of the subpattern of daily classroom experiences, must for obvious psychological reasons, be left to the interests of the learners. The teacher, working within the curricular pattern agreed on, sets the stage and creates an environment to which the child responds with interests and purposes which are directed by the artful teacher toward understanding of and loyalty to the larger community.

Many Practical Curricular Plans

Assuming that there is, momentarily, agreement with the analysis so far, and that the school curriculum is to be assigned the task of providing much of the learned behavior essential to regaining our cultural balance, the question arises as to what the design or pattern of the experiences shall be. There are many good designs in operation today that contribute to such objectives. The author holds no particular brief for the one which follows. The particulars of the proposal herewith are not significant; only the way of approaching a curricular pattern is important in this discussion.

An Overall Theme for the Curriculum

We start with an integrative theme for the twelve grades of the public school. This overall theme will give meaning and direction to the education of the various divisions of the school, to the emphasis for each grade, and even to most of the experiences which pupils have from day to day.

For this integrative theme for the entire school, we propose: “Helping children and youth develop understanding and behavior essential to survival and progress in our world community.” It should be clear that this theme requires concepts, skills, and attitudes that are drawn from the disciplines of history, philosophy, geography, political science, sociology, anthropology, economics, science and technology, mathematics, and the arts—communicative and fine. In pointing to these traditional subject disciplines, however, it is not intended to imply that the mere addition of isolated experiences in the traditional school sense will achieve the objective.

It is also clear that the theme encompasses all the human activities which can be classified in less formal terms than the disciplines aforementioned. A simple listing of universally important clusters of human activities would include: (1) protecting and conserving human and non-human resources, (2) producing, distributing, and consuming goods and services, (3) transporting goods and people, (4) communicating thoughts and feelings, (5) expressing aesthetic and religious impulses, (6) providing recreation, (7) providing education, (8) organizing and governing. Use of such a listing of basic human activities will serve to assure that every pupil experience will be viewed by the teacher as a part of a larger scheme of racial experiences.

Emphases in the Elementary Grades

Consider how the elementary school curriculum, taking its cue from the overall theme, assumes responsibility for analysis of one important aspect of the cultural imbalance—namely, the scientific and technological. Let us say that the curriculum of the elementary grades will stress: “Helping children understand and improve their participation in human groups and their control over
their environment by comparison and contrast of those cultures using mechanical power and complex machines with those cultures using muscle power and simple tools."

Breaking this elementary school theme down still further, we could assign to the first and second grades the tasks of providing children with learning experiences which would help them better to carry on the human activities in their contemporary and immediate environment. Such an emphasis is already widely used in the primary grades of American schools and takes the form of units of work organized around such concepts as home life, school life, neighborhood, and local community. For such possible units of experience the pupil is dealing primarily with situations in which mechanical energy and complex machines are used by his family and neighbors to carry on the basic human activities: driving the family car on shopping trips, turning on the radio for the weather report, or calling the doctor when an accident occurs.

Moving along with the pupil into the third and fourth grades, the subtheme for emphasis could be providing experiences for children which would aid them in fuller control over their environment by comparison of the means of carrying on the human activities in contrasting communities where people adjust to nature as they find it. Here the daily experiences of the pupils would grow out of their interest in primitives, and in local history. In either case, primitives or local history, the methods of travel or food production or recreation, without machinery, would contrast sharply with the ways the child is learning in his everyday living in modern America. The child who has observed the story of a loaf of bread from his grocerymen to the baker and even to the miller or farmer, is in a better position to understand and appreciate the intangible elements of bread production if he is allowed to grind corn with simple tools, bake it over an open fire, and generally contrast the role of the human with and without machinery.

Following the pupil into the fifth and sixth grades the subtheme of our proposed school curriculum might be providing experiences for children which would help them understand and participate in carrying out the human activities in our contemporary world community. Here the emphasis is on the modern technological controls which make the food we consume, the music we sing, or the news we hear, the combined result of the entire human family and the full range of the earth's resources. Units of work could be organized around such interests as a budget of goods and services to keep the pupil (or the two billion humans) supplied for a year; the quantity and location of the earth's resources for satisfying this budget of need; the earth patterns of industrial productive plant for processing the raw earth materials (forests, minerals, animals) into useful goods and services; and the story of modern worldwide distribution—retailer, wholesaler, advertiser, financial expert, warehouse, and transporter. The experiences of these two grades are sharply in contrast with the work of grades three and four, where simple technics limited the range of possibilities to the immediate local community. Here in the fifth and sixth grades the pupil is beginning to get the basic experiences on which he can build a concept of changes in technology.

