

The School as an Instrument for Population Control

Views of:
Bjork
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IN SECONDARY EDUCATION

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THRESHOLDS

IN SECONDARY EDUCATION

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Editorial

Robert J. Maple, Managing Editor

A special thanks goes to Dr. Joseph Ellis for the time and effort invested in initiating and editing this issue of **THRESHOLDS**. Joe serves as the coordinator of research for the College of Education, Northern Illinois University, as well as being engaged in action research projects. Besides being the recipient of many grants, he encourages and assists others in writing proposals for grants which are related to improving our educational systems. He also teaches classes in evaluation and research. This is the second time that Joe has edited an issue of **THRESHOLDS**. His first edition, "The School as an Instrument for Peace," appeared in April, 1975. That journal issue prompted a "Peace Education" conference at Northern Illinois University in March of 1976 and was the result of the development of two new courses in peace education, one of

which is being team taught by Dr. Leonard Pourchot and Ellis this Fall Semester, 1976.

As I read the articles on "The School as an Instrument for Population Control," I receive vibrations that this publication is linked to peace education. Joe, in his introductory article, points out the geometric progression of population growth; whereas, Earl Butz has indicated a linear progression in man's ability to produce food through science, technology, and experimentation. Pohlman, Voelker and other authors give some of the cautions, projections, problems, and possible solutions of "Education as an Instrument for Population Control." All projections seem to indicate that if man does not actively educate and plan for the control of population, mother nature will, through famines, wars, pestilence, and disease. All of the

latter methods of control would result in strife, suffering and violence.

THRESHOLDS has several other journal issues that are in various stages of completion. The 1977 publications will consist of one edited by Pourchot and will be named "Violence in the Schools;" one on "humonics" which, according to John Starkey, will be about educational psychology. The third issue will be edited by Ed Simpson and Robert Smith and will be about non-traditional schools in secondary education. The fourth and last issue of the 1977 year will be edited by T.K. Daniels and Jon Miller and will feature "Black and Other Ethnic Studies." We are looking forward to our third year of publication and would welcome comments about the articles and suggestions for future issues.

WORKING TRAILING IN POPULATION RACE

GENEVA (UPI)

The world's nonworking population is growing faster than its labor force despite a rise in the number of working women, the International Labor Organization said Monday.

For every 100 workers added to the world's labor force between 1950 and 1975, dependents increased by more than 170, the ILO said.

In that 25-year period the world's population rose by 59 per cent, going from 2.5 to 3.97 billion. The nonactive population increased 66 per cent - from 1.4 to 2.33 billion - whereas the world labor force went up 49 per cent, from 1.1 to 1.64 billion.

As a result, the nonactive population, which outnumbered the labor force by 16 per cent in

1950, now is 18 per cent higher in developed countries. In developing countries, the ILO said, the excess increased much more rapidly, going from 34 per cent to 53 per cent.

The Chicago Tribune, Chicago, Illinois, July 20, 1976.

The School as an Instrument for Population Control

Joseph R. Ellis

Nearly forty-five years ago George S. Counts (2) raised the question "**Dare the schools build a new social order.**" Since then the totalitarian regimes of Nazi Germany and the Soviet Union, as well as the democratic governments of the United States and many developing nations, are among those who have made this a moot issue by assigning education an increasingly significant role in national development. Indeed, the rationale for schools ultimately has been founded on the need to control the quality of human and societal development.

It is contended here that recent and continuing excessive increases in human quantity place a serious constraint upon individual, societal and environmental quality. Thus, if the school is to make its qualitative contribution, it must respond to the threat to quality posed by the world-wide increase in the human population. Therefore, this article advocates the establishment of the school as an instrument for population control.

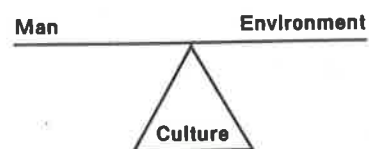
Pre-agricultural man's environment—because he numbered few and his technology was simple—was able to restore itself after man moved on to hunt elsewhere. With the advent of agriculture and the resultant increase in the availability of food, man roamed less, began to establish villages and expanded his technology. And so,

with the beginning of what we call civilization, there came a relative abundance of food, a new dimension of security and increased expectations for the "good life." Slowly, man grew in number; his culture grew in complexity; and gradually, his environment felt the impact of these developments. The practical implications of the political, industrial, and intellectual revolutions of the past two centuries, accelerated by twentieth century science and technology, extend into almost every aspect of human experience. The consequences of these movements, although enriching much of contemporary life have produced unintended and unexpected outcomes that threaten the continuation of a balanced ecology and life as it is known. Man has altered his environment on a scale that nature cannot quickly restore.

The accelerated increase and the obvious trend in these developments is now leading to a crisis more pervasive and threatening than any yet faced by the human species. The excessive increase in population—excessive beyond resources and support systems—threatens to debase the quality of the environment, the culture and the human population itself. The diagram which follows illustrates the relationship and the balance desired among man, environment and culture.

The lessons of environmental awareness are learned slowly. Our great numbers with their subsequent demands, aided by the enormous power of science and

technology, have disrupted the essential balance and interrelationship on which all life depends. For millions of people today living is a struggle for bare existence. Many "lesser" species have become extinct; and man may be heading toward the same fate. Our survival is at stake. Our society has just recently begun to realize the impact of man on his environment and to **conjecture about the consequences** of the unrestricted exploitation of our natural resources, the unlimited use of chemicals, the burning of fossil fuels, the



Increased complexity of the culture

danger inherent in the use of radioactive materials, and, perhaps of greatest importance, uncontrolled human reproduction.

If we are to survive, we must learn about our relationship with nature, our dependence upon the environment, the inevitable effects of our decisions and actions on vital life-support systems, and both the potential and flaws of the human species. We must acknowledge and accept the need for: (a) new attitudes toward assuming personal responsibility for the environment; (b) an understanding of the relationship of the human to

Joseph Ellis is a Professor of Education at Northern Illinois University. He provided the idea and gave direction for this issue of **THRESHOLDS**.

the environment; and, most urgently, (c) the need to limit the number of humans on Earth so that a balance can be achieved that will permit a satisfying lifestyle now and for generations to come.

Human values are central to the concept of environmental quality. With increasing numbers of people demanding a "high" quality of lifestyle, the resources of the environment, regardless of how carefully and efficiently used, will ultimately be unable to accommodate these demands. Deterioration of both lifestyle and environment will be the inevitable result. While space and energy are easily identifiable constraints which the environment places on human demands, the attainment of intangible values inherent in the concept of democracy—freedom, equality, dignity, justice, love, peace, rights, health and happiness—may be precluded by excessive numbers of people placing demands that cannot be met by support systems. Among the basic alternatives available to people living in the last quarter of the 20th Century are: (a) follow the path that they are on now, i.e., one of misuse and depletion of resources with resultant pollution and its obvious consequences; (b) lower human desires and demands for a quality environment without control of population, which may delay resource depletion and ecological imbalance; (c) control (size, quality and distribution) the human population at a level and in a manner commensurate with the concept of the good life and support capability of the environment, or (d) the distribution of needed resources can be made to an elite minority while being denied to an increasing majority. It is within the context of alternative (c) that the rationale being presented here is drawn; other approaches appear to lead to both genocide and to "planetcide."

During the 5,000 years preceding the latter part of the 17th century, the world's population probably did not expand more than one-tenth of one percent (.1%) a year over a long period of time. The progress of the "scientific revolution" over the past three centuries accelerated the rate of population growth by reducing the death rate while the birth rate, (except recently, and only in a few countries) remained the same.

Today the population is increasing at approximately 2% each year. This means a population increase of 80 million for 1976—the equivalent of the world's eighth largest country (Bangladesh). At the 2% rate of increase, the world's population will double every thirty-five years. (Freedman and Berelson, 1974)

It is estimated that 80% of the increase in man's number has occurred during .02% of his history. The annual population growth rate per 1,000 persons is estimated to have been .54 from A.D. 1 until the year 1750; from 1750 until 1800 it was 4.4; from 1800 until 1850 it was 5.2; from 1850 until 1900 it was 5.4; from 1900 until 1950 it was 7.9 and from 1950 until 1975 it was 17.1. It is predicted that by the year 2,000 the annual growth rate of the population will be 19.07% per 1,000 persons. (1)

It is estimated that by the year A.D. 1, there were approximately 300 million persons living on the Earth; by the year 1750, there were 800 million; in 1850, there were 1.3 billion and in March of 1976, it was calculated that the world's population reached 4 billion. It is predicted that there will be 6.4 billion persons alive on the Earth in the year 2,000. (Coale, 1974)

Today the world's population experiences its most rapid growth rate in history; and this growth is from its largest numerical base. Many demographers agree that such rapid population growth cannot continue for long and they raise the question, "**Will population level off because of high death rates or low birth rates?**" (Freedman and Berelson, 1974)

For responsible educators, the inescapable question becomes, "**What role is the school to play in the resolution of the population problem and those many problems that are inexorably associated with it?**" The answer given here is that the school must become an instrument for population control. The primary premise upon which this response is made holds that the human is the focal point of problems associated with environmental quality. Man is a causative factor in these problems; therefore, concern for the human population is basic for attempts to improve environmental quality. All other problems include this relationship, and their solution must involve

changes in human values, attitudes, knowledge, skills and behavior patterns.

Many of the environmental education, energy conservation and anti-pollution activities (training, community action, research, legislative and law enforcement) appear to operate on the assumption that uncontrolled population increases are inevitable. Thus, their efforts are reduced to ad hoc approaches and doomed to ultimate failure. Efforts which treat only pollution and aspects of the physical or natural parts of the environment (air, water, wastes, land, etc.) without due concern for social conditions and forces are inherently incomplete by themselves and, in terms of their ultimate impact, futile. The school has a unique chance to quickly implement population education programs and practices.

Intelligence has been defined as the ability to solve problems and—in the process—prevent other more serious problems from arising. Problem solving requires information-based decision making and action. In the area of population growth, the schools appear to be defaulting on their responsibility to provide the citizenry with a sufficient information base. Among the possible reasons for the general lack of an organized response to the problem of population growth are:

1. A clear, identifiable and agreed-upon goal for population control has yet to be proposed; and the leadership to accomplish that goal is noticeably absent.

2. Educators tend to avoid controversy for as long as possible, especially when facing a problem that involves making people aware of possible unpleasant consequences of their behavior and calls upon them to assume a responsibility that restricts what has always been a right and freedom. While abortion is discussed extensively as an issue, where is the discussion about population control?

3. People who concern themselves with population control may fear offending those with large families, members of "minority groups" or members of certain religious groups. They also run the risk of being called **bigots, racists, fascists and radicals**. Many educators shy away from the use of the term **control**.

4. Short-sighted and poorly

informed people, acting out of either selfish interest or "good" intentions, divert attention from the basic problem by focusing on symptoms, appealing to emotions, finding "scapegoats," rewarding the wrong behavior and promising never-to-be-realized outcomes. The harm done by the well-intended—but ill-informed—often exceeds that done by evil people. The "March for Hunger" and the "Right to Food" movements are among efforts that, in the long view, are destined to be counterproductive. Although difficult to accept, the most humane and loving action that the well-fed may take toward the hungry could be to withhold food, until population control measures that assure a balance between human needs and available resources have been implemented. Such action appears less objectional when contemplated in terms of its promise for improving the conditions under which the unborn will live.

Demagogues who seek to gain power by enlarging religious, military or racial groups exhort "their people" to resist population control and to reproduce freely. Those who accept this kind of direction and leadership fail to comprehend the consequences of their actions. Those who advocate unrestricted population increase because they stand to realize economic gains from the demands created by a large population are thinking in short-range terms.

5. Ignorance of trends in population growth and failure to comprehend the scope and intensity of the impact of a rapidly increasing population has contributed to a position of indifference and inactivity on the part of educators. In retrospect, the greatest failure of the schools may be its persistence in training in the 3Rs or, as it is now euphemistically called, basic skills, at the expense of educating for problem solving.

During the past decade, the largest single aspect of Federal aid to education has gone to improve the reading skills of culturally disadvantaged people. Title I of the Elementary and Secondary Education Act and Adult Basic Education Programs have been funded with billions of dollars spent mostly on efforts to improve reading skills and thereby provide a basis for equal opportunity. Little, if any, of

these funds was spent to educate people about family planning, birth control and other aspects of population control, although, it is excessive birth rates that keep many disadvantaged people in a form of perpetual bondage and precludes their emergence to a more desired socio-economic status.

6. The restrictions on freedom to study and learn—whether internally or externally imposed—inhibit the study of population education. Equally inhibiting is the old attitude of "Ignore it and it will go away," or "Let George do it."

