IN AN ADDRESS THE AUTHOR STATES THAT THE POPULATION EXPLOSION VERSUS WORLD FOOD PRODUCTION CAPACITY, TOGETHER WITH URBAN BLIGHT, POVERTY, AND FUNCTIONAL ILLITERACY, INCREASING COMPETITION FOR TRAINED MANPOWER, AND RELATED IMBALANCES IN AMERICAN EDUCATION CONSTITUTE MAJOR TRENDS AND ACUTE PROBLEMS IN TODAY'S SOCIETY. THE AUTHOR FEELS UNIVERSITIES AND THEIR EXTENSION DIVISIONS MUST LEAD THE ATTACK ON NATIONAL AND WORLDWIDE PUBLIC PROBLEMS. EXTENSION METHODS HAVE BEEN SUCCESSFUL IN INCREASING FOOD PRODUCTION IN DEVELOPING NATIONS. HE STATES THAT THE PRIMARY KIND OF TECHNICAL ASSISTANCE NEEDED IS EDUCATION AIMED AT POPULATION CONTROL, RATHER THAN AGRICULTURAL TECHNOLOGY. THE LEADERSHIP OF THE UNIVERSITIES WILL REQUIRE BROADER COOPERATION, NEW LINES OF COMMUNICATION, WISE ALLOCATION OF LIMITED EXTENSION RESOURCES, AND CONTINUING EDUCATION AND PLANNING FOR FUTURE NEEDS. THIS ADDRESS WAS PRESENTED AT THE NATIONAL ADMINISTRATIVE SEMINAR FOR COOPERATIVE EXTENSION (9TH, UNIVERSITY OF WISCONSIN, MAY 15, 1967). (LY)
Administrators of university extension programs have the responsibility of adapting their institutions to serve the needs of society. Administrators are expected to foresee social, scientific, and technological changes and to modify their institutional structure and programs in anticipation of these changes. Alfred North Whitehead said, "In the past, the timespan of important change was considerably longer than that of a single life. . . . Today, this time-span is considerably shorter than that of human life, and accordingly our training must prepare individuals to face a novelty of conditions."

The acceptance of the inevitability of a "novelty of conditions" has implications for the administrators of educational institutions, particularly those institutions intended to assist people to respond appropriately to change. Because of the accelerating rate of change administrators of university extension programs must pay increasing attention to growth curves and other predictions of developmental trends for the major facets of our society. The intelligent restructuring of institutions and the reassignment of priorities among existing and newly-created programs can best be done by those who have analyzed the predictions for the future.

The purpose of this paper is to examine major trends and current problems in our society, to review the reassignment of priorities within universities in response to social changes, and to explore the implications of these data for the administration of university extension divisions.

For the purposes of this paper "our society" will be broadly defined, embracing not only the United States, but also the other countries of the world. "Extension" will be understood to encompass the adult education activities of universities, including both General and Cooperative Extension.

2.

The first major growth curve which merits the attention of extension administrators describes the predicted increase in the population of the world. A second prediction which is to be examined is the comparable level of food production.

THE STORK AND THE PLOW

A baby born in 1930 came into a world inhabited by two billion people. In the first thirty years of his life the total population of the world increased by fifty per cent--one billion persons. If he lives to age 70 he will find that in his lifetime the population of the world will have increased 350 per cent so that seven billion people will be competing for the resources of our earth in the year 2000. All other predictions must be examined in the light of this central factor.

According to the Agency for International Development the total population of the world did not reach one billion persons until 1830. In the next one hundred years the population doubled. The increase in population now approaches a logarithmic growth curve with the time required for an addition of one billion persons to the total population declining disastrously.

In 1963 spokesmen for the National Academy of Sciences examined the projected population growth curve together with estimates of increases in international agricultural production. They concluded: "Either the birth rate of the world must come down or the death rate must go back up."

Natural population increase is a biological phenomenon and as such is inherently self-regulating. War, disease and famine have served in the past to match populations to their resources in the past and can be relied upon to do so again. Rational leaders, however, in anticipating the growing imbalance between food supplies and population requirements, may intervene in the natural process and effect a balance which provides a higher standard of living for all than would be the case under a balance imposed by biological forces.

The Agency for International Development estimates that there is less food per capita in the world today than there was one year ago. Further, for the past six years the people of the world have consumed more feed grains than they have produced, thereby depleting earlier surpluses. If the population growth rate in the world is not reduced, by 1987 the surplus production of the developed nations will be insufficient to supply the nutrient requirements of the developing nations.
3.

