Editorial

"Bring coupons you don't want. Trade for ones you want."

Rivaling the unimpressiveness of these words is the little orange cardboard box on which they are printed. They sit together on the check-out counter of our college library.

Unobtrusive as this invitation may seem, it represents somebody's good idea. Money-saving shopping coupons are filed away there from which an indefinite number of library patrons feel free to add or subtract at will.

Did I say "good idea"? Maybe "stroke of genius" would be better. If a college family can be invited to share its shopping coupons and to pool its donated blood into a program of "lifeline" insurance, why stop our cooperative splurge here? Think of the possibilities! Why not a food and/or purchasing cooperative where "family" members could fight inflation by saving money on mounting consumer costs? Why not joint efforts in gardening? Why not a pool of costly but seldom used tools and implements? Why not.....ad infinitum? Some may even use such opportunities to save as an occasion to do more sharing with less fortunate members of our global community. There's a good chance that this stroke of genius could be enlarged into a whole avalanche of genius.

This issue of JUFF is dedicated to the idea (and ideal) that such a beautiful thought may in the not-too-distant future become a way of life that is essential to the survival of earth-dwellers. I think, deep down, we as academicians are too intelligent to laugh that one off. What is a more real danger is that unable to laugh at it, we shall simply receive the truth with apathy and indifference making no appreciable adjustment in our lifestyles accordingly.

The theme we celebrate in this issue is "Interdependence: The College Family and Our Global Community." To see our college as a family and our globe as a community is to begin to understand what we mean by interdependence. Our lives have become so interwoven that, as someone has put it, when my bathtub overflows the plaster on your ceiling falls.

The interdependence of our lives is an inescapable reality that requires its own vocabulary, creates its own viewpoints, and forges its own values. Vocabulary-wise, interdependence must be distinguished from dependence and independence. Dependence is that relation of attached helplessness which we experience totally at birth and hopefully in diminishing degrees as we begin to put distance between ourselves and the objects of our parental attachment. Independence is that goal toward which we move in this distancing process. Our earlier age of abundance taught us that this is the ultimate destination toward which we mature and develop. We have been conditioned to aspire toward a "rugged individualism" where we will be beholden to no other individual for our own individual, social and economic well-being.

The notion of interdependence seeks to re-interpret independence as a step on the way rather than as a final goal. Dependence is not good. Independence is
the rising above our dependence toward a creative and productive life-orientation. But just as creativity and productivity can never be ends-in-themselves neither must the independence that enables them. Life is an intricate web of relationship and our goals of maturation must take that reality into account. As our age of abundance gives way to an age of scarcity a new dimension of urgency is imperative if global catastrophe is to be averted. Interdependence represents for us the zenith of growth where there is the recognition both that we have something to contribute to the lives of others and that we stand in need of something that these others have to contribute. The old virtue of self-reliance is tempered by the encompassing virtue of love.

Corresponding to the value-systems implicit in goals of independence and goals of interdependence, there are also two different ways of envisioning the mature human being. We may view him/her as an individual or we may view her/him as a person. If one understands the highest goal in terms of independence, he/she is likely to conceive of the mature human as an individual. An individual--one who stands "in division" from other individuals--is a closed-unit concept which represents the separateness and apartness of human beings from each other as finished products. If on the other hand one understands the highest goal in terms of interdependence he/she is likely to conceive of the mature human being as a person. A person is an open-unit concept which represents the openness and relatedness of human beings to each other.

This move from independence to interdependence not only warrants our looking at human beings in a new way but also our looking at society in a new way. From an independence-perspective, society is viewed as a collective. A collective view of society means that we see it as a necessary evil, an artificial construct of isolated individuals whose geographical proximity makes society unavoidable. From an interdependence-perspective, society is experienced as a community. Community rather than being a mechanistic collective of separate individuals is a spiritual organism in which there is not only the acknowledgement but the celebration of personal relatedness to other open-ended persons. Whereas the collective is characterized by competitiveness, community is characterized as a growing circle of loving cooperativeness. In the most profound understanding of our Christian faith the life and vitality of this interdependent community of loving, cooperating persons is to be found in a personal redemptive relationship with God thro' his Son, Jesus Christ. This community finds its highest exemplification in the life of the people of God's own choosing, the Church. So integral is this Life to religious faith that its presence or absence becomes the standard by which it is discerned whether or not God is present. It also becomes the standard by which it may be discerned whether claims to being his Church are authentic or spurious.

So much for the vocabulary of interdependence. What now about the values that are implicit in interdependence? This is where this issue of JUFF comes in. It is the design of the present issue to make explicit by singular contributions of various disciplines and professors these views and values. So crucial is this concern that no academic discipline must be left untouched by its thrust. So widespread is this need that no discipline is excluded from its sweep. In the light of Abraham Maslow's "hierarchy of needs" where the physiological meta-needs form the basis for everything else, no discipline may be expected to be able to continue to do its work for very long unless the values of interdependence are soon achieved. Likewise it is doubtful whether these values can be achieved unless all our disciplines--humanities, fine arts, social studies, physical sciences, and professional
services -- see how urgent it is that each make its contribution to this imperative task and then proceed to do so.