And, these six are only a few of the many possible reasons for the lack of an effective response to the problems of population growth.

Population education lends itself to a methodology involving a study of real and relevant issues and problems that are within the experience of nearly all people. Schools can help students to freely identify significant population related issues and problems, become informed about them, draw conclusions warranted by their findings and to take action either directly or indirectly by informing and influencing others to take action. So pervasive is the population problem that it might be made the basis for separate courses and activities in the school program or be introduced as a relevant part of much of the school's existing curricula.

Current concerns which are frequently expressed might serve to stimulate and introduce an issue-based and problem-based study of population. Some of these concerns and issues are presented here as examples which might be used at appropriate levels to initiate student activities.

1. Is bearing children an inalienable right or a privilege to be granted by the state?

2. Should licenses based on examined competencies be required for marriage and parenthood and made available to only those persons over age 25?

3. Our lives are over-regulated and our freedom endangered by an ever-expanding government. The increase in population is a primary cause of our highly regulated society. Would regulations to control population make it possible to reduce or eliminate other regulations and thereby avoid a seemingly inescapable move toward an authoritarian society?

4. Is population control a scheme whereby the minority white race is

trying to impose genocide on the black and brown people who comprise the majority?

5. Is the population problem primarily one of a distribution of wealth and resources, rather than one of excessive numbers of people?

6. The predictions about overpopulation are based on incomplete data and are probably inaccurate. Science will find additional space and resources so that there will be enough for everyone.

7. The question is no longer "How many children can a family afford?" but, "How many people can the Earth support?"

8. Is our society rewarding the wrong behavior when it honors large families, grants income tax deductions to persons with more than two children and operates special programs to care for children from families with more than two children? Should persons with more than two children pay extra taxes, be fined or be prevented from having additional children?

9. In 1976 more people were employed in the United States than ever before, however, the unemployment rate remained higher than at any time since the depression of the 1930's. In 1976 more money was spent on our criminal justice system than ever before; however, crime continued to occur at record levels. Large families appear to have a lower education level and a higher unemployment and crime rate than do small families. To what extent are these conditions caused by excessive population growth?

10. Should people with less than two children receive special recognition and monetary rewards? Young adults could be given the opportunity to have free vasectomies or tubal ligations and given government scholarships or bonds to be used in improving the quality of life.

11. Population growth is an international problem. The developing or "Third World" nations produce people and "dump" large numbers of them on the developed countries. Developing nations are the least able to profit by excessive birth rates and should have their growth rate reduced to zero or below.

12. Why should I reduce the speed of my automobile and turn down my heater's thermostat to conserve fuel, when a new immigrant to the United States will consume more fuel than I can save and, in the future, his children will require more energy than my children can save?

13. Should the United States impose a moratorium on immigration, deport all illegal aliens and revise its immigration laws before our population increases to the point of making the "American Dream" a nightmare for all Americans? Perhaps immigrants who immediately contribute to the nation's energy and health needs should be admitted. The moratorium could last until satisfactory international population control agreements have been reached and implemented.

14. Should the United States be a world leader in population control? The

United States could impose a trade embargo on any nation with whom it does not have a population control agreement, or has a birth rate greater than that of the United States.

15. Population control should be a major thrust of the United Nations. Just as international agreements have been reached regarding the control of armaments, nuclear energy, communications, copyrights, postal services, transportation, fishing and an ever increasing number of concerns, international control of population growth is appropriate and urgently needed.

16. Should persons with large families feel "guilt" or should those who were unaware of the probable consequences of rapid population growth come under a "grandfather clause?"

A study of human population and related issues and problems is relevant and adaptable to both formal and non-formal education. Such study could be integrated easily into most of the traditional courses, subjects and activities provided learners from the kindergarten through adult and continuing education.

An intensive population education effort with top priority and massive support from the Federal Government could bring about population control in the United States and provide a model for adoption in other countries. The importance of the problem and the urgency and immensity of the task warrant no less a commitment than that which made possible the Manhattan Project of World War II which resulted in the atomic bomb and the space projects of the 1960's which placed men on the moon.

If, in the broadest sense, the ultimate criteria for judging the goodness of a school is the contribution that school makes to the good life of the community it serves, then the foremost tasks of the school can be identified. A school that is accomplishing these tasks would be continually influencing change in its learners and their community, while changing with them. Such a school would be both a leader and follower within the community.

Dare the school save a civilization?

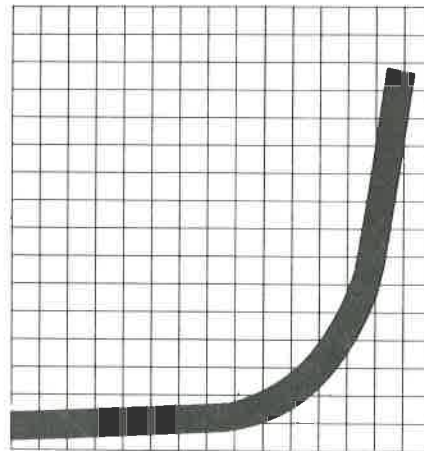
The above paragraphs provide much of the conceptual framework and the direction for this issue of **THRESHOLDS**.

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A Report and Commentary on Ashly Montagu's Views on Population and Peace

Leonard L. Pourchot

Ashley Montagu, the internationally known anthropologist, called the "population problem" the number one problem in the world today and declared that "without its solution no other important problems can be solved." He was addressing a general session of the Northern Illinois University Peace Education Conference in DeKalb, Illinois on March 1, 1976. Though he was speaking without notes, his ideas seemed of such value and gravity that an attempt was made to record and preserve his utterances and meanings for our larger **THRESHOLDS** audience.

Dr. Montagu saw sheer quantity of people as a major threat to qualitative aspects of life. "Indeed, the current world-wide trend in population increase imposes nearly insurmountable constraints on the satisfaction of the essential human needs; needs that must be served if the human potential is to grow and develop into what a human being can become."

He contended that "excessive numbers of people contribute to thwarting the satisfaction of the need to be loved and to love..." This idea certainly needed further elaboration, but his remarks might lead one to speculate that competitive pressures on persons to meet minimal physical requirements would preclude the possibility for cooperative, peaceful, loving

relationships. As it turned out, much which followed was an elaboration.

Dr. Montagu used an allegorical technique to present the dilemma posed by the conflicting views of science and religion as to man's place in the world. He then traced man's sociological evolution from his small prehistoric bands, through the rise of agriculture and "... to large villages which turned into large urban centers with enormous numbers of populations. Of course, if you were a food gathering hunter you would have to wander all over the face of the earth in order to earn a living. You don't plant anything, you don't sow anything and you're very careful not to exhaust the food supply of those areas over which you do wander. So, you spend a great deal of time as a nomad, roving over the face of the earth. Under such conditions, the technology is very simple, there are very few things to carry because they are impediments and, as you know, 'things' are like so many bunions which serve to impede progress. And, so technology is extremely simple. Everyone knows everyone else, everyone is deeply involved with everyone else's welfare because life is very tenuous. One child is born at rare intervals. Generally, the spacing between children was about six years and this is how we still see it in food gathering and hunting populations like the Kalahary desert bushmen, the pygmies of the Turrey Forest, the Australian Aborigines, such as are

left, the Andaman Islanders and the Eskimo. This natural spacing was partly due to extended and prolonged continuous breast feeding and also by abstinence. If you asked these people why they had so few children, the answer is everywhere the same. Bringing up a child is a very responsible obligation. It is very unfair to a child to have children too closely spaced together. This distributes the attention, which should be focused on a single one, and this takes a great deal of time. Therefore, we choose to have children only at rare intervals. In such societies, called 'primitive' societies by ourselves because, as I have explained on many occasions, these people somehow manage to live more closely by the principles enunciated in the Sermon on the Mount and by those enunciated by Jeffersonian Democracy, than we do today. That's why they are called 'primitive' and we who have departed so much from them call ourselves 'civilized'."

His remarks about "primitive" cultures being those without hydrogen bombs, super submarines, and traffic jams doubtlessly made many people in the audience hesitant about feeling culturally superior to "less developed" countries or earlier cultures. He traced our human ancestry back to our "collateral relatives," the large apes.

Then Dr. Montagu did a rather remarkable progress report on man's evolution. Only an anthropologist of his stature would

Leonard L. Pourchot is a Professor of Education at Northern Illinois University.

attempt to cover this much human development with such succinctness:

"First you go in for gathering small animals and then, from gathering small animals and slow moving ones, you go on by taking new devices for hunting them, like spears and large stones which you can throw at them and various tools which you made with stones and which you could cut with, and so forth; and you have to run after these creatures who can run very fast and out-run you very easily. But, you get tired after a time, so it may take you two days before you bring him down, but you keep going and you're going to find that you can do this better if you do your hunting in cooperation with one, or two, or three or more other individuals and the challenge with which you are faced is: to solve rapidly changing problems. And to do so very rapidly, by making the most appropriately successful response—not reaction—to the challenges of the situation. This is the definition of intelligence: the ability to make the most appropriately successful response to the particular challenge or situation. To make a long story short, this is how people, human beings, became the highly intelligent creatures they have become, and who have lost any resemblance to instincts they have had because as instincts they would have been automatic actions without any thought on the perception of a particular stimulus with a parti-

selective on large brains. And the brain of a human being grows at a terrific rate. In the last two months of pregnancy, up to sixty cubic centimeters by volume in size and in the last two months it gains about 240-340 cubic centimeters. In other words, 300-400 cc. is the average size of the brain of a newborn baby. So there's been a tremendous rate of growth. Now, what this means is that as a result of the adoption of the erect posture by creatures that had to run upright because they could see better ahead, and their forelimbs and hands were needed for tool uses and so forth, the mother's pelvis became rearranged because it was incompatible with the admission through the birth canal of a large head. So a human baby has to get born when it is born because if it isn't born then, it would die and its mother would die."

The next sentence may raise disputes, assent, or merriment depending upon one's particular orientation, but it cannot go unnoticed:

"Then the whole rest of animated nature would rejoice because people have become the worst plague that has ever descended upon this planet."

One might wonder if people really are a plague? Perhaps "infestation" would be more descriptive?

In the next portion of Dr. Montagu's presentation one might wonder if we are straying from the

family. His mother has been elaborately prepared to administer to the dependent needs of this creature through all of six million years of evolutionary history. There has been a continuous selective process on females who have this ability to minister to the needs of the dependent human infant. And, then during her individual pregnancy, of course, she is again elaborately prepared to minister to the child from the moment the baby is born. And here it is the resultant of all his evolutionary pressures, cooperative genetically structured within the system of the cooperator. An individual much in need of love, that is to say, not needing to be loved but to love others. He is the most educable of all the creatures on the face of this earth, who has spent 266½ days in the womb, where in an aquatic environment in which the temperature and the pressure has been constant and, in the vernacular, he lives the 'life of Riley' and then suddenly there is this cataclysmic series of changes beginning, which is called labor—the birth process—in which he is violently assaulted by a contracting uterus and thrown and moved, and has a very rough time before he gets born. He is catapulted out into this atmospheric environment—so-called atmospheric environment—where in rushes this impure air into his lungs for the first time and his lungs fill up and bellow like a diaphragmic instrument and his heart is compressed and rotated. The vessel between his pulmonary trunk and the large aorta closes off the ductus arteriosus. He has a terrible time to start to breathe. What he gets is really a rough beginning because the people who deal with him from that moment on, simply know from nothing about what he requires. They don't know that in addition to having his physical needs satisfied in a certain way, he has to have psychological needs satisfied. He must have his basic needs satisfied. A basic need is a need which has to be satisfied if the organism is to survive physically. The need for oxygen, sleep, activity, rest, bowel and bladder elimination, liquid and for food—these are basic needs.

"We have come to realize that the need for love stands, as it were, in the center of the basic needs like the sun in our solar system around which the planets revolve in their

"...people have become the worst plague that has ever descended upon this planet."

cular behavior. And, not designed to meet the hunting situation. And so, if there were any left they would be negatively selected because those who acted upon them simply wouldn't have what it took to make the appropriately successful response. So, in short, this is the creature who became the creature who had to learn everything that he said and did as a human being from other human beings. For this he had to have a large warehouse: a brain, a big brain. So there's large pressure

point. He spends considerable time in describing human birth, but in the end he returned to his central theme:

"And so a baby is born only half gestated. Only half of the gestation period is completed in the womb. The other half is completed outside the womb like a little marsupial who has the advantage of being born into his mothers' marsupium, or pouch, where he completes the rest of the gestation period. A human baby has the advantage of being born into the bosom of a

orbits. The Elizabethan poet, George Chapman, in a play called ALL FOOLS, published in 1619, makes one of his characters say:

I tell thee Love is Nature's sun,
Causing a spring of virtues where he shines;
And as without the Sun, the World's great eye,
All colours, beauties, both of Art and Nature,
Are given in vain to men; so without Love
All beauties bred in women are in vain,
All virtues born in men lie buried;
For Love informs them as the Sun doth colours;
And as the sun, reflecting his warm beams
Against the earth, begets all fruits and flowers;
So Love, fair shining in the inward man,
Brings forth in him the honourable fruits
Of valour, wit, virtue, and haughty thoughts,
Brave resolution, and divine discourse."

