Will The FUTURE Be Manageable?

There are many questions being raised about the future, nowadays, such as:

What is the future of technological development? (For example, will technology be able to meet expanding human needs? Can food production meet the needs of a growing population? Can a material standard of living be maintained without environmental conflict?)

What are the alternative futures for education? (For example, what will be the future of private schools and/or colleges? Who will control public schools in the future? What is the future of ethnic studies in the colleges and high schools?)

What direction will human values take? (For example, will belief in supreme being continue to be a possibility for man? What are the future bases for personal and social morality? Will leisure time be used for creative purposes?)

What are the alternative futures for human relations? (What will future life styles be? How will the needs of a diverse population be met?)

What are the alternatives for the city? (For example, what will be the function of the city? How will the city be organized?)

Both creative imagination and down-to-earth techniques must be employed selectively if questions about the future are to be answered meaningfully. There are more than one hundred techniques by which scientists attempt to comprehend the shape of alternative futures.

Two forecasting approaches are:

Intuitive forecasting which combines expertise with imagination and insight.

Exploratory forecasting which examines probable future developments using existing knowledge and trends as well as recent innovations or those expected in the near future. Exploratory forecasting suggests which trends should be reinforced and which curbed.

MARRIAGE – A Future Life Style?

We are in a period of exploration. More ways for people to meet, marry, live, and raise children have been explored in the 1960’s than in any other decade of our history. I suspect that this opening of doors has disturbed some people who view our marriage system in a rather narrow way, and this uneasiness has led to the feeling that marriage is declining in importance, and in time may even cease to exist. I believe that rational exploration of all possibilities is the most promising way of arriving at a style of life that will yield the greatest satisfaction. Perhaps it is those who fear that their particular way will not hold up in such a rational light who oppose the examination of alternatives.

Divorce is one of the most frequently cited evidences of marital demise. Since 1965, the divorce rate has climbed by over 40%. With the emphasis on self-expression and self-realization today, divorce is usually regarded as a perfectly legitimate way to end undue stress. Many states have eased the requirements for divorce since in today’s society, divorce bears little social stigma. But this rise in the divorce rate may be simply an indicator of how many people are leaving unhappy marriages.

If one wants to appraise the state of marriage, the measure of the actual commitment and the needs being fulfilled in marriage (Cont’d on page 4)}
"Life with the information will do its own learning. It's not something you can give with a needle. But people have to learn . . . The point is that you want to be able to get what they need to know, what they want to know, when they want it." Buckminster Fuller has described what may be the key to new learning systems: access to information.

Over the past nine months, Dr. Ronald Barnes, Director of Educational Planning for the Minnesota Experimental City, and about 15 student interns at Mankato State College, have been designing in a very preliminary manner an alternative to the present schooling system of education. It was in a four hour conversation with two of these interns that Fuller made the above remarks.

The attempt is to design the framework for a learner-based, process-oriented, birth-to-death system in which the entire community is the "school." The function of the learning system is to provide the resources (people, tools, facilities) and help the learner discover his own goals and then find the resources needed to achieve these goals.

It has been the assumed purpose of the present Industrial Age schooling system to prepare persons for life and the job market. Students, for the most part, are subjected to a prescribed mass — dispensed cafeteria-style curriculum, and become passive ingurgitators and regurgitators rather than active seekers and creators of knowledge. Or using the distinction made by John Holt in *How Children Fail*, students become producers rather than thinkers by learning how to produce the "right answers" without knowing why, or caring why, it is the "right answer."

Most tragically, schools tend to drain, rather than nurture the sense of curiosity and wonder so evident in a young child learning to walk, to speak, to discover. Usually the only reason students like school is because their friends are there, not because it is a place of intellectual stimulation.

Hopefully, the schools of tomorrow will become community resource centers for people of all ages, to come and go when they please. No one will continue to look upon education as "preparation for life." In a world of constant change, learning is lifelong and education a component of life. There will be increased leisure time as work weeks shorten and more jobs are done by machines; people will have periods when they want to learn, regardless of age. Schools, then, will become information centers and meeting places for the entire community, instead of custodial care centers for children ages 5 to 18.