The stork is outrunning the plow.

Accordingly the scholarly theorizing of Malthus, who lived when the population of the world was less than one billion may constitute a dire warning for a world of five billion inhabitants in 1984.

In June, 1965, President Lyndon Johnson examined the projected estimates for population increases. He also reviewed the projected returns on economic investments and on population control measures. Basing his conclusions on such data, he urged, "Let us act on the fact that less than five dollars invested in population control is worth a hundred dollars invested in economic growth."

Currently 10,000 people die of the effects of malnutrition daily. This situation, which is predicted to become increasingly serious, merits the attention of university educators before the problem assumes unmanageable proportions.

Although discussions of food shortage may have an air of unreality in "The Overweight Society" in which extension workers conduct educational programs to enable the affluent to "take-off-pounds safely," the situation illustrates the point that an international perspective may lead extension administrators to establish different priorities than they would if only national problems were considered. Some of the educational problems are unique to the United States; others are held in common with other nations.

SPECIALISTS AND ILLITERATES

Perhaps the most challenging problem is not the result of a lack of education; rather, it is the result of an imbalance encouraged and supported by inappropriate education. In the United States today highly trained specialists are developing increasingly efficient means of doing things which ought never to be done.¹ The development of automobiles "Unsafe at any Speed," the ravaging of cities by the construction of massive expressways, the development of manufacturing processes which pollute our air and water, the technical improvement of means of communicating trash, and the increasing ability of the supposedly civilized nations of the world to kill one another and render the earth unfit for human life all are educational Frankensteins. Men who have been highly trained to know only their specialty and who are unprepared to understand the fabric of our society present a grave threat to the possibility of the people of the world enjoying an abundant life, or for that matter, life itself.

4.

The advanced educational system dedicated to the production of excessively narrow specialists constitutes a problem—one which cannot be overcome simply by increasing the total amount of money spent on education. The difficulty lies not in the size of the educational investment. Rather, it rests with the process by which priorities are assigned within education.

EDUCATION AND PROBLEM SOLVING

In the United States education is already "big business" and it is getting bigger. Francis Keppel, who was Commissioner of Education before moving to private industry concerned with education, reported:

Education was in a sense America's largest industry in the mid-1960's with 123,000 schools, 55 million school pupils and college students, almost 2.4 million teachers, 100,000 administrators and supervisors, and 144,000 local school board members. In an enterprise costing 39 billion dollars a year at all levels, the nation spent less than one-half of one per cent of its educational funds on research to improve the educational process itself.¹

The need to understand and to improve the educational process has never been greater, both so that the education of the most highly trained can be made socially more beneficial, and so that the education of those adults now lacking even rudimentary literacy skills may be conducted efficiently and effectively.

Poverty has been linked to inadequate or inappropriate education by the architects of the Great Society. Educators are being asked to break the vicious cycle of poverty. Approximately 40 per cent of the three million children in families receiving public assistance under Aid to Dependent Children programs are the grandchildren of adults who received such aid.²

Perhaps the existing educational system can be modified to increase its effectiveness as a means of breaking the cycle of poverty. In any case, the careful and unemotional examination of the facts conducted by qualified investigators rather than by missionaries is an essential step in the assignment of priorities among the possible educational programs which may be designed for this clientele.

The establishment of the Office of Economic Opportunity and the declaring of a war on poverty signaled the increased concern of political leaders for the poor. Concurrent with the increased political attention is the increased emphasis being placed by educational institutions on programs designed to serve this segment of society. As institutional leaders vie with one another to demonstrate their enduring concerns for and dedication to serving the poor, publications appear to support the claims. For example, a report from the Federal Extension Service stated that almost 39 per cent of total staff time in 1964 was spent in working with low income clientele.¹ The nature and the effectiveness of this work was not reported simultaneously.

In other institutions at various educational levels evidence of inefficiency can be found.