In a long section of his address, he comments upon parents, population control, and the miseries of much of humanity:

"Most parents are not parents at all, they are 'genitors' which is a very different thing. In fact, a genitor is a biological producer of another organism. But, a parent is a person who **parents** the child. And what I want to do is not to make adults out of children. What I want to do is to make children out of adults. Children hold the promises of what it is to be a human being, but they are the creatures we are engaged in destroying. We are engaged in a conspiracy to destroy them from the moment they are born. We talk about life being sacred; of course, we know how sacred it is. Why, we have on this earth, at the present time, some four billion people. Two-thirds of those people live under conditions which are indescribable, as in Bangladesh. I've just received a book on Bangladesh from the World Health Organization with photographs of children. Anyone who can look at those photographs and not really rise up and say, 'I must do something about this,' isn't human. Because no child should ever be brought into the world to suffer. Vast

numbers of children die as in India where one million babies are added to the population every month. But this doesn't mean that twelve million of those babies are added to the population every year because an enormous proportion of them die as they do in an Egyptian village, where before the age of six months, forty-five percent of the babies are dead because conditions are frightful. We talk about life being sacred, and we talk about a great many things and we talk and we don't believe what we talk about. Preventive medicine is a

"We must realize that every baby that is born has a right to be born into this world free of physical and mental handicap, insofar as that can be insured them. And that can be assured now with a far greater frequency than ever thought possible by using new methods that we have developed for picking up all sorts of deformities even before a child is conceived. So that we can do, as the food gathering hunting peoples do. If you go among the Australian Aborigines, the Kalahary desert bushmen, or any of these peoples

"...the need for love stands...in the center of the basic needs like the sun in our solar system..."

failure because nobody wants to do anything about preventive health. People go on smoking despite all the evidence that every part of the body is actually affected by smoking. Let's go back to this baby who isn't like this at all. He is born expecting to be loved, and he has a right to be loved, and wants to grow in his ability to be loved. But, if you produce him in quantities which at the end of this century will be seven billion, which will probably be an underestimate, you make it utterly impossible for the vast majority of human beings on this earth to realize their potentialities and make it completely possible for every kind of demagogue to rise up and use the frightful conditions under which these people are living, as pretext for engaging in all sorts of conflicts with neighboring or not so neighboring states, in order to divert the attention of a people, as the demagogues always do, from the conditions that should have never been allowed to have risen in the first place. This is something we can prevent by foreseeing the consequences and by doing what a human being has a responsibility to do as a human being: by realizing that the population problem is the number one problem facing us in this world today and unless we solve the population problem no other problem can be solved.

you will never see a deformed individual. This is very striking. When a child is born deformed, they know enough to allow it to die. Of course, life is sacred. They believe life is sacred very much more profoundly than we do. That is why they do not allow such a child to grow up in the kind of misery it would suffer under the conditions of life of the food gathering-hunting people. Thus, a child is permitted to die.

"Today many misguided individuals talk about the right to life. I have seen the consequences of this right to life. I would like to take some of these people into autopsy rooms and show them eighteen year old girls who have been murdered by illegal operations, by abortionists who are utterly unqualified. These are the cases that I have seen with my own eyes and will never forget as long as I live. These simple girls are there on slabs. They are dead because their society would not permit a legal and clean operation to be performed, thereby relieving them of the distress and misery from which they were suffering and which they believed that they would continue to suffer. Of course, people have a right to belong to authoritarian sects of every kind whether they are religious or not. As I have often remarked, the most orthodox of the

religious, the biggest bigots in any society, as all sociologists who have studied this question well know, are the most orthodox religious so-called 'Christians', who believe in the doctrine of love. The bigot, as Oliver Wendell Holmes pointed out long ago, is like a pupil of an eye: the more light you expose it to, the narrower it grows. As Oswald Garrison said, 'with humane men I will plead, with reasonable men I will reason, but

decrease its quality. And debase humanity. Thus, making it impossible for human beings to develop as human beings and to become instead, the deformed, unhealthy, mentally ill creatures that most people are.'

His statement on the American family and the competitive atmosphere is thought-provoking:

'I regard the American family, in particular, as an institution of systematic production of mental

delivered? Is not pregnancy a disease which should be treated as such? I don't think it is. I think the birth of a new member of a family should be the most welcomed event in the history of that family. An event in which all of the family members join and where should it occur? In the bosom of the family—in the home. Many women have said to me, 'Do you want to move the clock back? After all, everyone knows the hospital is a beautiful clean and antiseptic place. The home is crawling with all sorts of viruses, bugs and people.'

'I've spent a great part of my life in hospitals as a professor in a hospital medical college and as a student. So I speak from intimate knowledge and I can tell you that every hospital is the dirtiest place on the face of this earth, next to a sewer. Why? Most people are outraged by this statement. It is astonishing to me that they are and that they don't see at once why that statement is true. **Why is the hospital the dirtiest place on this earth outside of the sewer?** Because a greater number of persons carrying a greater variety of bugs congregate in a hospital than anywhere else on this earth outside of the sewer. It's as simple as that. Everyone who works in a hospital knows the problem of cross-infection infesting those walls. Those beautiful white walls and uniforms are crawling with a greater variety of staphylococci and other bugs than you will find anywhere else outside the sewer. And, besides, it is a very dehumanizing kind of place. The whole medical school's teaching and the whole medical environment is not a humane environment for this kind of event to occur. The birth should be a humanizing event in which the newest member of the family's arrival is celebrated under the happiest of conditions. Ninety-six percent of our women in America have their babies in hospitals and 96% of women do not breast feed their babies. They give them a substitute. This is called 'bottle feeding' which uses a glass or plastic bottle with a rubber tire at the end of it instead of a breast. The mother does not even have to be there. It's very convenient. When one very expensively educated Ivy League girl told me in the East some years ago that she was going to have a baby, I said,

"Where should children be born?"

"...I speak from intimate knowledge...every hospital is the dirtiest place on the face of the earth, next to a sewer."

to bigots I will give no quarter and waste no words where it will do no good.' If one is a human being, and by my definition that means involvement, deep involvement in the welfare of others, it is not conceivable to me how anyone can go to Bangladesh and say that these children should be permitted to continue to live who are born with frightful deformities and incurable diseases, acquired in-utero from their mothers. Their mothers were themselves diseased and at an early age conceived a child and gave birth to it under conditions which are literally unspeakable. That such conditions should be permitted to continue in the name of any kind of thinking whatsoever is beyond my understanding as a human being. It is not compatible with my notion of love, which is to give every child the right to complete freedom to develop as a healthy human being in both body and mind. By health I mean the ability to love, the ability to work, the ability to play and the ability to use one's mind critically. When the number of individuals has increased, not just in Bangladesh, but right here in the State of Illinois, in Middlesex, England, or in any of our civilized countries, to the vast numbers which we have, what we are doing is debasing the quality of humanity. When we increase the quantity of the human variable, we

illness to each of its members. This is achieved by focusing on making each of its members, especially its children, a lunatic who is obsessed with his parent's desire for him to become a success in terms of external material evaluations of their success. Children must be competitively successful from the moment they enter school and therefore must get good grades whether by hook or by crook and they must win games. They are taught to play games in order to win, no matter by what means whatsoever. Americans don't play games; Americans own businesses. They're engaged in winning games by playing a game better than one's opponent and we admire them because they are a success in terms of external evaluations of success. This is what we want our children to be. This is what we teach them to be. Not human beings by gradually dehumanizing them from the moment they are born.'

His serious message about where children are born was probably one of his harshest criticisms of our customs. Other than outrage, what else should we feel?

"Where should children be born? Well, just imagine, where else should a baby be born if not in an institution for the treatment of disease. Is not a baby a disease of which the mother must be freed or

'Well, of course you're going to breast feed your baby.' She looked up indignantly and said, 'Dr. Montagu, none of my friends do that, only animals do that.' These were her words. And so the baby is had in a hospital and of course its contact with the mother's body is separated. After all, the cord is cut, the baby is taken to a nursery, which is so called because no nursing is done in it. That's why it is called a nursery. A number is hung around his neck or wrist for the crime of committing this offense and he's placed in a jail with perpendicular bars on every side and with a flat white surface, flat white walls, a flat ceiling. What he needs is contact with his mother's body. This is the reassurance of good things to come. He needs to be put to his mother's breast immediately to feed at her breast. By so doing he confers enormous benefits upon his mother. For example, the three biggest problems with which the obstetrician is confronted are: the postpartum hemorrhage, the beginning of the return of the uterus to normal size, completion of the third stage of labor which is the detachment and ejection of the placenta which no obstetrician can frequently achieve. By putting the baby to nurse the mother's breast and even before the cord is cut, that baby can perform for the mother, in five minutes, by setting up reflexes in the central nervous system back to the parasympathetic nerve causing massive contractions of the blood vessels, massive contractions of the muscle of the uterus which is just a concentrically woven muscle around all vessels, and by its contractions a detachment and ejection of the placenta. What does this indicate? It indicates that there's more intelligence in one upper and lower lip of one newborn baby than all the brains of all the obstetricians, etc. So, that's the baby's conferring love upon its mother. And, of course, there are tremendous advantages in the reciprocal interchange with its mother. And both have been designed to continue this symbiotic relationship for years. This relationship is what is disturbed. And, as a consequence we go on committing one offense after another on the child."

The next part of the address treated parental and school

relations. Dr. Montagu's highly critical remarks point to the need for reassessment of many mores.

"The child is brought up in a series of principles which are derived from our own stock of mores as to how parents should behave toward children. Father and mother, of course, always know what is best and they read books on the subject. Dr. Benjamin Spock's is an excellent book while Emmett Holt's is a terrible book which has done an enormous amount of damage. And so, we come to this child who is now in a population of a vast number of children who are eventually sent to nursery school, kindergarten or elementary school. There are usually far too many children in the schools and teachers who are not qualified to teach. They have been instructed in institutions where they really don't know what education is about, or for, and who go on practicing their errors upon these delicate creatures, who are exposed to them. The parents maintaining that this is right. Should any teacher attempt to deviate from this by exhibiting an interest in these children, by exhibiting some love which causes them to behave in what was regarded as socially eccentric behavior, he is very much in danger of not continuing in that school system. This is one of the terrible consequences of overpopulation in any community, especially in our cities, where we fail to realize that the teacher is the most important member in the community and should be the most highly educated in the understand-

speaking unless we are spoken to. Similarly with love, we will never learn to love unless we have been loved. As we will learn to love only to the extent which we have been loved and in the manner which we have been loved.

"Often the child experiences 'conditional love'. 'You do,' said the mother, 'what I want you to do, because if you don't do what I want you to, then I won't love you.' This is the message as it is conveyed daily to children by parents. So, poor old junior, there he is, faced with a dilemma. He doesn't understand adults at all. He knows that they were never happy children, from the way they behave, but there they are; they are adults, especially created, apparently, as adults, to work their horrible wiles upon small children. And so, faced with the dilemma of losing the love of his parents, and being considered 'bad', or retaining the love of his parents, and being considered 'good', he represses what he wants to do. He wants to cry, but he's told, 'Oh, little men don't cry. American boys are football heroes, tough guys. Only sissies cry.' So, he represses his desire to weep and he then grows in being an individual. But he weeps through his skin. In dermatological eruptions through his brain, nerve symptoms, and he wheezes and whines through his lungs. He has ulcers of his gastrointestinal tract. This is how he weeps. And we can measure this and actually have measured this. We can do it experimentally with almost any American and with some individuals in some other

"The most difficult problem child or student in the classroom is the child who is most in need of love."

ing of what it is to be a human being. Namely, the kinds of things I've been saying; the evolutionary history of the human species, the requirements of human beings for all the days of their lives to be loved, and to continue to grow in their ability to love. Children have the capacity, just as we have the capacity to speak, but we will never

cultures. And so, here is this poor creature, put through a deformation process in which he becomes entirely dehumanized, instead of being turned into a warm, loving human being."

Montagu's sketch of the American home and family summarizes a

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A Needed Balance: Resources, People and Production

William J. Kuhfuss

If humanity is to survive in peace and harmony, educators—through the schools—must help point the direction for the accurate and realistic appraisal of our situation and the intelligent use of this information in solving population problems.