Closed space, egg crate buildings will give way to more convertible, multi-use facilities. Learning will not be space confined. Community facilities will increasingly be used for educational purposes.

Singular roles of teacher and student will be hard to distinguish. The role of teacher as "dispenser of information and information giver" will diminish as the process of education becomes more important than the content. In a world of constant change, the process of learning to learn is essential. The role of the teacher will become that of a learning facilitator who will help learners discover how they best learn, what they want to learn and what resources they wish to use.

In the learning societies — the education systems of tomorrow — everyone will be considered a learner and everyone will be considered a resource person in some area, whether that be photography, computer programming, Shakespeare, plumbing, birds, gourmet cooking or electronics. With increasing leisure time, decreasing retirement age, and increasing life span, people will have time and will want to share their skills and their knowledge. A new kind of "yellow pages" or want ads or a computerized directory could be used to match learners with resources.

Much learning will be done in the home, given present and future developments in technology. There will be home and business use of wired video communication for both telephone and television, including retrieval of taped material from libraries and other sources, as well as rapid transmission and reception of facsimiles such as magazines, newspapers, and other printouts on their home screens.

The responsibility for failure will no longer be placed on the learner, but on the education system for not providing the best possible resources. No more children will have to learn how to cheat and how to fool the teacher. No more children will grow up thinking they are dummies. The system will be graded and tested and held accountable to the learner.

Such a learner-based, life-long learning system will hopefully allow human potential to be more fully realized. People who have learned to learn will be able to cope with and adapt to continual change. They will not be victims of future shock.

And even more important perhaps, they will be able to create the changes they desire and create their own individual futures. People who have learned to define and pursue their own learning objectives and are allowed to grow and change at their own rate and in their own directions, have also learned to take control over their lives. They will not feel powerless under the multitude of forces which exist in a highly complex society.

**FUTURE (from page 1)**

By reinstituting imagination, and by associating it with research which can be tested and evaluated, it is possible for futurology to open up and enlarge the way in which the scientist works and give him greater flexibility. 

*Robert Jungk*

One benefit of research into alternative futures — prosaic or not — is that it offers a chance for contemporary science to become reinvigorated. A second benefit, more important than the first, lies in the potential for a reinvigoration of man himself. Man is aware more than ever of the responsibility he must assume in shaping his own destiny.

For the specific purpose of studying the future, the Office for Applied Social Science and the Future was established at the University of Minnesota within the Center for Urban and Regional Affairs in July 1971. A major part of its efforts have been concerned with the development of graduate and undergraduate courses on alternative futures, and with the packaging of these courses into degree programs. The Office is concerned with the kinds of research and development programs which will fit campus interests, and which also will contribute to the formation of courses and programs on alternative futures. The Office is also concerned with the interface between campus and community, specifically with large corporations reevaluating their roles in American society. The Office for Applied Social Science and the Future, is directed by Arthur Harkins; Assistant Professor of Education and Sociology, and by Richard Woods, Instructor in the Center for Urban and Regional Affairs.
Although the concept of leisure is not new to our modern day society, the increased amount of leisure time seemingly available to the average citizen may well present many new problems and new demands for community services.

Fortunately, there are a number of people becoming concerned about potential leisure time implications. Psychiatrists, sociologists, labor leaders, recreators and many others are realizing that increased leisure can either produce happily spent hours or times of pure boredom. In an attempt to eliminate the hours of boredom and find moments of happiness an increasing number of people are participating in some form of recreation. With this increased participation, many communities are being asked to provide an additional service, that being, a year-round organized community recreation program.

It is an accepted belief of many recreation professionals that any community, large or small, should provide the citizens an opportunity to participate in an organized recreation program. This is to be expected because the community is the natural and proper focal point for organized recreation. Dr. Harold Meyer, sociologist and outstanding recreation educator has said:

"The first and paramount responsibility for recreation rests in the local community. It is here that recreation under governmental, voluntary, industrial or commercial auspices takes its roots. It is in the town, city and county that organized recreation is most closely associated with the people. The emphasis is on community generosity and initiative, community planning and organization and community action."