In our colleges only about 40 per cent of the students are graduated within four years of their matriculation.²

In our public schools "approximately 29 per cent of the nation's potential 'Class of 1965' withdrew from school between fifth grade and high school graduation."³

The facts concerning the educational attainment of male young adults constitute cause for alarm for the future of our society. Fifty-six per cent of the young Negroes do not pass the selective service mental test. The percentage failure rate for Caucasians is one fourth that of the Negroes.⁴ The men in both these groups are ill equipped to function in the world today. Lacking the level of educational attainment expected of a graduate of the eighth grade, these men face a future of unemployment as the technological revolution proceeds. Unless our society can either make provisions for appropriate training for these men to qualify them for existing jobs or devise some system for employing them at their current level of accomplishment increasing social maladjustment can be predicted.

In the United States some eleven million adults have been identified as functionally illiterate. These adults lack the equivalent of a fifth grade education. Internationally the number in this group is increasing at an accelerating rate. Since 1960 world illiteracy has grown by 200 million persons according to the Agency for International Development. At a time when literacy appears to be essential for personal economic survival, the growth curve for the expansion of illiteracy seems ominous.

WHAT IS BEING EXTENDED?

Educators in the United States are willing to share their knowledge with the educators in the developing nations. A major impediment to such sharing is the level of understanding American educators have concerning the relative effectiveness of various methods with different audiences. As Francis Keppel observed, only modest efforts are being expended in an effort to identify the reasons for the degrees of effectiveness attained using different educational approaches. Even within universities educators exhibit a marked reluctance to conduct research on their own efforts. Evaluation is not an area in which educators of either the resident teaching or extension varieties have excelled. It might even be said that educators in both groups have a distaste for evaluation and an untested faith in the adequacy of their conventional approaches. Theodore W. Schultz, one of the inquiring minds in the field of agricultural economics, has implied that extension educators blindly attempt to transfer their conventional approaches to the agricultural problems of the developing countries. Professor Schultz deplores the fact that the leaders of extension seem unaware of the experimental potential of these efforts and consequently fail to arrange for the collection of data which would allow strong inferences to be drawn from this experience.¹ One might reasonably question how present experience can provide a sound guide for future international agricultural development if current efforts are as action oriented and poorly documented as Schultz believes them to be.

In the future of our international society is the role of the extension educator to be basically educational or is it to be primarily service-oriented? In the United States is the extension worker to follow the model of the teacher or of the consultant? The need to answer this question arises not only from the desire to clarify the function of extension workers who are sent to assist developing nations, but also from the need to distinguish the roles in the minds of political and university leaders. An increasing number of well-trained commercial agricultural consultants is prepared to provide service to individuals who are ready and willing to pay the

fees. At least one leader in the Federal Extension Service insists that the difference between the work of an extension specialist and the work of a consultant is primarily one of emphasis. The extension worker provides some service assistance in new programs only until "the people can assume leadership." The consultant intends to continue providing a service.1

If the distinction between education and service is authentic and if extension specialists do in fact cease providing a service just as soon as the people can assume leadership, then extension leaders can reasonably expect to receive increased support for their programs from national leaders. William Carey, Assistant Director of the Bureau of the Budget, that agency charged with insuring that our tax dollars are spent wisely, wrote recently:

We know that investment in education is more than socially "good;" it is economically productive. . . . we are coming to a new understanding of the returns to society of investments in human resources. These investments can no longer be scorned as handouts by soft-headed social reformers. We are acquiring a clearer grasp of the role of the public expenditures in creating new assets on the books of society.2

The function of extension in the United States has been enhanced by market conditions and by federal agricultural policy. The ability of extension to influence agriculture in other lands where the market conditions and the national policies are unfavorable to agricultural development has yet to be established. Nevertheless, the favorable climate for education provides the base on which badly needed research can be conducted. At least a part of the success story of American agricultural productivity can be explained on the basis that agricultural research conducted at the experiment stations was undertaken in the light of market conditions. Extension workers could then provide production recommendations based upon research relevant to the environmental and marketing conditions. Increased research investment will be needed if extension workers are to be armed with relevant information as they attempt to assist agricultural producers in the developing countries.

THE UNIVERSITY AND CHANGE

This increased interest in educational investment exhibited at the national level is reflected in universities.


Within universities, however, interest may focus more readily on resident teaching than on extension. University leaders nationally have not been well acquainted with the work of extension divisions. Perhaps some extension leaders may be equally unacquainted with the total adult education activities of their universities. It does not seem unreasonable to assume that the formal extension divisions may control less than half of the total extension work performed by the faculties of universities. Among those engaged in extension work in different disciplines and particularly under the auspices of different extension administrative units the level of communication is frequently rather low. The initiative to merge extension divisions has been taken reluctantly by some university presidents when it appeared that mutual trust and cooperative attitudes were not exhibited by forward-looking administrators of separate extension divisions.