Many factors relate to population problems: economics, education, social systems, energy supply and availability, transportation and natural resources. The search for a formula for a better future for an ever-increasing population also demands a religious understanding that will support needed changes.

Currently, many minds are spending time trying to find ways to redistribute what we now have. This approach is self-defeating and inadequate, if present population projections are reasonably accurate. The solution lies in increased production or greatly moderated population growth.

Statisticians tell us that it took from the beginning of time to 1830 for the world's population to reach one billion; by 1930, there were two billion; by 1960, three billion; and by 1975, the world's population had reached four billion. It is predicted that the earth's population will have doubled its present figure by the year 2000. At this rate of growth, we will soon reach a practical limit to the number of people who can survive in the world. Education must help fit together the facts from all areas or

the alternative will be brutal starvation and massive deprivation.

Educators must do more than raise questions. The hour is late and we need answers. In an effort to cope with human needs, mankind is experiencing many forms of behavior that at one time would have been considered questionable. Even now—when the full impact of the avalanche of population growth has yet to reach us—we have demonstrations, thievery, terrorism, political and corporate manipulations, wars and many other attempts to short-cut the adjustments necessary for the distribution of food, energy and other essentials of life.

A 1974 University of Iowa study concluded that 45 percent of the tillable land in the world was being tilled. Surely, this includes the most readily available land. The balance of tillable land is more difficult and costly to bring into production. It may require clearing of stones and wild growth, contouring or leveling, irrigation and/or fertilizer application, climate control and many other assists requiring capital and labor. To get the input of risk capital and costly labor requires the motivation of a potential return; and present day economics limits this motivation.

However, further opportunity to increase food production with existing land lies in improved crop varieties, better fertilization and tillage and the more efficient use of water. Real progress has been achieved with improved livestock

and poultry, increased production of fish and sea food and the use of other innovative methods to increase production.

All people will need to have a part in helping themselves. America can help; but we cannot feed the world. Developing countries are largely depressed countries with depleted resources that need rejuvenation. To get the input necessary to improve, these countries require motivation and application. Enterprise and the profit system in a market economy have proved themselves to be great motivators for progress. But, most governments attempt less rewarding directions by imposing centralized control from a few to the many. The schools could certainly change this inefficient thinking by advocating maximum responsive participation.

The future of mankind is much more dependent upon productivity than on social and welfare programs that consider only numbers of people. Numbers must be related to every influencing factor.

As an instrument for population control, the school has a responsibility to help relate all factors and to disseminate factual information. The challenge is great. If we fail, the alternatives are disastrous for mankind. Somehow, we must match food, resources and people for tomorrow's world.

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Food, Population and Education

Earl Butz

If you want to get a new perspective on the world food and population situation, open a good encyclopedia to the word **famine**.

You will be amazed at the recounting of the world's great famines. Just to recap, you'll find such incidents as the following.

In the year 879 there was universal suffering from famine; in 1125 a famine cut the population of Germany in half; in 1505 during a famine in Hungary, parents killed and ate their children. England had a famine in 1586; Germany had another in 1817. Ireland had various potato famines. In 1870—72 Persia lost a fourth of her population in a famine; nearly 10 million died in China in 1877-78; 3 million died in India in 1769-70; 1½ million in 1865-66; and a half million in 1877. In 1891-92 a Russian famine affected 27 million people.

The world has had a food problem since the beginning of recorded history. The Bible speaks of drouths and famines; when Joseph was in Egypt "famine was over all the face of the earth." The Lord's Prayer taught by Jesus has as its first supplication, "give us this day our daily bread,"—an indication of the concern over food. In many areas of the world today, the chief aim in life **still** is to get enough food to sustain the body through the day. Man's history is one of a struggle for enough food to

maintain the population. Time and again the food supply has come up short.

What we notice is that natural disasters have been the main cause of famines. Drouths, floods, late springs, early freezes, and locusts upset the delicate balance between food and people.

In modern times, we have largely erased catastrophic famines resulting from natural disasters. One reason is that food flows across world boundaries on the wings of modern transportation. We also have a worldwide sense of morality that causes nations to come to each other's aid. Additionally, the developed countries have adopted modern farming practices that offset the effects of drouth, floods and pests with irrigation, dams, chemicals and breeding for disease resistance.

The rapid expansion of modern agricultural techniques has resulted in the well managed, heavily mechanized farms of the United States and their accompanying complex of agribusiness aids to food production—fertilizers, hybrid seeds, pesticides, weed killers, crop dryers and other aids. Not only can we plant rows closer together with higher plant populations per acre, but following inclement weather, we can get into fields quickly with our mechanical equipment to plant or harvest our crops. If rusts start to ravage a strain of wheat, geneticists have another variety ready in the wings. If blight attacks a family of widely-planted hybrids, as happened with hybrid corn in 1970,

geneticists can quickly breed out the weakness. Consequently, the United States can produce far more food than its people use. We can adequately take care of our domestic needs and still export two-thirds of our wheat crop, half our rice and soybeans, and 25 percent of our feed grains and, during the last 20 years, the developing nations have actually increased their food production even faster than we have—largely because they started from a lower base.

This does not mean, however, that we have insured ourselves for all time to come from food calamities. There is an ever increasing danger that the rapid growth of population will once again press so hard against available food supplies that we will be as vulnerable as before to wholesale death by starvation.

Looking ahead 25 to 30 years, we can foresee a real problem, here and abroad. In the United States we are getting closer and closer to the physical maximum of crop yields. We've brought most of the arable land into production. We're now approaching a limitation on yields imposed by the lack of water. The competition from industry, business and personal use for water will limit our future use of water for crop production.

We'll make further gains from research; perhaps, at times, dramatic gains. Regardless, future gains in U.S. food production will impinge on competing uses of

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The Numbers Game: Education for Survival

Audrey R. Jackson

It has been said that we live at the hinge of history: an old world is dying; a new one is painfully being born; and it is not certain that we can survive the transition. Our survival depends upon decisions made in this decade, for they may well determine the future of mankind (Chasteen, 1971, p. 192). One of the decisions facing modern man is whether or not to impose restrictions on population growth, and if so, in what manner will these restrictions be exercised? Many educators agree that the control of population size in our own country and throughout the world is urgent, for not only the **quality of life**, but **survival**, is at stake. The arguments of those who would justify unrestrained fertility on the grounds that technological efficiency can sustain unlimited population expansion ignore the important fact that overcrowding the planet Earth not only destroys life itself, but also inhibits our zest for living.

In his famous essay on population which appeared in 1798, Thomas Robert Malthus, the Anglican clergyman, appealed to the populace to exercise moral poby and self-restraint to check overpopulation. Malthus' dismal prophecy is that societies which fail to use "preventive checks" to curb birthrates must ultimately face the reality of "positive checks" as Nature ineluctably maintains her

equilibrium. Opponents of population control have sought to discredit Malthus by pointing to the marvels of science in agriculture which encourage ever-increasing food yields per acre. Science has undoubtedly postponed, and will continue to postpone, the Malthusian **day of reckoning**. Yet only the intellectually dishonest can ignore the telling signs of positive checks in Third World areas today, where pestilence, warfare and starvation illustrate the fallacy of trying to accommodate finite resources with infinite populations.

When our world was young, the prospect of doubling population size every generation created no trauma. In fact, undeveloped agrarian societies often encouraged the built-in labor supply of large families as economic assets. In recent times, however, dramatic increases in numbers of people have been looked upon with increasing alarm. Social concern has replaced Malthus' resignation; and today there is hope that greater social awareness about the consequences of unchecked proliferation of the species will bring about needed social reform. But what is the optimal population size from the standpoint of maximizing human benefits? The issue of ideal population size has not been consistent; we have been swayed over time by the argument that there will be too few or too many people. In the recent past, during the 1930's and into the 1940's, intellectuals in this country pointed to disastrously low birthrates,

expressing concern that not enough children were being born to maintain a "strong national life." Much attention was paid the system of payments to encourage the formation of large families in Hitler's Germany and Mussolini's Italy. In some quarters (Green, 1975, pp. 91-92), the proposal was seriously made that the government of the United States should institute a similar scheme in order to arrest a threatened decline in American power and prestige.

Some have been convinced that fertility rates will rise and fall with general economic conditions, and hence they will balance out over the long run. Birthrates did fall in the years of the Great Depression of the 1930s, but, birthrates went up again from the end of World War II to 1957, a period of prosperity. Yet, although our society has continued its general prosperity since 1957, the birth rate has gone down. The famous pill is often given the credit for this drop in fertility, but the low birthrates of the 1930s owed nothing to its use. Contraceptive devices and practices are only a means to the end of birth control, and fairly reliable ones have been in use for centuries. What varies more is the motivation to exercise birth control, and the reasons why large numbers of a given population at one time spontaneously increase or decrease their numbers are yet to be explained. In any event, American women are now having fewer children than in the past, with the level of children per family in 1972 dropping below the

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Zero Population Growth (ZPG) rate of 2.1. Dr. Paul R. Ehrlich, who organized the ZPG movement, has conceded that American women chose to reduce their birthrate in too short a time to have been "proselytized" by arguments favoring ZPG. Some demographers expect the population to continue growing, at least in the short run. Because of the immediate post-World War II baby boom, they say there is a "bulge" in the population pyramid of young women, and even a small rise in fertility rates among so many potential mothers would rapidly increase the total. On the other hand, if the present level of children per family were maintained, the population should level off at around 275 million at the turn of the century (Green, 1975, pp. 92-94).

Opponents of population control have cautioned that if America should unilaterally declare a moratorium on its own internal population growth, other countries will continue their reckless breeding habits and might overrun us with alien hordes. Edgar Chasteen in his **The Case For Compulsory Birth Control** (1971) counters with an emphatic "No." In fact, he says we will escape being overrun only if we can bring ourselves to control our population growth! He explains that America has been principally responsible throughout history for the development of death control technology. The same process will occur with birth control. If we can reduce our own population growth, thus freeing tremendous resources for use in attacking our multiplicity of social ills; if we can educate, feed, clothe, house, and involve our people as all people have a right to expect; if we can discipline ourselves politically and socially, we will not have to wait long before most nations of the world will be seeking our help (Chasteen, 1971, p. 212).

The problem in the United States is that although we have developed policies on many social issues, we have no national population policy. And even those policies which have evolved have been designed mainly to correct abuses after they have occurred (poverty, crime, alcoholism, for example) rather than to serve as preventive measures. It is imperative that we urge our government to assess the immediate and future situation in regard to

optimal population size and the quality of life, and to at least present rational alternatives while there is still time to choose. Short of a nationally imposed numbers game (government controlled birth quotas, which some feel are inevitable), we should at least be made aware of the consequences of future actions. Such information might take the form of a national policy statement which could be widely disseminated through the news media. More important, it could form the basis for required course material on population density and birth control, to be systematically taught through formal educational channels, particularly to high school adolescents.

The question arises, "What types of information should be taught in the schools?" Some emphasis is already being given to demography, often as an adjunct to courses in the social sciences. But the emphasis is much more on population distribution and structure than on ideal population size. Even in college-level classes, demographers dwell almost entirely upon aggregates of people, sex ratios, racial categories, age distributions, birth and death rates, life expectancy, and migration effects. A demographer is apt to describe the United States as follows (Landis, 1974, pp. 198-99):

The Census Bureau reported that the population of the United States in January 1973 was approximately 209,712,000. The world population was over 3.7 billion. The sex ratio in 1970 in the United States was 94.8 (about ninety-five males for every hundred females). Regionally, New England and the Atlantic states have a low sex ratio, Mountain and Western states have a high sex ratio (more males than females). In 1970, New York and Massachusetts were lowest with sex ratios of less than 92; Alaska and Hawaii were highest with ratios of 119 and 108. American cities have more women than men-in central cities the sex ratio in 1970 was 90.7, while in rural areas it was 101.

Although these statistics are interesting and instructive, they fail to address the crucial problem of overpopulation and its ultimate impact upon the survival of social systems.

What we need to do as educators is objectively to point out to our students the evidence on population problems. We could start with Malthus; his simple explanation of how food supplies are expanded arithmetically (1, 2, 3, 4 . . . n), while populations expand geomet-

rically (2, 4, 8, 16, 32 . . . n), is convincing. We could borrow from economics the basic argument that all resources are by nature scarce and fixed in quantity, while human wants and needs are limitless. Advanced science and technology can increase output from given combinations of input only to the "point of diminishing returns" which Malthus and Ricardo so cogently argued. From mathematics we can draw the analogy between the growth of money through compound interest and the growth of population. From ecology we can transmit the message that Nature will always triumph in restoring environmental equilibrium between competing factors. From sociology and psychology we can find examples to illustrate the social and mental anguish occasioned by unsavory environments. The truth is that all the scientific knowledge we can muster cannot alter the fact that only by keeping our demands upon scarce resources in line with population growth can we expect to survive and enjoy the benefits of "the good life."