Today recreation is seen by most people as a basic human need, a necessary and desirable part of their daily routine. For this reason, recreation is increasingly being accepted as a proper function of local government on par with the traditional health, welfare and educational services. This is largely due to the rapid changes in living that science and technology have produced. In a very real sense these twin forces have provided life with a new meaning and focus. The application of science to industry not only has created countless hours of leisure but also has made work less tiring and less satisfying.

Community leaders of all kinds and at the various levels must be concerned because recreation is the natural expression of human needs and interests seeking satisfaction during leisure hours. The expressions take a variety of forms but they are always motivated by the basic needs of acceptance, participation, achievement, recognition, feelings of personal worth, satisfaction, identity, and, of course, self-realization and fulfillment as a human being. Because personality needs reveal themselves in many different ways and because the very essence of recreation is freedom, recreation opportunities and services must necessarily be varied, flexible and inclusive. The municipality through its legal system can assure the permanence, support, equality of opportunity and scope that organized recreation must have to meet the needs of a citizenry engaged in its right for the pursuit of happiness.

There are many concomitant values or by-products that result from good community recreation programs. For the participants as individuals there are benefits in health, education, physical education, physical and mental fitness, good citizenship, service to others, personal growth and the strengthening of character and hopefully, happiness in some degree. The community as a whole also gains much. When properly planned, developed and operated, recreation programs are certain to make the communities sponsoring them better places in which to live. Every community has need for places of beauty and for natural settings in which leisure can be enjoyed in solitude and contemplation for those who want to relax and get away from it all. Needed, too, for those who wish to be active and creative are adequate areas and facilities, for sports and athletic contests, swimming, dancing, dramas, skating, band concerts, children’s playgrounds, arts and crafts, boating, picnicking, social affairs, exhibits, camping, riding, fishing and other activities that are part of a year-round recreation program. Altogether, these activities widen the horizons of community life, enrich the lives of all and generally contribute to the feeling that the community is an exciting and satisfying place to live.

Recreation also contributes to developing community spirit and solidarity. Today this is extremely important because in modern life there are many forces that tend to separate people into hostile groups based on differences in their racial, religious, political, ethnic, economic or social background. Out of this situation comes unhealthy competition, suspicion, distrust and dislike of our fellow man and a lack of neighborliness and unity of interest. Community recreation properly developed and utilized can do much to cancel out these influences in community life. It can be the common denominator that dissolves all differences through participation and satisfying achievement. Recreation is democratic in nature in that it is needed by all and demands only interest, effort and some skill from those who freely choose to participate. It is in its pure form inclusive - not exclusive and more often than not reflects a true cross section of community life. George Butler, veteran National Recreation Association official, expressed the importance of recreation to human relations when he said:

"There is perhaps no more effective means by which people come to a friendly understanding of each other than by taking part in a recreation activity to which they are devoted. Any force which helps build such an understanding makes for a community solidarity and spirit that is greatly needed in the country today.

These are the kinds of things that when put together in a community setting usually result in greatly increased property values and the attraction of new industries and businesses to the community. Properly designed, and well maintained recreation areas and facilities are a mark of a progressive community and are related to the stability, economic growth, financial security and general expansion of opportunities and advantages for all segments of the population. Today more and more municipalities are expanding their recreation programs as one of the major steps in revitalizing and strengthening their communities.

In the final analysis, community recreation must be seen as a major social, cultural, educational, physical and moral force in the daily lives of a large and ever-increasing number of leisure oriented people.

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Recognizing the importance of thinking about Minnesota's future, the State Planning Agency has recommended a Governor's Conference on the Year 2000. As proposed, the Conference would be held in the late fall of this year and would involve from 300 to 400 participants.

The mission of such a Conference would not be to make predictions about Minnesota's future; rather, its function would be to inform and stimulate discussion about alternative futures, and explore the consequences of public action or inaction. The major objectives of the Conference would be:

1. To establish and maintain a public awareness that Minnesota's future is not being adequately shaped.
2. To identify the future consequences of major public policy decisions.
3. To appraise legislators and local government officials of the larger perspective within which their current decisions fit.
4. To provide some specific knowledge about the future of Minnesota.
5. To propose alternative policies dealing with several major issues in the state (such as: financing local government, mass transit).