Frequently these institutions are regarded as the source of change in our society. Yet, historians and contemporary scholars find that universities more frequently follow societal change than lead it. It has even been suggested that aside from their reluctance to lead, universities even exhibit great inertia in following change. Often foundation, federal, or philanthropic funds are needed to enable a university to perceive that a change has occurred and that there is now something to follow. And although federal monies usually find a warm reception in academic coffers, they do not always add to the coherence and rationality of the programs. For instance, Title I of the Higher Education Act of 1965 "has not turned out to be general support so much as a series of unrelated projects thrown together."

If external influence were a new phenomenon shaping university policy and operations it would not be surprising that university leaders have not yet learned how to deal with it. But political pressure is one of the facts of life in the

4 Ibid., p. 53.
operation of universities and this situation is not new, for W. D. Hurd observed in 1912 that:

the present rapid development of extension work, . . . is due more to outside demands upon our colleges than to initiative from within the institutions, and today, I really believe that most college presidents are more troubled over how to handle the Extension Service of their institutions than any other one feature of their administrative work.¹

In the future increasing pressure will be placed upon universities to solve public problems. When such pressures are accompanied by grants university administrators tend to be responsive. It has even been suggested that the Land-Grant colleges embraced the extension service not because of a dedication to public service but rather as a move to attract increased financial support from rural dominated state legislatures.² The strength of Cooperative Extension and the relative weakness of General Extension may be accounted for by the extent to which public pressure was responsible for their development.³

Even in England where the extension courses (or extra-mural classes) are restricted to "university-level" instruction in the liberal arts, universities have tolerated extension divisions to a degree because of their external financial support. Some leaders such as S. G. Raybould, have insisted that extension divisions will never be accepted as legitimate parts of universities so long as they draw from a protected budget. He suggests that only if such programs are funded entirely from a university budget will they be impelled to overcome intramural criticism.⁴

³Ibid., p. 228.
Yet perhaps extension divisions are by their experimental nature not wholly acceptable to the more settled parts of a university. Through the extension divisions new functions are introduced to universities. Frederick Jackson Turner observed that "Nothing in American history has been more striking than the steady pressures of democracy upon the universities to adapt them to the requirements of all the people."¹ This pressure can be expected to mount as society calls upon the universities to embrace a whole host of new functions.

University leaders have had a difficult time agreeing upon what functions their institutions should perform. Charles R. Van Hise, an extension professor at The University of Chicago and later President of the University of Wisconsin expressed the extreme position when he said, "It seems to me that a state university should not be above meeting the needs of the people, however elementary the instruction needed to accomplish this."² Although this approach may have been defensible in 1905, its appropriateness for today is questionable. Yet, proponents of this approach are not strangers in extension circles. Recently a publication purporting to set directions for the future for the Cooperative Extension Service in one of the leading states indicated that the audience would be restricted to rural and urban people, men, women, and children. The publication also failed to restrict the area of content to be taught. Such "direction" gives precious little guidance to those planning programs for the future. Critics of the Scope Report have similarly faulted it for failing to set boundaries around the areas of extension responsibility.

In the history of adult education the towering figures in university extension were men who were reluctant to freeze their institution into any mold. Although they sought to plan for the future they embraced the idea of the permanence of change. President Van Hise of the University of Wisconsin expressed this idea eloquently:

> The spirit of the university is in irreconcilable conflict with those who hold that the present state of affairs is the best possible, who believe that existing conventions, morals, political and religious faiths are fixed; all are fluid. For one nation they are not the same as for another. For each nation they are modified from generation to generation.

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This will continue as long as the race endures. In the university, one of the chief functions of which is to inquire, ever to adjust, ever to improve, ever to advance knowledge, the flux is greatest, the progress most rapid; and, therefore these institutions are the very center of disturbance.¹

One might question whether this philosophy was fully endorsed either by extension workers or by other members of the university faculty at the time it was spoken. Even today the danger exists that established ways of doing things may be mistakenly construed as the best way of doing things.