Stanford University biologist John Thomas (Jensen, 1969, p. 6) has put it bluntly: "There is an inevitable decrease in environmental quality as population goes up . . ." Chasteen (1971, p. 213) has said, "The time has come to react to prolific parenthood as we act toward other types of environmental contaminants." I agree with his conclusion that the United States by virtue of its resources and political philosophy is as capable of providing leadership in the area of population control as any nation of the world. If we do not control our population, neither our resources nor our political philosophy can survive the impending human tidal wave.

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Including Population Problems in the Curriculum

Philip M. Hauser

A major purpose of education is to provide an understanding of the world in which we live—the social, economic and political world, as well as the physical world. Such an understanding should include (1) an awareness of problems with which the world is confronted, (2) perspectives in relation to their origin and (3) alternatives for their solution. Among the more significant current world problems are those relating to population—size and rate of growth, but also, composition, distribution, heterogeneity and quality. It would be expected, therefore, that the school would include population matters in the curriculum at all levels—primary, secondary and post-secondary—in an appropriately graded manner. But, unfortunately, this is not the case. Although population problems have been the subject of concern in many quarters for the almost two centuries since Malthus' famous essay, pressures for including population in school curricula are still mounting and the incorporation of population study into the educational content is only now beginning.

Increasing world awareness of "the population problem" has been accompanied by the perception that "population control" afforded the solution. But, problems relating to population are

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plural, not singular—that is, there are **many** population problems; and the phrase "the population problem" is misleading. "Population control," for example, usually is misconceived to consist of only "fertility control," when many other policies and programs are required for the resolution of population **problems**.

But, what are the population **problems**? Initially, they may be classified into at least four categories: (1) those arising from the "population explosion"—excessive growth; (2) those traceable to the "population implosion"—urbanization; (3) those attributable to the "population dispersion—diversity in composition by culture, language, race, ethnicity, religion and value systems; and (4) those relating to population quality—education and training in the broad sense.

Within each of these broad categories many specific problem areas can be identified. For example, the problems generated by the population explosion include those related to mortality and migration as well as those related to fertility, growth rate, density, age and sex structure. Furthermore, problems generated by the population explosion also include problems resulting from the relation of the population to environmental degradation and pollution, to food, to energy and to economic development and levels of living.

The problems associated with the population implosion (urbanization) include all those described

by the phrase "the urban crisis." Specifically, these problems involve acute environmental and physical problems; problems of deviate behavior—delinquency, crime, alcoholism and drug addiction; problems of family disorganization, and reorganization; economic problems of poverty, unemployment and underemployment; and political and governmental problems.

Problems stemming from the population dispersion (population diversity) include especially those traceable to the inverse correlation between minority group status and socioeconomic status. Under the impact of "the revolution of rising expectations," communal group conflict has world-wide manifestations—in Northern Ireland, Lebanon, Nigeria, Malaysia, the Union of South Africa, India, Pakistan and the United States, to point a few examples.

Finally, the problems relating to population quality involve the entire process of socialization, including formal and informal education and training. Certainly, the quality of a population is dependent largely on the opportunity for education—the acquisition of the basic, saleable and civic skills without which social, economic and political advancement is obstructed.

The preceding explication of population **problems** accomplishes three objectives: (1) It reveals the erroneous and misleading character of the phrase "the population problem;" (2) It exposes the limitations of "population control"

restricted to fertility control as a solution to population problems; and (3) It sets forth a potential outline of the content of a population curriculum.

The school can and must become an important instrumentality for the resolution of population problems. In fact, it is difficult to understand how the schools in the United States, which have been so vitally and adversely affected by fluctuations in the birth rate, rapid urbanization and huge waves of internal migration, have been able to ignore population as a subject in the curriculum.

How can the school contribute to the solution of population problems? First—and perhaps most important—the school can take part in accelerating the creation of a “post-Newtonian outlook” or “urban mentality.” That is, the school can help produce a person freed from the “pre-Newtonian” orientation that his destiny is determined by supernatural forces—God or Gods, spirits, nature, the stars, etc. It can promote the post-Newtonian outlook that the person himself, through the acquisition and use of knowledge, can largely be responsible for his own destiny. This orientation, especially in developing countries in the initial stages of modernization, may make a greater contribution to the solution of population problems than specific education on population matters. The promotion of the post-Newtonian outlook may be especially relevant to the United States, where retreat toward the pre-Newtonian orienta-

tion appears to be increasing, as evidenced by rising interest in astrology and various religious or pseudo-religious movements.

Assuming that the schools have been, can or will be successful in producing a post-Newtonian person, what population information in addition to the above should the curriculum contain?

Facts about population should be presented in retrospective and prospective context. The need to “control,” perhaps a better word is “manage”—not only the birth rate but, also, the other aspects of population described previously, can be made clear by considering what lies ahead. “Population control,” in the narrow sense of birth control, can be an important factor in helping to manage other population problems. This is true because of the interrelations of population phenomena. The population explosion has fed the implosion, which, in turn, has influenced the explosion. Both have been factors in the dislosion, which, in turn, has had repercussions on both the explosion and implosion. If effectively treated in the curriculum, these problems will be perceived as an outgrowth of man’s complex culture-building activities which have physically, socially, economically and politically transformed the world in which he lives. It can be taught that in the transition from a small-town, rural, agrarian folk-type of society to an increasingly urban, industrial, technological and mass society, many population problems have been generated. An understanding

of these same complex culture-building activities then can be pursued as a means of resolving their attendant problems. With the necessary facts, perspectives and alternative courses as elements of the curriculum, the schools can play a vital role in helping the person to acquire an understanding of population problems.

In helping to achieve “population control,” beyond fertility control, the schools will become increasingly aware that it will be necessary not only to add new population materials to the curriculum, but also to integrate demographic data with the other physical, biological, ecological, social and humanistic elements of the curriculum. Thus, in contributing to the resolution of population problems, the school will be fulfilling its function to provide a better understanding of the world in which we live, thereby helping to create a better world.

Suggestions for Teaching Population Education

Robert Bjork

Whether or not population growth will be controlled is not the question. It will. The question is, "Will we bring births down by the use of preventive checks (events which prevent births)?" or, failing this, "Will we sit by and watch deaths rise as positive checks (events which kill) come into operation?" Thus, practically and morally speaking, when we use the words **population control**, we must mean control through the widespread use of preventive checks. Those checks are: (1) abstinence from sexual intercourse, (2) contraception, (3) sterilization and (4) abortion. This means that if we want the school to operate as an instrument of population control it must help to motivate people to use preventive checks and acquaint them with the exact nature and availability of the checks and the reasons for using them. As of now, the public schools in the United States are doing little in this area. In fact, an evaluation (Viederman, 1972) based on data gathered for the Commission on Population Growth and the American Future, suggested that very little population education was going on in the public schools. Also, a nationwide survey of teachers conducted in 1974 (Gustavus and Huether, 1975) indicated that it is likely that well under half (perhaps as few as ten percent) of the secondary schools offered courses teaching about

population. Furthermore, in those schools where some teaching about population was going on, less than ten percent of the students received instruction in population education.

It would seem that the situation today is not much changed from the past. An analysis of 108 textbooks (history, geography, economics, government, sociology, problems of democracy), with publication dates starting in 1894 and ending in 1970, (Bjork and Farnen, 1972) revealed only very sketchy, if any, data or analyses of population or population trends; the situation did improve somewhat in the 1960's.

In spite of the fact that public schools are not doing and have not done very much in population education, it is of the utmost importance that they become heavily involved in this area. Ernst Michanek, head of Sweden's International Development Authority, put the pressing nature of the population problem in a very clear focus when he pointed out that even so low a population growth rate as one percent per annum would increase world population to eighty billion (twenty times present world population) in 250 years.

Assuming that public schools begin to give increasingly high priority to population education, they face two important questions: (1) To what extent should policy questions instead of acquisition of information be emphasized? (2) How much and what kind of sex education should be incorporated

in population education efforts?

In answer to the first question, acquisition of a great amount of information on birth rates, death rates, migration, population size and so on can be useful only if implications for individual and social policy are considered. Of course, debate over policy with little information is generally sterile; and problems of policy must have a frame of reference or a theoretical base if sensible formulations are to be fashioned. The Malthusian theory of "checks" is a reasonable base on which to discuss most aspects of population policy. The theory suggests that in the long run no society can have a permanent excess of births over deaths (or the reverse). And, in recent years, the theory has been given an even more unassailable position through the work of the economist, Georgescu-Roegen. He points out that the second law of thermodynamics, which outlines the irreversible tendency of energy to move from useful to bound forms, means that mankind as a species will have a very short life-span on earth unless growth in population and economics is stopped and reversed.

As for sex education, the schools should adopt a rational and uncensored viewpoint. The exact facts of reproduction, contraception, abortion and so forth, should be communicated early in a child's school experience. No misplaced reliance on the family, the media, or peer groups should be confused with the school's responsibility in the field of sex education. Facts

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about the basic biological processes and reproductive organs must be clearly presented. Sex should be taught as an important subject to be treated as seriously as economics, history or chemistry. There should be no sex segregated classes, no nurses or doctors in white coats as special authority figures and no arguments about this subject being unsuitable for seven-year-olds. Frankness and a full consideration of all facets of sex should be incorporated in population education.

In the very nature of the process of teaching population education, there are some obvious difficulties in making population problems appear to be important and currently relevant. The difficulty is that unfavorable population trends develop over a long span of time. Any one year—or even a decade—has relatively few clear and observable consequences. However, this difficulty can be overcome with a manner of presentation which uses colorful vocabulary and analogies to striking, short-term phenomena. Population issues have difficulty competing with such daily news stories as inflation, unemployment and military escalations, matters where months and even weeks bring immediate observable effects and newsworthy rhetoric. Some have argued that phrases such as “population bomb,” “population explosion” or “the Four Horsemen will reestablish a birth/death balance” are too extravagant for proper classroom learning. Certainly such colorful and striking terminology is justified for the teacher to emphasize to the students that population trends, though long-run in effect, are as important or more important than the short-run phenomena currently dominating the news.

Another problem in population education is the highly impersonal nature of the long-term trends. What can it all mean to the individual? One approach for emphasizing the individual meaning of population growth is represented in Figure 1. This figure is directed to an agricultural people, rural India in this case. But, similar kinds of presentations can show how housing, recreation and public transportation are subject to the same situation represented by Figure 1. and do, indeed, have a clear and striking

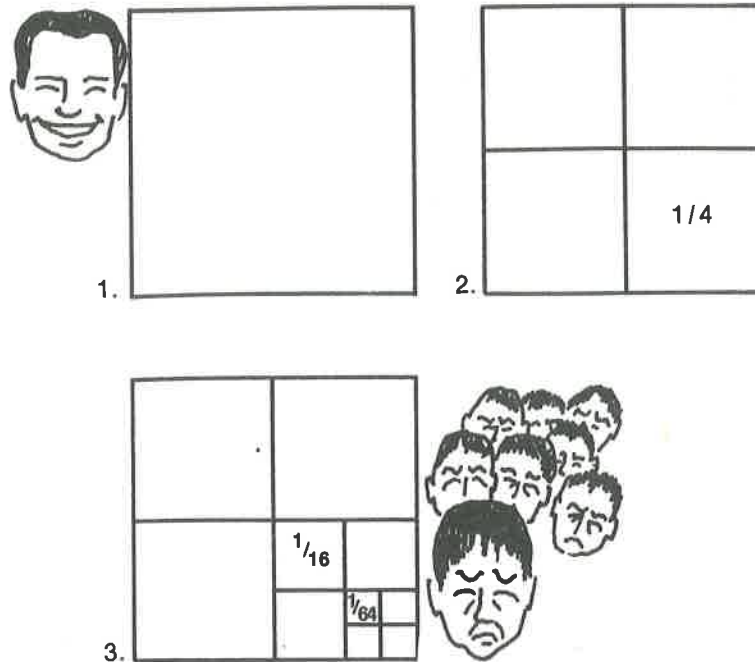


Figure 1. Population Education Material from India

Equipment: one flannelboard and one happy face, several sad faces and colored strips—all cut from felt, or paper or card mounted on flocked paper.

Using the flannel-graph:

1. This man is happy. He owns a plot of land on which he can grow enough crops to feed his family. He even has a little left over to sell at the market. He has several children, including four sons.

2. When he gets too old to work or when he dies, his land will be divided like this among his sons. Each son will have less land than the father.