The format of the Conference would involve both plenary sessions, to be led by distinguished futurists, and concurrent workshops. Several issues have been identified as subjects for the plenary sessions. Among them are:

1. Population Growth and Settlement Patterns in Minnesota: Metropolitan and Non-metropolitan Growth;
2. The Decision Making Challenge to State and Local Government;
3. New Communities in Minnesota: A Potential for Balanced and Orderly Growth;
4. Public Transportation in the Year 2000: Are We Getting There?
5. Financing State and Local Government Services: The Outlook

Concurrent workshop sessions, designed to insure dialogue, will focus on dimensions or functions important to Minnesota's future. Workshop topics will include:

1. People and life styles
2. Regional economic growth and development
3. Science and technology
4. Education
5. Manpower development and training
6. Environmental protection and utilization
7. Housing
8. Transportation
9. Income maintenance and social service
10. Agriculture and agribusiness

With the assistance of Dr. Daniel Ferber, former Vice-President for Academic Affairs at Gustavus Adolphus College, the State Planning Agency has discussed the desirability and methodology of such a Conference with a wide variety of individuals and organizations in the state. This past April, Governor Wendell R. Anderson hosted a luncheon at which time he indicated his willingness to support and to sponsor such a Conference. A. Edward Hunter, Deputy Director of the State Planning Agency, has drafted a Prospectus for the Conference which is now being circulated to obtain comment and recommendations. The Prospectus is being sent to prospective Foundations to elicit financial support.

MARRIAGE (from page 1)

that relationship are much more to the point than whether either of the parties has sought divorce. In a situation where divorce is difficult to achieve many unhappy people do not seek divorce. It is likely that the proportion of those today who are happily married is at an all-time high, since those who are dissatisfied with their marriage can so easily leave it.

It seems that divorce underscores the search for marital happiness and is not necessarily a sign that marriage as an institution is disintegrating. Divorce, therefore, is not a good overall index of whether or not marriage is dying, rather divorce may well be a sign of the seriousness with which the members of our society are seeking a "good" marriage.

There are those who view marriage as the legitimation of sexual relationships. Though it is true that sex is prescribed as a part of marriage, sex is easily available in some fashion outside of marriage.

Marriage, in effect, is the group's way of sanctioning two or more people as future parents. To be called a marriage, there must be the acceptance of the potential parental role. A good case in point is the current "living together" on our college campuses, which couples consider as part of a courtship — not a substitute for marriage.

The greater the freedom of expression, the higher the level of temptation, and the greater the female's interest in sex, the more likely that we'll have higher adultery rates. But — does this overall cultural change predispose toward unhappiness marriages? I don't think so. I think this situation leads to greater openness and honesty and to a greater likelihood of discussion about sexual choices. One result is likely to be more premarital and extra-marital experimentation, but I would guess that the number of significant and rewarding marriage relationships will increase.

Some people have viewed the growth of communal living groups and communal child-rearing arrangements as evidence of the demise of marriage. But, such arrangements may be part of a system to legitimize certain persons as potential parents. In the Israeli Kibbutzim, children are reared communally and do not reside with their parents. But the parents live together, and act out socially accepted husband and wife roles. Thus, marriage does exist. Furthermore, the parental ties to the children is very intense. In many ways, one could describe this society as child-centered, despite the communal upbringing outside of the home. Also, the tie of affection between husband and wife is a highly valued part of their life style. Such communal arrangements are not inimical to marriage.

In rural California communes Bennett Berger found that although there was verbal tolerance for sexual experimentation, very little went on, and that the married couples were not so tolerant. The commune picture that emerges is not one of radical change in marital relations. The radical change seems to be in the attempt to achieve close relations in one household, among a relatively large number of people.