Accordingly, the comments of Theodore Schultz on the ineffectiveness of our efforts to increase agricultural production in foreign lands through the use of agricultural extension experts should inspire accelerated inquiry by university extension leaders. Schultz has observed:

... with one or two exceptions, the most impressive increases in agricultural production since the war have occurred in countries where we have had no programs. Japan and Israel have been among the most successful.²

In India and Pakistan, where our commitments of both public and private funds and of talent have been large, the agricultural sector has had a poor record. On a per capita basis, India's agricultural production is only slightly above the prewar level and that of Pakistan is down considerably.³

How is this alarming situation to be explained? How does Schultz account for the poor results? The explanation, he believes, lies in the fact that no profitable, rewarding new agricultural inputs have been available to farmers for their adoption and use.⁴ Further, he hypothesizes that "the rate of acceptance depends predominantly on the profitability of the new input."⁵

University extension leaders who are concerned with international aid programs will take Schultz's hypothesis

¹Ibid., p. 61
²Schultz, op. cit., p. 53.
³Ibid., p. 55.
⁴Ibid., p. 59.
⁵Ibid., p. 66.
seriously and will arrange to collect the data needed to test it.

PROBLEMS IN DIVERSIFYING EXTENSION PROGRAMS

If an extension educator is to transplant the program planning process from the United States to a developing nation, he must have a realistic understanding of the process as it is actually carried out here. Despite the writings and exhortations by state and federal leaders on the proper use of program planning in extension work, the message is apparently not always received and followed at the local level. When extension workers in this nation initiate new programs with new subject matter that frequently violate both the central tenets of program planning and of administrative theory. A recent Federal Extension Service report of the project on public affairs and leadership for public responsibility is a case in point. The authors of this report in assessing the reasons for the limited success of the project concluded with these suggestions:

To obtain the cooperation of the county staff members in introducing new programs or changes in county Extension programs, all county Extension staff members must be fully informed from the very outset of the project and agree to the innovation.

A representative broadly based body of clientele is desirable, if not essential, to the successful implementation of broadly based county Extension programs.

To be successful, new county Extension programs must have the support and backing of supervisory and administrative personnel. These personnel must be fully informed and agreeable to the innovations if the effort is expected to be successful.

That such observations need to be made about extension educational practices today is predictive of future difficulty.

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1 A lucid statement of the problems encountered in attempting to transfer educational institutions from one milieu to another can be found in Sir Eric Ashby’s *African Universities and Western Tradition* (Cambridge: Harvard University Press, 1964).

as extension attempts to serve an evolving society with new programs. Further, if current extension practice in moving into new content areas with new audiences in the United States is encountering limited success, then perhaps second thoughts should be given to the wisdom of attempting to export this practice. On the other hand, if the focus of extension is educational and experimental, then the opportunities to test extension methods in foreign countries and to confirm or refute the folk wisdom of extension educational practice will enable educators to develop a sophisticated understanding of the relative effectiveness of various methods under a wide variety of conditions.

But the effectiveness of extension educational programs is not determined solely by the relationship of the extension division to an external audience. Equally important to the successful functioning of university extension is the extent to which the extension function is integrated into the total fabric of the university.

FROM RURAL TO URBAN

At the time the Cooperative Extension Service was established as a subordinate part of colleges of agriculture, the majority of the people in the United States lived in rural areas. Now that the rural population constitutes only a minor fraction of the total population Cooperative Extension must offer programs in the cities if it is to serve the educational needs of the people. A broad guaged extension service which makes the resources of a modern university available to the people of its state cannot remain yoked to a college of agriculture. New organizational frameworks must be and are being developed in which the extension director functions at the vice-presidential level.

The movement of extension into urban areas has been stimulated and accelerated by forces external to the universities. Support for urban extension was inspired by the Ford Foundation which has invested over four million dollars in such efforts. The Foundation reported that urban problems could be regarded as falling into two main clusters: (1) those dealing with low income families, their individual lacks (education, income, job motivation, health and housing) and community problems arising from low income concentrations, such as ghettos, blighted neighborhoods, and racial conflicts, and (2) those arising from defects in the physical environment such as water and air pollution.

traffic congestion, shortage of parking, and lack of open space.\textsuperscript{1}

The outcomes of the "experiments" were identified as follows:

(1) The project helped local communities create a structured means by which to participate in the national war on poverty.

(2) The project enhanced the ability of universities to serve state and local governments in setting up community action programs to meet federal requirements.

(3) The project established a working liaison between the universities and governmental agencies.