3. The sons will marry and have children. Their land will be divided among

relationship to an individual's life.

Most important in population education is the unstated Western premise that all men matter. If this premise were not held, we would simply concern ourselves with that part of humanity worthy of our concern. The concept of **per capita**, as applied to national product or food production, would become obsolete. It is important to keep the idea of **per capita** to the forefront in as many areas as we can. The teacher can bring home the crucial importance of **per capita** by pointing out that India's yearly production—measured in dollars—is approximately twice that of Sweden. But, only about nine million Swedes divide their production, while India must distribute its production among 600 million.

Obstacles lie in the way of implementing these proposals. Sex and reproduction remain touchy

their sons, but each portion will be even smaller. After several generations the land will be divided into very small parts like this. There will be many unhappy people who will have such a tiny piece of land that they will be unable to grow enough to feed themselves.

But this need not happen. Can you suggest any solution? (The teacher can discuss the implications of the various suggestions and, if necessary, raise the matter of family size.)

If this flannel-graph is used in schools, the concept of fractions could be included and the symbols $\frac{1}{4}$, $\frac{1}{16}$, $\frac{1}{64}$, etc. added to the flannelgraph pictures as in diagrams 2 and 3.

subjects, although less so among young people today than in the past. School people do not like to bring controversy into their lives, if it can be avoided. If there is to be progress in this vital area, it seems that the pressure will have to come from the government and from the universities.

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A Guide for Developing a Methodology for Population Education

Alan M. Voelker

To argue whether or not there is a population problem is futile. The problem is here and it won't go away. And we can erase the argument whether or not the source of the population problem is the number of people or their actions, if we consider the causes—not the symptoms—of environmental degradation and decreasing quality of life. It is when we consider correcting the problem, rather than preventing it, that the above arguments flourish. The fact is, we have an ever increasing number of people in this world who have habits and exhibit behaviors that would create additional environmental pressures even if there were fewer people.

Any time living things, human or other animal, interact with the land to meet survival needs and pursue wants, they begin to approach an area's carrying capacity. There are many land areas where the carrying capacity has already been exceeded. And because of population mobility, unequal resource distribution, economics based on capital rather than people, and increasing interactions of all populations, the carrying capacity of the world—the land—may also have been exceeded. But the instinct and desire for survival is strong; and some people seek guidance to increase their survival probability. There are ways to provide awareness, knowledge and

action skills to abate population problems and, possibly, to overcome them.

Nor is whether or not the schools should participate in population education an issue. Society purposely created schools to provide its youth with knowledge and decision making skills for surviving in the present world and confronting the future; society may not like some things done in schools; but, schools cannot be divorced from societal problems. It may not be the function of schools to solve societal problems, but it is certainly within their province to study and understand where problems originate and how they develop, how society perceives and tries to solve problems and to recognize the possible consequences of various personal and collective actions.

This article provides suggestions about the content and methodology of school-based population education programs. Whether society should or should not institutionalize population control is not at issue here. However, it is assumed that population control might be exercised if the populace were knowledgeable about population problems and valued all living things as they do their own life.

Curricular Content

Population education, as a curricular area, is difficult to "fit" because it doesn't have a defined body of content. It is a theme area that pervades the curriculum. In this sense it is analogous to career education, environmental educa-

tion and other educational philosophies which draw their substance from many disciplines. Population education cannot be taught as such; but we can provide ample opportunities from the kindergarten through the twelfth grade (K-12), for students to develop an environmental ethic and provide a knowledge base for making personal decisions. The school's task is to educate the population about population problems.

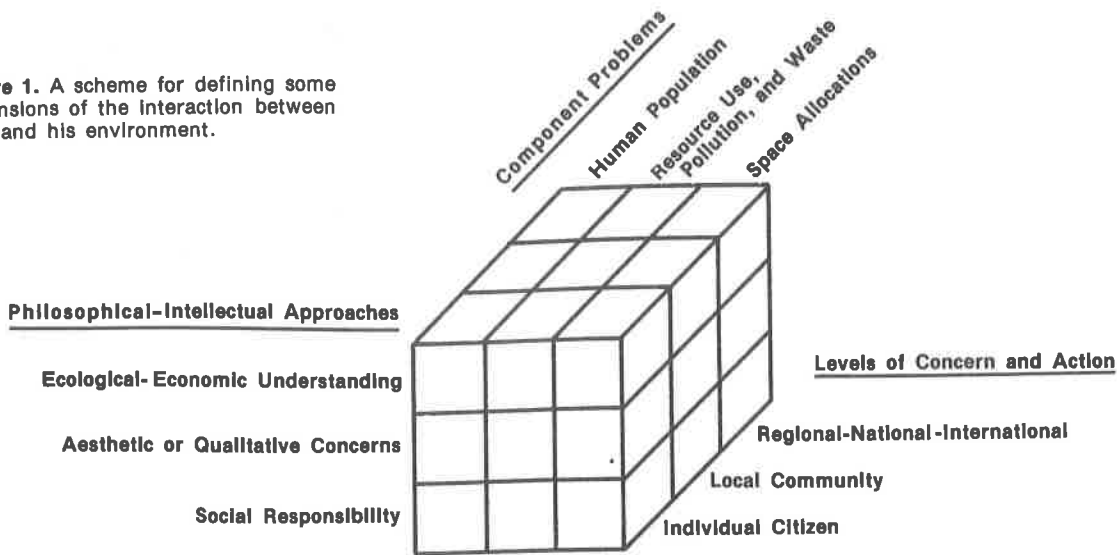
Every multi-disciplinary, interdisciplinary area, such as population education, must have a K-12 curriculum plan. Even the youngest child can learn how he contributes to population problems; it is as basic as learning that different people produce different amounts of litter; and two people produce more litter than one. Population problems are so complex and so fluid that no one ever knows enough; they must be studied from every possible viewpoint throughout the curriculum.

While it is difficult to specify the exact character of population education, there are some key ingredients for the population education theme in a school curriculum. These include:

1. The cause of all environmental problems is people—their numbers and their actions, individually and as societies. Every environmental problem is a symptom of this cause.
2. People's actions toward the environment are a function of basic psychological and biological needs and wants.
3. What people think they need and what they want are learned by

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Figure 1. A scheme for defining some dimensions of the interaction between man and his environment.



observing others and being rewarded for actions taken.

4. Values are learned. People's values influence their environmental actions.

5. Population changes anywhere affect every individual and society worldwide.

6. Much conflict and controversy surrounding population problems stems from the differing characteristics of cultures: values, politics, economics, religions, etc.

7. The population problem is every person's and the world's problem. All environmental problems are world problems, present everywhere, and differing in magnitude depending on where you are.

8. Population problems manifest themselves mainly in terms of human settlements, energy utilization and transfer, and carrying capacity. Every community has problems associated with population numbers and actions.

9. An individual's own actions can change the size and character of the population of which they are members.

10. There are advantages to controlling the population; consequences of non-control impinge on the individual and the environment.

11. Knowledge and skills necessary to evaluate the impact of population changes and the impact of personal and public decisions affecting population trends is available and can be learned.

12. There are societal ways to control population. If the limitations of population growth are not learned and heeded, individual "rights" may be superceded by a larger force. There are ways to control population through the actions of individuals and couples. Those who know can make choices. Without knowledge of possible alternatives a person is ignorant and cannot be blamed for taking actions detrimental to mankind's future.

13. We cannot go backward, so reasoned priorities and compromises

are preferred approaches to solving population problems.

14. Fear is ineffective in sensitizing people to action, in changing values and attitudes.

15. Population education must be included in every subject, including music. If you have too many people playing noisily, you have a population problem. You cut the number and/or play softer.

16. Survival has supreme value, but survival of one group cannot be effected at the expense of another unless the decline of the prey subsequently causes a decline in the predator population.

Figure 1 (Jordan and Means, 1970) demonstrates a useful way of looking at the interrelatedness of human population and all the inherent environmental problems. It demonstrates that any fruitful population education program must look, simultaneously, at problem causes, alternate modes of solution and levels of actions of problem solution.

Methodology

The question of appropriate methodology for population education produces ambivalence because curricular content and instructional methodology are not mutually exclusive areas. Thus, as suggestions for methodology are given, some curriculum perceptions from the previous section will be reinforced and other perceptions will be presented for the first time. And, establishing categories of activities will take precedence over specifying exact activities.

Appropriate methods require that students acquire ever deeper knowledge of population characteristics and the environmental

effects of numbers and actions. Initial and consistent emphasis should be placed on problems created by **student** numbers and behaviors. Methods should concentrate on developing the ability to recognize that it is the interaction of people's knowledge with their goals, values and attitudes that determines why and how they cause environmental problems. These same interactions determine whether people are willing to or can do anything about solving problems.

The best population education methods increase the knowledge base and develop decision making skills. Students need to study the historical development of population problems, the present situation and their contribution to it and possibilities for the future based on known alternatives for taking action. Priority should be given to methods that have students deal with personal and local population variations on the world scene. These approaches should be oriented toward what the individual can do to help solve the problem. Nothing is more counterproductive than constant emphasis on the negative, with no suggestions for actions that can be taken. From the outset, there are two methodological conditions to establish.

1. De-emphasize time-dependent unit instruction. Students don't see as many relationships and transfer as much as we would like. Population education cannot be limited to three-week units or solving mathematics problems on

rate of population growth.

2. Population understandings are developmental, so students must start their population education early and continuously be involved in studying population problems. Studies of nonhuman animal populations will not guarantee an understanding of human population problems. When students study animals other than humans, they learn about those animals.

Preferred methods for population education also consider:

1. Studies of the local population situation, followed by analysis of how the local situation relates to the national and international situation.

2. Studies of those who would "save the environment" and those who would "harm the environment." Are they concerned about the broad human situation? What motivates behavior and how do knowledge and values influence decisions?

3. Studies of real problems. Study the quantity of gasoline available from the standpoint of people and their actions. The "limited" amount of gasoline is a result of people using gasoline as an energy source.

4. Having students solve problems. Concentrate on doing more with less, i.e., cutting consumption of the present people and hypothesizing advantages if there were fewer people doing the same thing.

5. Situations oriented toward student action. Give students population related problems they can **act on**.

Methods should motivate students to conduct inquiries on many facets of population. And the best materials will involve students in identifying their—and others'—contributions to the dilemma. Better methods and materials suggest potential ways to alleviate problems. Situations where students can propose solutions and use knowledge to justify their positions are to be sought.

Methods should also strive for continuous acquisition of both general knowledge and knowledge of the relative consequences of taking each of several possible actions. From this perspective, appropriate methods would (1) involve students in examining situations which may not, and often don't, have definite answers, and

(2) involve students in long term studies that require interaction and input from many different people. By the very nature of population education, films, discussions and other typical methods are of less value than methods which require students to develop and use their own knowledge gathering approaches. Better methods require analyzing issues, possible solutions and relative consequences of actions.

Effective methods are surveys, case studies, debates and the studying of the politics and economics of controversial issues. Possible issues for debate include the following:

a. Economic aid should be denied to any country failing to undertake strong and effective programs of population education or control.

b. The geographic distribution of the population presents more of a threat to the quality of life and the environment than the expected growth.

c. There are no technological solutions to population problems; solutions must come from a change in attitude.

d. Since the population rate of increase tends to decline as the economic system of a nation matures, there is little reason for alarm or need for massive programs of population control.

Population problems will only be solved by knowledgeable people interacting and making decisions. The essence of solution lies in decision making; and the student must be placed in situations that stress the inquiry and process needed to make these decisions.

Specific techniques to accomplish the above include local surveys to assess population impact on the environment and the recommendation of ways to lessen the magnitude of problems, value clarification activities, identification of situations where students feel most comfortable—physically and psychologically. Future activities should concentrate on ways to improve the world situation. Students should study pressures which cause people to do things that magnify population problems. Things such as immigration and ZPG, economics based on growth, and population mobility—all should be examined in terms of numbers of people and their actions. Students should be doing things

that make them aware of the bases for their actions.

Instructional approaches should help students learn that there are several alternatives for "me, we, they." Above all, students should participate in the controversy and issues and see that "humanitarianism" can become a uniformed attack on future mankind. A baby alligator is cute—but he grows. "A boy for you and a girl for me" can be obtained by ways other than by having another natural birth.

Methods that help students **gather** more knowledge about population problems and symptomatic problems such as energy consumption, problems of human settlements and carrying capacity are appropriate and preferred. The "best" methods help students see the role of knowledge in decision making, and help students come to value things such as clear air, open space and life sustaining nutrition for all.