Polygamous marriages are also a way of socially recognizing persons as potential parents, but such unions in America today are extremely unstable. Jealousy, conflict, loss of interest, and other factors have operated to dissolve such marriages rather quickly. It is difficult even for two (Cont'd on page 6)
The future of American agriculture will be shaped by continued technological advances, changing economic conditions, and improved farm management techniques. Public policies, hammered out in the U.S. Congress, will also have their influence. Many imponderables exist under each of these headings, but the hardest part of predicting how agriculture will look in another generation is not describing the shape of the pieces in the puzzle but knowing how they will all fit together. Which of the various crises of our time — population, world famine, pollution — will prove to be decisive? Let's look first at what technology might produce with the knowledge we have right now.

By the year 2000, the farmer will no longer be remote from major centers. If he chooses, he may be able to operate his farm by remote control. Closed circuit TV will provide weather reports, planting information, market analyses, and news of the latest developments in agri-science. The farmer will be able to draw upon huge banks of data, stored in computers or in electronic libraries, for detailed information and management advice on a moment-to-moment basis. Sensing equipment located in his fields, in barns, or even in his cattle will report constantly to the farmer or to the computer which will analyze the data and, under certain conditions, automatically take appropriate action. Such actions would entail turning on water sprinklers or pouring feed into troughs. Computers can prescribe chemical formulae, diagnose and prescribe for animal and crop diseases, determine the best time to buy or to sell and when to plant and harvest, and give the farmer “printouts” for more complicated decisions.

The 10,000 year evolution of the plow share from the pointed stick could leap into a new phase with ultrasonic soil treatment or machines which pick up soil, treat it, plant in it, and put it back on the ground or on treated surfaces to retain moisture.

The greatest revolution in technology will be the continuing biological and chemical revolution. Hybridizing and radiation treatments of seeds will produce 500 bushels of corn to the acre (compared to the present 90) or 300 bushels of wheat (compared to the present 40). Not only will seeds be disease resistant strains, but also fertilizer and chemical coatings applied before planting will prevent disease, control growth rate, and avoid waste and pollution.

Artificial insemination and transplants of female ova will produce, by the year 2000, animals with characteristics that natural breeding would require over a thousand years to produce and with less consistency. Farmers will be able to control the number and sex of animal litters.

Chemical pesticides and herbicides will be supplemented by electronic weed and insect control (“ray guns”) and by biological manipulation. Bug pests will be attacked by other bugs. Bugs may be “trained” to eat weeds instead of crops.

Synthetic substances will come to play an important role in the food market as they have in the fiber and leather industry, but most food “synthetics” will be made from other agricultural products. The greatest change will be the substitution of vegetable for animal products, especially as a source of protein. A variety of field crops, such as soybeans, will supply most of the raw material. Fish and marine plants and microorganisms will increase in importance but will still play a very minor role in the United States. Future advances in synthetic fiber technology will be refinements rather than breakthroughs.

Weather has determined farmers’ success for centuries. Climate is the last refuge of undomesticated nature on the farm. Weather predictions will be very sophisticated, and the adverse effects of drought will be minimized by seed breeding and irrigation. But true climate control will remain incomplete, and farmers will still be partly at the mercy of the elements in the year 2000. Nevertheless, tourists will see a few examples of the ultimate in controlled farming: huge plastic domes or canopies which make whole fields into greenhouses, with control of temperature, radiation, humidity, and carbon dioxide and other gases in the air. Science can achieve all these wonders, but farmers must be able to shoulder the enormous expense involved before they can become reality down on the farm.

There is land in the United States suitable for cultivation to expand production by one-third. Nevertheless, increased productivity will supply nearly all of America’s food needs in 2000. Increasing demands for land for non-agricultural use, expansion of rural industry, and climbing real estate costs will keep cultivated acreage at near the present level. At the same time, land not suitable for cultivation at present may become arable as new techniques of farming and seed varieties become available.

American agriculture will not have to strain to keep up with domestic food needs, but if the world’s population passes the six billion mark by the year 2000, little hope exists for diet adequacy around the world. The mass starvation predicted a decade ago was held off by the “green revolution.” The agricultural productivity of underdeveloped nations, especially in South Asia and Africa, will make gigantic strides by 2000, but hungry mouths will more than devour these gains. This means that export will take a larger share of American farm produce, even though our assistance to underdeveloped nations must take the form of helping them develop the capacity to feed themselves.