(4) The project crystallized a set of crucial questions which must be resolved if universities are to deal effectively with the problems of an urban society.\textsuperscript{2}

Perhaps the major outcome of the project was that it enabled communities to establish programs using federal funds. The effect of the project on the cooperating universities cannot be finally established at this point. From the university experience however, six questions were formulated which deserve attention:

(1) Are universities presently structured to assume urban commitments?

(2) Are there limits to the university engagement in community conflict?

(3) To what extent are universities inhibited from possible involvement in local politics.

(4) Can universities that undertake extension operations use the same system of academic rewards for staff as they use in so-called line departments?

(5) Can the proper incentives be provided to attract the talents and skills needed to do the extension job in the cities?


\textsuperscript{2}Ibid., p. 7.
15.

(6) Are the differences between cooperative extension, general extension, and academic departments more sharply drawn by university traditions and administrative structure than conditions actually warrant.¹

It is the contention of the Ford report that these questions must be answered before a viable urban university extension program can be developed. Not only must organizational structures be modified but also changes in the training and competence of extension workers will be necessary.

PROBLEMS IN MAINTAINING A COMPETENT STAFF

Increasingly more highly educated specialists will be needed if extension is to serve a society in which the level of education is rising. At one time universities had somewhat of a monopoly on the most highly educated minds in our society. Yet in our society there has been an increase in the average educational level of the population and a lessening of differences between universities and other institutions. Today DuPont employs more Ph.D.'s than any university. General Electric employs twice as many Ph.D.'s as Princeton; Shell has more than M.I.T.; Union Carbide or Eastman or I.B.M. employ as many as Northwestern or Cal Tech.² The universities no longer have a corner on highly trained manpower.

There is a shortage of trained personnel and an underdeveloped system for continuing educational professionals. Modest programs which have been developed demonstrate that the leaders of our society are not unaware of these problems. Thirty-eight Land-Grant institutions offer a sabbatical leave to all members of the faculty including members of the Cooperative Extension Service located off-campus.³ Thirty-three per cent of all Title I funds is being spent on projects to improve the professional or technical skills of such groups as doctors, teachers and civil servants.⁴ Two

¹Ibid., pp. 7-8.
bills, H.R. 6232 proposed by Representative Carl Perkins for the administration and H.R. 8983 proposed by Representative Albert H. Quie, dealing with federal support for the development of the education professions are before the 90th Congress. Both bills are intended to provide financial assistance to support the professional improvement of educators. Gratifying as these modest efforts are, even greater resources must be provided to assist extension workers in their efforts to keep pace with the advancement of knowledge. Also, the premium placed upon well-qualified personnel indicates that industries will compete to an increasing extent with universities for good people. Even though universities may enjoy an advantage over industry in the initial employment of university graduates, the public visibility of extension personnel makes it difficult to retain them. An ever-growing number of commercial concerns exhibits a ravenous appetite for university educated men and women and these companies have learned that extension divisions are good places to do their recruiting. Accordingly in our changing society the competition for the kinds of persons who will be needed to staff university extension divisions will become greater. Professionals will prize those institutions which make provisions for continuing in-service training.

All of these factors--the population explosion, world food production, university responsiveness to societal changes, maladjustments in our educational system, and the increasing competition for trained manpower--hold implications for the administrators of university extension programs. The growth and development trends command his attention.

IMPLICATIONS FOR ADMINISTRATORS

In every growth trend lie the forces which will ultimately bring about the cessation of growth. The task of the administrator is to study the forces and the patterns of growth to make estimations of the point at which he should intervene. Without intentional intervention the accelerating rate of change will inevitably run its course and establish a balance. Judgement exercised by the administrator after an examination of relevant variables determines both the time and the method of intervention in the normal course of events.

In the administration of an extension division the central question which must be raised is: What is the basic objective of extension work? If the objective is to enrich and improve the conditions of life for all the people; then educational programs on virtually any topic could be regarded as contributing to the attaining of this objective. The administrator's problem is to develop a means of assigning priorities. As a practical example, the data on the projected
increases in food production and in population present a problem. What programs should be conducted and under what priority basis to meet this problem?

The data reveal that for at least the next ten to fifteen years the developed countries of the world will need to produce increasing amounts of food to nourish those who have already been born. There is still a need to make two blades of grass grow where only one is growing.