He can begin to sense that as modern
men use more mechanical energy and more ingenious machines, it must follow that the common interests widen until they encompass the world community. Referring again to our opening analyses that the present crisis is in large measure caused by the rapid development of science and technology and the lack of corresponding advance in the institutional controls, we have in the elementary grades an emphasis on the great shifts in the technological. Obviously, it is impossible and wholly undesirable to exclude in the elementary school the social, economic, or political counterpart of technological shifts. To illustrate: in grade four the oxcart as a means of travel in our great-grandfathers' day would surely be studied in terms of the rules of the highway traffic which citizens of our historical community observed. Later in grades five or six when we study the airplane as one new means of transportation in contrast with the oxen, it would be natural to look at the Civil Aeronautics Administration and its efforts to create new air traffic rules to regulate modern airplanes. But it is important to note that the emphases in the six grades of the elementary school are on the contrasting technics men use to carry on the basic human activities—without machinery and with machinery.

The Plan for the Secondary Grades

We turn now to the subtheme for the secondary grades: "Helping youth build understanding and behavior essential to participate in the elimination of cultural lag in democratic, social, economic, and political institutions, and in values in our contemporary world community."

Examination of this phrasing will disclose that the pupil is now to have his interest stimulated and directed toward the institutional changes which should go hand in hand with technological advances if the cultural is to remain fairly stable. The emphases shift from technological advances to social pioneering.

Junior High-School Experiences

In the seventh, eighth, and ninth grades, the subtheme might be as follows: "Providing the pupils with experiences which will help them develop the concept of changes in institutions which follow changes in technics, and an appreciation of democracy as the most perfect instrument men have devised for controlling changes through evolutionary and peaceful means." In grade seven the units of work could be organized around the concept of ancient man and his slow and unscientific advances from prehistory to the industrial revolution. In grade eight, the emphasis could be on modern scientific man in his rapid technological advances from the beginning of the industrial revolution to the present with great attention to the developing cultural lag. For grade nine the story of democracy would be unfolded and the experiences so shaped that the pupils would develop an appreciation of and a loyalty to the democratic concept and processes. Out of these three years would emerge the understanding of the nature of our worldwide cultural frustration and confusion, and a sense of our great fortune to have at hand the democratic faith and processes for the elimination or the easing of our frustrations.

On the surface it would appear that the grade emphases for the junior high school depart from the possible interest maturations pattern of adolescence. This observation no doubt is partially true,
but not until we have experimented with the psychological aspects of such a socially-determined curricular pattern will we be able to say with certainty how much or how little interest and effort youth can generate in such objectives. For the moment, we may have to impose some experiences on youth that may be justified by the seriousness of the cultural crisis and hope that our experimentation will disclose the proper pedagogical methods later.

Senior High-School Directives

The capstone of this curricular design is rightfully in the senior high school. Here the emphases might be: "Helping youth participate effectively in improving human relations through strengthening, modifying, or creating social, economic, or political arrangements and values in the local community and state (grade 10), in the region and nations (grade 11), and in the world community (grade 12). The pupils' interests in and capacity for improving institutional facilities and controls can be developed by successful participation in the work of public and private groups whose efforts are directed at progress. The work of adult groups in recreational commissions, soil conservation districts, regional planning commissions, world federations for scientific advance and exchange—these and many more regularly functioning bodies provide the opportunity for youth to join with their elders in the challenging tasks of studying shortages and building programs of action for improvement. Typically, the action will be in modifying the institutional controls in order to take advantage of the technical facilities available.

Thus, on their maturity level, young people see that the cultural lag can be gradually and peacefully eliminated through social modification. They come to see that the institutions now lacking on the larger community level can and must be fashioned if we are to survive and progress. A world bank, world aviation rules, world atomic warfare control, a security council on world basis—these and many more institutional controls of a democratic character must be created and made strong if we are to keep and profit from our recent advances in technology.

Relation of This Design to Total Learning

Space does not permit fuller discussion of the design herein proposed, but one point must be made before closing. This design does not direct the total learning that goes on in the school. A fair estimate of the percentage of learning experiences caught up under such a design might be: elementary grades, fifty per cent of the school day devoted to the integrative core; junior and senior high school, thirty per cent of the time directed by such a theme. The balance of the day would provide ample time for the development of individual interest and aptitude or for pursuing a group interest outside of the common core.

What we have proposed is an overall pattern of emphases in which all pupils from grades one through twelve will have common experiences which are thought essential for building the institutions and value system of our larger community.