There will be very heavy demands upon the supply of credit. Farm credit needs could be almost equal to our total GNP in the year 2000. Farmers will strive for economies on scale, giving them the power to amass the enormous credit necessary to operate farms.

The farms themselves will be larger but fewer, though the rate of consolidation will have slowed noticeably by 2000. The typical farmer will be an executive, working in an office much of the time. He will have to know something about biology, chemistry, accounting, law, electronics, mechanics, agronomy, animal science, and a great deal about business management. Most farmers will be sons of farmers, and family farms will continue to dominate in the Midwest, although many farms will be incorporated or

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associated with some business aggregation, as a cooperative, in one way or another. Contracts will play a more important part in farm management at all levels. Farm laborers will be fewer in number than at present but unionized and better paid.

The federal government's domestic farm policy will do little to offset the trends generated by economic reality. Many friends of agriculture are skeptical of the benefit derived from traditional farm programs. Urban impatience with farm programs, coupled to declining political influence of rural areas, will have succeeded in undermining some of the programs giving direct government payments to farmers. The lack of political support for government farm programs reflects more than urban competition for urgently needed relief money. There is a growing realization that the problem of rural poverty is not purely an agricultural problem, but relates to income maintenance problems that touch all facets of society, rural and urban.

General economic policy and the foreign policy of the federal government will have greater impact on agriculture than specific farm programs because of the future need for massive credit and potential expansion of the export trade. Though the government will withdraw somewhat from economic intervention in farm affairs, the mass of regulations will grow rapidly as a result of consumerism and environmentalism. The technology of food production has enough available alternatives to adapt agriculture to most environmental protection controls without undue difficulty. But costs will go up. Taking into account those factors which can be predicted within some reasonable range of accuracy, the future of agriculture in the United States looks bright.

MARRIAGE (from page 4)
people to be able to live together intimately for many years. I would think that it is even more difficult when you increase the number of individuals involved. So I do not think our marriage form will change to any considerable extent in a polygamous direction.

One must decide what he wants out of a relationship. If one desires a close intimate relationship, then there are limits as to how many people in various roles this can be achieved with. If one is willing to participate in a mechanical, more bureaucratized type of relationship with various people, then greater numbers can be added.

I believe that the 1970's will witness a period in which people will come to know the nature of the various alternatives. Then the choosing will become more routinized.

Enlarging the scope of choice will have the longrun consequence of greater acceptability of variety. Never again will we picture only the two-parent family as the healthy family, or regard divorce as disgraceful, or condemn premarital coitus as disastrous.

We will witness more people who will live together but never marry. We will find more couples who marry but who never have children who work full time. We will encounter 'ever unwanted children.

The bulk of the people will likely choose to marry, to have children, and to live in nuclear family households. But those who choose to marry and not have children, and those who live in communal households will also find social acceptance.

There are risks involved in the new life styles. The major risk in opening up choice is error in choice. When choices open up, one must carefully consider priorities. The older restricted system exacted a price: it placed a person in a mold which did not enable him to choose a life style that would allow maximum self-growth and social contribution. The current, more open system runs the risk of one's acting impulsively. Such precipitate action might destroy aspects of life of higher priority. For example, one may impulsively get involved in a sexual encounter and thereby cause a break in a meaningful relationship, or one may hastily get involved in divorce proceedings and thereby avoid facing up to faults in oneself. Thus, the price of a more open system is the greater need for a rational examination of the alternatives.

The advantage of the new system is that it affords the greater opportunity for finding oneself. Marriage in the new society can be a most exciting relationship, but it will remain a relationship that needs constant reflective attention. This generation of young people is being given a range of choices far beyond that given to any other generation, but such a choice demands that the young exercise a maturity beyond that of previous generations.

New demands now also fall on older married couples, as they come to be influenced by the changing social setting. It is an exciting time both for the participants and for sociologists like myself who have the opportunity to study this new dynamic social context of marriage.