There are some who believe that the spectre of scarcity in our world is contrived rather than real. Yet the burden is increasingly upon these to show how a finite planet like ours can indefinitely support our mounting population. Our consumer habits are so great that only wasteful technologies by depleting our finite resources can begin to supply our demands. Disciplines that emphasize technology and disciplines that emphasize values must somehow work together to meet our crisis. Technologies must be informed and tempered by values that are suitable to our crisis. Values must be implemented by appropriate technologies. Academic disciplines must acknowledge their interdependence if we are to play our necessary role in molding the future for our increasingly interdependent world.

This issue of JUFF has been two years in coming together. It contains five essays by four members of our faculty. Four of these come from the natural science division of our faculty, an area ordinarily reported to be high on technology. Yet the manner in which these articles from a physics professor, a chemistry professor, and a biology professor combine technological knowledge with appropriate value considerations is truly refreshing. An article from each of these disciplines provides timely perspectives upon the energy crisis for an increasingly interdependent world. One of these three professors then provides a second article on the problem of wealth and poverty in the world, giving another slant on what it means to be a hostage. A final article, a review article, comes from the humanities division and turns the ethical searchlight upon the law of entropy as a perspective for interpreting what is happening in our world and what must happen in it in the future if we are to survive. Two professors from the Art Department also have been kind enough to share their works with us.

It is the wish of those who have produced this issue of JUFF that those of us who read it shall be given an expanded awareness of what life together in an interdependent college family and in an interdependent global community involves.

Special thanks are extended to the College Services personnel who have printed not only this issue but all of our issues of JUFF.
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The Energy Choice
By Kyle Hathcox

Like ants on a log, floating steadily downstream, just above a precipitous waterfall, Americans continue to ignore the desperate energy situation. Many realize the country is having some difficulty, but generally feel that our energy problem will soon be solved. The number that hear the impending waterfall and attempt to make plans accordingly are far too few. Each month our domestic fuel supplies shrink as our imports increase. Other countries have cut energy consumption considerably since the 1974 crisis, but America has continued its gluttonous use of energy. At present we are importing nearly one-half of our oil. How long will it be before the Middle Eastern valve is again turned off for political or economic reasons?

What alternatives do Americans have? The nuclear industry claims to offer a bountiful supply of energy in exchange for certain risks. Everyone is well aware of the dangers of radioactive waste and the lack of any known satisfactory solution for radioactive waste disposal. Without regard to these problems, consider just how much energy our present, light-water, U-235 fueled reactors can provide. According to all estimates our domestic uranium sources offer only a 30 to 40 years supply and would likely be depleted before our oil supplies. Of course, we could become dependent upon other nations for imported uranium as we have for oil. However, even then we will only stretch the world's limited supply a few years. Thus the present nuclear program can at best buy us some time.

Breeder reactors offer considerably more energy for a given amount of fuel than light-water reactors, but they produce plutonium-239. Plutonium-239 is a very radioactive and dangerous material. Also coupled with this is the fact it is useful for making atomic bombs. Less than 20 pounds can be used for a bomb. Each breeder reactor will contain over 2000 pounds of fuel and breed or generate an additional 200 pounds of plutonium a year. There will be considerable shipping and reprocessing of this material. Each time it is handled the possibility of an accident or a highjacking is present. Do we wish to take the risk involved? What are the consequences of such proliferation of the use and distribution of plutonium? Even with a go-ahead, breeders are 10 to 20 years from being on line reactors and supplying us with any reasonable amount of energy.

Fusion reactors appear attractive but are far in the future if at all. Some feel the technological problems of fusion reactors are almost insurmountable. We do not have a simple answer for our energy crises. All of the large scale energy sources have many associated risks. For one example, many scientists express concern over thermal pollution. As mankind burns more and more fuel, whether nuclear, coal, or wood, heat is a by-product. This waste heat can accumulate to some extent over the years and the thermal effects can be quite detrimental to the whole earth.

Renewable energy sources such as solar, wind, tidal, and geothermal energy seem to offer a desirable solution with the least adverse effects. However, any large scale power generation from these sources lies in the future, possibly decades away. Since the energy problem is immediate and most of the solutions are either temporary or far down the road, what are some instant answers? We cannot proceed as in the past, something must change. This is a reality that must be faced.
An energy crisis occurs when the demand exceeds the immediately available resources used in meeting that demand. Since resources exist as a finite quantity, particularly the conventional fuels, the demands upon these resources must then be limited. Difficulties with limitation exist at many levels; however, they probably exist more as a social and/or philosophical problem than as a technological or economic one. The limitation of energy implies conservation. For many individuals conservation is equated to sacrifice, and sacrifice is equated to a lower standard of living, and a lower standard of living is not acceptable to the American public. Unfortunately, conservation and sacrifice will be required to ease our present energy situation, at least as a temporary measure to buy time until technology can transfer our energy dependence from its present sources to a more viable alternative. How then will this affect the individual American?