Methods that frighten students and make them believe that they have no future foster avoidance behavior. They are to be excluded from a population education program. For example, a good approach to studying population density and mobility would stress the advantages of less population density and less population mobility in terms of environmental impact and the psychological state of the individual. Methods that provide awareness and stress positive actions to ameliorate undesirable situations are preferred over those which cause fear, frustration and panic.

It is critical that methods have students see that the knowledge they possess about themselves and their values, in interaction with their level of knowledge of the world, determines what actions they will take to alleviate the problem. And, their actions will contribute to either the continuation or alleviation of the world population problem. They should analyze actions that perpetuate the population problems to see whether they stem from inadequate knowledge of the population situation and/or a conflict of values. Are our values compatible with sound ecological principles?

Throughout this discussion, I have purposely avoided population control methods. I believe that "control of the human population" comes through educating people,

from the youngest child to the mature adult, about the causes of population problems. The problem stems from peoples' lack of knowledge about the summative effects of their personal and collective actions, and their not recognizing the resources needed by other living things. There are limits on what we have to share, whether the resources are renewable or nonrenewable.

Even though I do not believe that we should control population through force, it is imperative that a population education program include a complete presentation of all the various means and techniques for population control. This includes birth control methods, sex education, family planning and the like. We **must** get away from the head-in-the-sand approach to those things which involve an element of values. To provide knowledge does not force beliefs upon people, but rather gives them an adequate knowledge base upon which to **build** a system and a set of values. To insist that various world societies help alleviate the world problem, without full awareness and knowledge of the issues and ways to solve the problem, is not sound. If all existing knowledge is made available and people still decide to follow a collision course, so be it. But to knowingly let that happen is criminal.

To reiterate, population problems will only be solved by knowledgeable people, who have the skill to make choices that are seasoned compromises between their own personal needs and wants and actions necessary for survival.

I believe we will have population control when we have honest population education. If we adequately educate people to the advantages of and possible ways to effect control—especially ways **they** can use, the population should come under control. During the interim period, the probability of governmental control and use of various incentives and inducements is high. However, as the people become educated, more self control of population will be achieved and external pressures can be lessened. This will not happen rapidly, but we cannot allow haste to overcome our good sense about the potential of education.

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Population Education: Issues and Implications

Edward Pohlman

January 30, 1933:

- (1) Hitler becomes Chancellor;
- (2) Roosevelt celebrates his first birthday after election to the Presidency;
- (3) Edward Pohlman is born.

Hitler's Germany and Roosevelt's America showed grave concern over the terrible population problem—not enough babies! I was a welcome addition to a dwindling, national resource—**babies**. Had I been born 35 years later when Ehrlich (1968) dropped his **Population Bomb**, I would have been an unwelcome engorgement of the excess—**babies**.

Many of the original publications of the 1930's (Pohlman, 1973, 1-11) bear such titles as "Where are the Children?"; "When Population Ceases to Grow"; "World Suicide by Birth Control"; "Our Dying Families"; "Renew or Die"; and "Will Birth Control Lead to Extinction?". The tone is positively Ehrlichean. Not only the journalists, but American population experts, were in substantial agreement. By 1970 or 1980, U.S. population most likely would be about 150,000,000. In 1938, the U.S. Committee on Population Problems ("problems" meaning not enough babies) said that the U.S. was in "transition to a period of stationary or decreasing numbers...but there is no occasion for hysteria."

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Baby Boom or Baby Bust?

One-third of a century after my birth, the alarm in the U.S. was about overpopulation, symbolized and perhaps fanned by Ehrlich's (1968) little paperback, although birth rates had been declining for a decade after a 1957 peak. In the 1970's, we have finally noticed that U.S. birth rates are at record lows, hovering around replacement rates. Whether these low rates will continue is hotly disputed (Blake, 1974; Bumpass, 1975) and all experts agree that even if replacement level birth rates continued, it would take over a half century before U.S. population stopped growing—because the baby boom babies (and later their children) grow up to be an unusually large group of young parents. But, there is talk of the "baby bust" and the "birth dearth"; and it is at least imaginable that the alarms and forecasts of the 1930's will reappear.

Population Education with Yo-yo Objectives?

The excursions above were a somber warning against tying population education (two words I shall abbreviate as **pop ed**) too closely to changing alarms. Had the U.S. designed a national pop ed program in 1933, ready for me when I hit first grade, many would have advocated that it would indoctrinate U.S. students with the need to get in there and make babies as soon as they could.

By 1968, many would have wanted a pop ed program to teach

youngsters to have small families or no children. They would have been pleased with a 1969 college valedictorian's speech (Milfs, 1969): "Dr. Paul Ehrlich and others say that immediate action must be taken simply to minimize the consequences. **I am terribly saddened by the fact that the most humane thing for me to do is to have no children at all.**"

By 1977 or 1984, if low birth rates continue in the U.S., some would want pop ed to push large families. The dangers of rooting pop ed in a current (and perhaps changing) national population "emergency" are apparent. Yet innovations in education, such as widespread teaching of environmental education for pop ed, are more likely to come in response to a perceived emergency.

Teaching Yourself Out of a Job

One irony of pop ed as it might have been designed, based on 1968 Ehrlichean alarmist views, is that teachers might have been working to make fewer jobs for themselves. To some extent, the current teacher surplus comes as a result of (1) the large number of baby boom babies now grown into teachers, and (2) the small number of birth dearth babies available as raw material in the educational factory.

The World and the U.S.

Although U.S. birth rates do not seem to deserve alarm at this time, I am an alarmist about population growth in the world. World population will double every 36 years if present growth rates

persist. Most of this growth is occurring in the developing countries, which are the poorest and hence, least able to afford the blighting effects of waves of babies on lifestyles (notably including education). Partly because 40 percent (or more) of the population may be under 15 years old in a rapidly growing population, education and children's lives (in some cases including their minds, because of poor nutrition) may be crippled.

Because every nation is affected by world population growth, U.S. schools should be involved in pop ed; schools are more willing to adopt innovation in the face of an emergency. There seems to be no emergency in the U.S. population growth; but there does seem to be an emergency in the total world population scene. In contrast to the pendulum swings of alarms over too few or too many U.S. and Western babies, there has been fairly consistent agreement for decades that population growth in developing countries is far too rapid. Personally, I would not object to U.S. pop ed, partly motivated by world crisis, presenting the value stance that we should cut down on world population growth. A strong case can be made, however, for the importance of pop ed without such an axe to grind.

Defining the Scope of Pop Ed

Some areas that potentially might be included in pop ed are: 1) macro-level population dynamics and awareness; 2) micro-level implications of family size, birth timing, unwanted or out-of-wedlock conceptions, and so on; 3) birth control methods; 4) sex and reproduction; 5) broader marriage-family topics; 6) environment and ecology; and 7) eugenics. There is general consensus that the first topic belongs in pop ed, but on most of the others, there has been sharp controversy. The seventh area listed, eugenics, has been practically forgotten, since current concern is with population quantity rather than quality.

It seems that the proper "mix" of the above topics may vary from one country to another, and with the time and circumstances in a given country or school system. For example, based partly on our research with Indian school children's views on their future

families and based on Indian teacher attitudes, K. Seshagiri Rao and I (Pohlman and Rao, 1970) strongly advocated that sex education and pop ed be kept completely separate. We feared that if the sweet virginity of pop ed were corrupted by an unholy union with sex education, the result would be a rejection of the whole package. But some, whose experience was in other cultures, argued that in certain places, sex education was not as controversial—and the combination would be an advantage.

Controversial Questions about Pop Ed

In an earlier publication (Pohlman, 1974) I detailed several questions that might be crucial in planning pop ed programs. A summary of those questions follows. (1) How closely (if at all) should pop ed be allied and combined with education about the environment, resources, pollution and ecology? and (2) with sex education? (3) How urgent are population growth problems in a given nation or world region or the world as a whole? (4) To what extent would the individual and family facets of family size, spacing and sex composition be taught? That is, should pop ed include discussions of the effects on the student of bigger or smaller families, unwanted conceptions, out-of-wedlock conceptions, earlier or later marriages, earlier or later first births, longer or shorter inter-birth spacing, singleness or marriage, childless or parental marriages, and so forth? (5) Should contraceptive methods, including sterilization and abortion, be included in pop ed programs? As with sex education, the realities of the U.S. community reaction must be considered, since they have the potential to destroy the entire pop ed program. (6) At what grade level or levels should pop ed be presented (if at all)? (7) Should pop ed be presented as a new course (either alone or in combination with other new areas such as environmental education), or introduced as a unit or portion on existing courses? (8) How quickly—versus deliberately—should pop ed be introduced into school programs? (9) Is it, the classroom, the best way to carry out pop ed, or are there better ways of reaching most youth—through magazines, direct

mailing, clubs, or other programs which bypass the schools? (10) Will pop ed really do any good? (11) Should we wait for research on this particular question or use the best judgement available? (12) How do black-white relations and other majority-minority race and religious relations bear on pop ed? For example, is population control "genocidal" for blacks? And if so, what are the implications for pop ed? (13) Perhaps the most controversial questions of all, involve value judgements as they relate to pop ed. The next section is devoted to these value judgements.

Value Judgements Versus Factual Material

To what extent should pop ed be confined to factual material versus the "selling" of points of view? In one sense, "overpopulation" is a term based primarily on value judgements, with only a minor scientific basis. Indeed Simon (1973; 1975) argued that "science does not show that there is overpopulation."

Some teachers believe that population growth must be reduced quickly, and that people must have small families, use contraception, and (when that fails) use abortion. Some are even in favor of compulsory abortion or sterilization, or birth control chemicals in the drinking water. One can imagine teachers trying to convince students they should have small families, or late marriages, or childless marriages, or children by adoption rather than procreation; or that abortions are better than unwanted babies; or that premarital intercourse is acceptable if it is properly contracepted and agreeable to both parties; or that infanticide is appropriate in view of "population crises." On the other hand, one can imagine teachers trying to persuade students that all abortions are murder, or that artificial contraception is wrong, or that it is better to have mass starvation than to give up principles in matters relating to artificial contraception, abortion, or euthanasia. All of these are heavily tied to value judgements that go well beyond scientific evidence.

The population explosion and the theories and arguments that surround it represent a tremendously volatile mixture; there may be a population-triggered

dynamiting of values. We may be only beginning to realize the ethical implications. Whether individuals have a right to all the children they want is hotly disputed. Infanticide, euthanasia, starvation, society-wide malnutrition or educational deprivation and compulsory sterilization are all aspects of the controversy.

To what extent should pop ed be restricted to factual material and scientifically established generalizations? There is no consensus. A teacher with strong convictions, trying to persuade others, is often extremely interesting and effective. It is sobering to realize, however, that in the 1930s, the concern in the U.S. was over declining population, its effects on the U.S. economy and ways to stop the decline. Pop ed, had it been started in the 1930s, might have had "concerned" teachers advocating extreme measures to raise birth rates and instilling in young minds that it was a moral responsibility to have lots of children. High school debates might have highlighted such topics as: "Resolved: that in view of declining population growth rates, a society is justified in compulsorily using artificial insemination to impregnate single women and widows and wives of impotent or absent husbands." And in the 1930s, the opinion that the population was definitely going to decline was only a very small extrapolation from the available scientific evidence.

At the present, based on scientific study, some consensus is now emerging that the way to reduce resource exhaustion in the immediate future is to change per capita consumption and pollution. Perhaps, before forbidding people to have more than two children, one might stop, instead, to consider forbidding their possession of two cars, color TV's, dryers, etc.

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Population Education: A Philosophy for Decision Making

Stephen Viederman

The school can be an appropriate instrument for population control but, **not** in the sense that the term **control** is normally used, with connotations of persuasion, prescription and/or coercion. To be highly directive, to prescribe particular courses of action, would be not only to move against the theory—if not the practice—of education in the United States but probably would be ineffective, too. Certainly one role that the schools should generally play is that of assisting students in regulating their environments. Given the pervasive nature of population-related decisions, the development of population education activities has a high degree of saliency for schools in the United States.

The first task of population education would be to assist the students in understanding that they are—and will continue to be throughout their lives—involved in a wide range of population decisions. Of primary importance are: the decision to marry, and if so, when; the decision to have children, or not, how many, and how spaced; the decision where to live, when to move; and even the decision when to die, viewed in terms of seeking medical assistance and avoiding certain high risk activities, such as smoking. Related to these decisions, and having considerable impact upon them, are decisions to continue one's education through or beyond high

school; to seek employment (particularly for women) and where to work.

The second task would be to assist the student in understanding that the decisions that he does make—unconsciously or, ideally, consciously—have implications that transcend his own life and that of his family. Procreation and changing residence are private acts. However, they also have social consequences when they become part of the aggregate of millions of individual acts defined in terms of birthrates and migration.