But barring an unprecedented technological breakthrough in food production, and there are some who feel that aquaculture (the harvesting of food from the sea) may be just such a breakthrough, even the best efforts of the developed countries to increase their food production will be insufficient to provide the essential nourishment for the increased population of the developing nations. Complex educational needs arise from these predictions. Educational assistance is needed (1) to persuade and to enable the citizens of the developing nations to reduce their reproduction rate, (2) to aid the policy makers in this and other nations in modifying their price structures to encourage agricultural production, and (3) to provide the agricultural producers in this and the developing nations with the research findings and the production technology to enable them to secure maximum returns from their production inputs.

If President Johnson's estimates of the comparative return on investments made in population control and on economic growth are correct, the major educational emphasis should be placed on curbing the population explosion. There is a need to make one human being grow where otherwise two would be growing.

The primary kind of technical assistance needed in the developing nations if they are to avoid ever-increasing food shortages is not agricultural technology; rather it is educational effort aimed at population control. Such efforts led by home economists might be more likely to succeed if they were supported by extension anthropologists, sociologists, psychologists and other behavioral scientists.

The fact is that the world cannot be fed in the century ahead by efforts which aim solely at food production and neglect the increasing number of consumers. No other fact is of greater significance in helping maintain a proper perspective in the broader scheme of things and in determining where priorities must be assigned.
National and international data on the increasing number of illiterates and on the mounting welfare rolls show clearly that a mammoth task confronts educators. In the desire to respond to the need, it is possible that universities will be drawn from their appropriate leadership roles into service functions that could be performed equally as well by other institutions. Although there are roles other institutions could perform equally as well as can universities, there are unique contributions to knowledge that the universities can make. To allow the limited resources of a university to be drawn off into activities which other institutions can perform is to practice irresponsible leadership. A major task of the extension administrator is to prevent his limited resources being committed to the solution of problems or to the provision of services which interfere with the execution of the university's leadership function.

Within universities change has not always been welcome. Therefore, as extension leaders move into new areas of programming with new clientele, members of other segments of their universities can be expected to exhibit both disdain and disapproval. A vital extension division, because of its position at the growing edge of university function can be expected to remain in a state of perpetual tension with the rest of the university. University extension administrators will become increasingly managers of tension.

Yet wisdom must be employed to avoid needless tension among the parts of a single university and between universities. If general extension leaders and cooperative extension leaders would spend as much time trying to work with each other as they spend in attempting to thwart one another the results would be beneficial for all. If those who have been engaged in extension work for decades would be willing to spend as much time assisting other universities, colleges, and junior colleges in establishing strong adult education programs as they spend in attempting to protect and enlarge their own domains, the people they all claim they wish to serve would surely benefit. There is more educational work to be done than the institutions which now have extension divisions can perform.

Cooperative efforts with other universities have a potential for the development of new and more effective extension programs that fragmented efforts can never have. There is a need for national, regional, and state level meetings of university extension leaders that will open lines of communication now partly blocked by the existing organizations which were created to facilitate communication.
19.

How can structural obsolescence be identified? Can it be that obsolete organizations are supported out of habit and that this support itself tends to reduce the likelihood that organizational arrangements better suited to today's needs will be initiated. Who should be assuming the responsibility for initiating such activity?

The last and possibly most important implication for the practical administration of extension divisions arises from the fact that the young men and women who are being hired today by extension divisions will be approaching retirement in the year 2000. Accordingly, any plan of staffing which is narrowly conceived along existing subject matter lines will assuredly be obsolete in just a few years. The most valuable potential employee is, therefore, not merely highly competent in his current specialty; he is also fully aware that his knowledge is becoming obsolete and has accepted the fact that continuing education is the price of professional competence.

IN CONCLUSION

The predictions for the future of our society point toward an accelerating rate of change in virtually all areas. The leaders of any institution who hope to retain its viability in a world of flux must, therefore, be prepared to anticipate and to respond to these changes. The central implication for the administrators of university extension can therefore be identified. The novelty of conditions which Whitehead predicted implies that no organizational structure can be developed that will be equally appropriate now and in the future. The task is to build an organization of men who will predict those changes which may be expected to flow from existing trends; who will systematically determine the optimum point of intervention in such trends; who will be sufficiently flexible to recognize that the most effective intervention may require skills and knowledge which they do not possess; and who have come to accept the fact that in a dynamic society the most effective university extension structure is one in which everything is temporary.