A third task would be to show how the society affects individual population decisions. A political decision to locate a highway through a particular area, thus paving the way for new industrial development, might serve as a lure to migration. Similarly, newly married couples often feel pressure to have children from potential grandparents and, more subtly, from their peers who have already started their families.

The fourth—and by far the most difficult—task confronting population educators would be to integrate the concept of individual decision making with an awareness of the mutual interaction of the individual and society. Informed decision making about population-related matters should be the goal of any population education program. To be **informed**, as the term is used here, is to be aware of the consequences of one's decision and to act accordingly, rather than make a predetermined "correct" decision. In many societies of the

world, these decisions often are not open to the individual, burdened with tradition on the one hand and economic and social pressures on the other. However, although the student in the United States is not totally free from these pressures, despite our highly industrialized and urban society, he probably has a range and freedom to make these decisions that is unprecedented in our history.

Population education programs are a response to the perception of population problems. The public now generally defines these problems in terms of rapid rates of growth—particularly in developing areas—and often mistakenly ascribes the growth rate to increasing fertility, rather than decreasing mortality. However, there is no **single** population problem relevant to either individuals or nations.

In the United States, for example, the rate of growth is relatively low, and fertility rates have dropped below replacement level. If present rates were to continue without change, population growth would stop about the year 2035. Does this mean we have no population problems? Hardly!

Population change is also a matter of migration and population distribution. To many people, for example, the fact that 70 percent of our population lives on less than two percent of the land constitutes a population problem. To others, the problem may be defined in terms of rural depopulation. Though this issue may be not extensive in terms of the absolute numbers of people involved, the

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1970 Census Bureau map showing the counties of the United States by the decade of their **highest** population, illustrates graphically the extent to which large areas of the country are losing their populations. To the people living in those areas, whether they are the elderly who see the tax base eroding, or the young, who see opportunity only in the urban areas, the problems are serious. In this regard, the movie, **The Last Picture Show**, is an important contribution to population education, although, probably few who saw it viewed it either in terms of population education or population problems.

Rather than beginning their efforts with high levels of aggregation—such as world growth rates of two percent per year—or far away places, population educators should pay greater attention to the students' perceptions of **their** population problems. Averages are misleading (talk of the two child family does not mean that everyone should have neither more, nor fewer than two children); and distance may suggest to the student that he is not himself a participant in population problems, affecting and affected by how others live. In this respect, United States educators have an advantage over their colleagues in countries where the educational system is centralized; here, education programs can be both developed and controlled locally. Furthermore, exercising such local initiative in school programming supports other local initiatives in education.

This local approach would not mean that the population situation in the country as a whole, or in other countries, would be ignored. Quite the contrary, the local approach implies that in order to gain attention to population matters, they must be placed in a meaningful life context; that is, population matters initially should be studied in terms of an environment familiar to the learner.

Placing the subject matter in a familiar context does not obviate a particular methodological problem in the development of the school's population education programs. How do you make realistic and meaningful decision making problems which for most children are not made until some time in the

future? The decision to continue schooling through or beyond high school is a familiar one to the high school student, but deciding whether or not to marry, have children and where to live are future-oriented. The use of role-playing and simulation may be useful; but what do we know about the transfer of learning from these activities to the real world—perhaps many years hence? This issue becomes even more complex when we recognize that the situation in which the student may find himself, when the time comes to act on the decision, may be considerably different from the one developed in the confines of a school program. What skills, and what knowledge are necessary to prepare for such changing circumstances?

While considerably more experimentation is needed in order to answer the question in a positive fashion, it seems clear that the answer is not to teach "population control" in the popular sense of the term. Here, as in other problem-oriented areas, the school has a responsibility to present a range of positions, allowing the student to work out the difficult problem of weighing alternatives for himself. This would not imply a "facts-only" approach, since no such thing can or does exist. To assume that there can be value-free teaching, would be to assume the impossible. Explicitly or implicitly, values are involved in the selection of facts, and it is essential that students be made aware of this as early in their education as possible.

What should be encouraged is an approach I have described elsewhere as value-fair. This does not imply that the teachers or the students do not develop and defend strong positions; rather, such positions are to be encouraged. A value-fair approach, however, accepts the role of values and value conflict, and discourages the blind acceptance of a particular point of view. This approach suggests, within reasonable parameters, that any view that can be defended with rational arguments and the careful marshalling of fact and opinion is acceptable, but still open to challenge. If we are concerned with rational and informed decision making, no other position seems possible or appropriate. In this regard, population education is not simply another add-on to the

already overburdened teacher. Rather, by being relevant (concerned with the present and the future), by being concerned with knowledge as well as values, by being concerned with the individual and the worlds in which the individual lives (from the most local to the global), population education contributes to the solution of our education problems as well as it does to population problems, no matter how defined.

Population Education as a Component of Futures Studies

Clifford A. Hardy

The growing interest in "futures research" and "futures studies", reflected in a rapidly increasing number of schools, colleges and universities, presents an opportunity to develop meaningful approaches to population education within an appropriate context.

The population crisis is well documented in the literature. In fact, the classroom teacher interested in designing a unit or program of environmental education sooner or later will confront the exploding growth of human population. Too often, however, the literature suggests conventional approaches to population education (Anderson, 1970; Hardy, 1973) instead of a vehicle for realistic change regarding future behavior.

Such meaningful change will not occur until population education becomes incorporated into the teacher education sequence in futures studies programs. Moreover, the same programs should be emphasized in professional development programs for inservice teachers so that the futurist concepts will not be limited to preparatory courses alone.

How does futures planning differ from conventional planning? The distinctions are summarized below (Shane, 1973):

1. Futures research recognizes the need to anticipate and to plan genuinely different concepts of the future. Traditional planning has tended to be utopian, to see

tomorrow merely as an improved model of the present.

2. In futures planning, the focus is not on the reform of the past, but on the creation of a "probabilistic environment" in which alternative consequences and possibilities are given careful study before choices are made.

3. Futures planning relies more heavily on the rational study of **anticipated** developments and their consequences and gives less heed to statistical analysis or projection **per se**.

4. Futures planning is designed to point to more alternative courses of action than does conventional planning and to explore as many good ideas as possible.

5. Futures planning is deliberately directed by the planner's examined values and is action-oriented. It emphasizes alternative avenues rather than linear projections and concentrates on relationships among probabilities, their influence upon one another and the possible implications of such influences.

These distinctions can be worked into the teacher education sequence in various ways. The scenario is a widely used technique in futures studies and has had powerful effect when utilized in environmental education with special emphasis upon population education (Ehrlich, 1973, 1969; Toffler, 1974). The scenario encourages written conjecture about alternative futures, in conjunction with values clarification, both as a means of

preparation for teaching and as a means of studying the future. Since scenarios written by students typically tend toward utopian or dystopian extremes, it is at this point that values clarification methods can be an asset in goal setting and in motivating action in population control.

In order to motivate such action, some of the time spent in typical teacher education courses should give way to a more sophisticated study of the future as an integral aspect of curriculum and methods. In addition to the preparation of teaching units on different topics, the typical methods class includes a study of various teaching techniques including the lecture, the demonstration, the lecture-discussion, role-playing and simulation. Certainly the above techniques can be stressed, as well as the application of problem solving in a population-futuristic mode, so that prospective teachers would be better prepared to be concerned with and promote programs of population education in the public schools. Students could prepare learning modules to be used in student teaching that include a look ahead at the problems that will be facing mankind and our society in particular.

To further reinforce the above, certain broad topics with population overtones could be utilized for study, both by students in teacher education and by public school students. Shane (1973) has prepared a representative list of topics based on interviews with systems analysts and others employed in

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selected futures research centers:

1. The value crisis
2. Disagreement as to the "good life"
3. The credibility gap
4. Institutional overload
5. Equity versus equality
6. The tacit rejection of democracy
7. Lack of a future-focused role image (FFRI) for youth
8. Insensitivity to changing patterns of survival behavior
9. Naive use of technology and consequent ecological problems
10. The have and have-not problem

Most of these topics embrace some aspect of the population problem. They can serve as the impetus to futures study, values clarification and action that, with the thorough study of the kind of basic information available in traditional population programs, could make the fundamental difference in effecting change. The preceding scenario is admittedly idealistic and theoretical; hopefully, the time is not too late for action, as frequently seems to be the case when reviewing scenarios of the future.

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society for land, water and other resources. Environmental considerations are also taking on a more restrictive role in expanding food production. In short, the costs of increasing food output further may start escalating substantially at some time during the next 25 years.

Elsewhere in the world, the problem is somewhat different. In many places, population is increasing so rapidly that it will, unless checked, outdistance any gains that can come from modernizing agricultural production. These countries have far more potential than the U.S. in terms of increasing food output; yet this potential is being overrun by a booming population.

Often, these nations follow a cheap food policy that deters increased capital in agriculture. The difficulty of changing their economic and social system is as much of a deterrent as the physical limitations on increased food production.

In the long run, the world's number one problem is to increase food production until the explosion in world population can be brought under control. To this end, we need to have a better understanding among the public, and among public officials, of the "economics" of food production and its relationship to the continuing growth of world population.

There is a tremendous amount that schools can do to create a better understanding of the race between population and food. Here we can teach the facts about the problem and the realistic disaster that lies ahead unless we do something about it. Out of this will come the motivation for individuals and governments to make sound decisions in a constructive way.

Pourchot, continued from page 11

situation in which emotional requirements for mental health are lacking. His final words offer us a remedy for our societal ills.

"With the increasing population, the rate and pace of life increases rapidly. We are required to do more competitively in one day than our ancestors were required to do in a week or even a month or even sometimes a year. And so, father comes home, exhausted from work, and he turns on the idiot box and sits down and that takes care of that. Father is largely an absconding father in the American family, as a consequence of these pressures. Mother is the person who, for the most part, takes over the disciplining of the child. Since she has to be a short-order cook, a laundromat, a sexual partner and an enormous number of other things in the household—'a mere housewife' is the common expression used to describe her—she herself has no time to learn how to become the adequate parent. And so, we are faced immediately with the problems created by population pressure. And what we turn out are individuals, who, as a result of their lack of love, become frustrated in their need to love others and who are unable to love others. They are conditioned in all sorts of mythological notions derived from rigid religious and secular sources which create a tremendous amount of anxiety in them and which in turn, force them to adhere to absolutes and certainties, because this tends to make them comfortable. This is known as the authoritative personality. All as a consequence, actually, of our own inability to sit down and think. Because we no longer have time left as a species. Because these kinds of anxieties and the certainties that demagogues promise us, cause an enormous amount of disaster in the world and produce less and less chance of peace. In creating the kinds of children we do, we create aggressive children instead of loving children. We create aggressive individuals instead of loving individuals. Because what we have done in bringing up children in ways I have roughly indicated is to have frustrated their principal need to grow and develop as warm, loving human beings. When we do

that, we produce an aggressive individual. And by aggression, I mean love frustrated. That's what aggression always is. Without exception, when you see aggressive behavior, it is a signal for love. The most difficult problem child or student in the classroom is the child who is most in need of love. With such individuals, we usually deal in the traditional manner, by meeting their signals with counter-aggression, thus, worsening the situation. What is called for is a sympathetic understanding, and the evidence of love. Love that is repeated and never wavering, because these individuals will trust you, because they have been failed again and again by others in whom they had put this trust and who finally let them down. So, under such conditions you have a world filled with individuals who are ready to go off half-cocked at any drop of the appropriate remark by any demagogue. With this kind of individual around, the hope for peace is very dim indeed. And what we have to do is recognize what we are faced with. We are faced with a crisis. What do we do about it? We have to recognize that what the human being is born for is the realization of his potentialities as being a warm, loving human being. We must realize what love is and what we have to do about it. What we have to do about it is, first, to understand it. It's much more important to understand the thing as it is than to define it. But I can define it for you, as well as make you understand it. Love is behavior calculated to confer survival benefits in a creatively enlarging manner upon others. It is the communication to that other of your profound involvement in their welfare, your deep interest in their growth and development and fulfillment in their own uniquenesses. It is communicating to that other that you will never commit the extreme treason of letting them down when they most stand in need of you. But that you will be standing by giving them all the support, sustenances and stimulations that they require. Not for being a mathematician, a leader or a writer, but for being the kind of human being that you are being to them. That is love. Mental health is the ability to love, the ability to work, the ability to play and the ability to use one's mind critically. And this is what we need

to achieve. And the best way to achieve this, is by starting with ourselves. We have to make ourselves over into warm, loving human beings. How? By acting as if we are warm, loving human beings even if we aren't. And if we act as such, one day we may wake up and find that we have become what we've been acting out.

"And so, here is the solution to the problem of population and peace."

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