On an individual, personal level each citizen will have to re-evaluate his priorities and the importance he places on certain conveniences and services. Life styles will certainly change during this generation. With most Americans our energy gluttony problem has not been greed so much as it has been one of misinformation and ignorance. We have never been told as a public that resources were limited and we must not use so much. Everyone always thought there was an "infinite" supply of oil or coal. However, based on the past 50 years growth rates for the world, the end of oil and gas is in sight, and coal could be used up in less than 200 years if we do not make some changes. A national education program on energy at all levels of learning could be most beneficial in remedying this aspect of the problem.

For example, every unit of energy saved is worth 10 units of new energy sources found. This may not seem logical at first but one must consider with any energy source about nine tenths is lost in developing, producing, and distributing the energy. Additionally, we always have the environmental impact of developing the new source. Therefore, when we save a barrel of oil through conservation it is better than finding 10 new barrels of oil underground, and also prevents all the associated environmental problems.

As individuals come to understand the situation, we will be much more willing to become actively involved with conservation. We will find that with conservation our standard of living may actually increase as a result of our increased sense of self-worth and pride of accomplishment. Americans will find that a high quality of living does not mean excessive quantity in living, and we will learn that luxury can be traded for necessity without lowering our standards.

During the next decade life styles will change, but they can change for the better. Depending upon our awareness and sensitivity to problems around us, we can adapt to many situations without a lowering of our standards.

Does riding in a carpool mean a lesser quality of life? Does a picnic in the back yard have to be less enriching than one in a park across town? Is a house at 78 degrees F. inferior to one at 72 degrees F. in terms of living standard? Would using a hand-operated can opener make your life less enjoyable?

Has America been wasteful and insensitive to its resources and reserves, have we been short-sighted and forgot to plan for tomorrow, do we have an obligation to conserve and use only what is actually necessary? Each American must decide now what they will do. Our country is in a crisis and decisions have to be made quickly. It is time for some very critical decisions to be made by all of us.
Toward A Responsible Energy Policy
By Charles Baldwin

On countless occasions in the past we Americans have been reminded of our seemingly insatiable appetite for energy. We have become insensitive to the fact that as global gluttons we "consume" one third of the world's energy while representing only 6 percent of the world's population. The economic consequences of continuing this national course were drawn into sharp focus by Harold Pluimer, futurist and Jones lecturer at Union University. The United States is still importing oil from OPEC countries at such a rate that OPEC will be able to buy every company and corporation listed on the New York and American stock exchanges in eight years... for cash. No longer can the problem be viewed as gluttony for when a significant number of our population talk of making war to insure an oil supply we have become victims of an addiction. Like addicts we grasp whatever means at hand to support our habit even choosing routes that may lead to self-destruction.

To what noble purpose has our sky-rocketing use of energy been put? Between 1920 and 1970 per capita energy "consumption" in the United States increased 90 percent. In this same period the production of solid wastes increased 84 percent per capita. It is a conservative estimate that 75 percent of the increased energy demand is being used to produce garbage whose disposal requires significant local and federal tax dollars. That we have become a throw-away society is more than just campaign rhetoric. And in our credit card-powered, consumer-oriented society we are encouraged to "conserve energy." For over a century it has been recognized that energy (and Matter) are always conserved. Human beings are not energy "consumers;" they are converters. Because the use of energy is a conversion process the concept of efficiency becomes more important than the conventional supply and demand principle which is more important in material economics. Therefore, federal energy policy should focus on supporting the most efficient means of energy conversion and that includes the generation of electric power.

To become energy independent we must utilize fuel resources present in the United States. In the long term this should certainly mean strong reliance upon solar energy. A reliable study by Little and Company indicates that $150 billion would be required to develop and bring on stream a solar-based energy supply system large enough to free the U. S. of OPEC dependence. As large as this investment seems it is only equal to the cost of two years supply of imported OPEC petroleum.

By far the most abundant fuel resource in the U. S. occurs in large deposits within the boundaries of Tennessee -- coal. If national energy independence is our goal then a federal energy policy must emphasize solving the problems associated with the conversion of coal to electric power. More efficient methods of conversion must be sought and safer ways of obtaining the coal must be found. It would seem that a fusion of oil field technology with new extraction techniques could obviate the need to send human beings into the bowels of the Earth at great risk to life and health. Unfortunately the companies which control drilling technology are not apt to pursue research that might cut profits due to the emergence of a cheaper energy source.
Not only does Tennessee possess abundant energy fuel resources but there also exists within her boundaries a very active research group at the University of Tennessee Space Institute moving in on a promising technique for converting coal to electricity. Magneto-hydrodynamics (MHD) power generation is capable of producing electrical power at high efficiency with reduced air pollution. It has the additional advantage of being a relatively low-cost technology which can be retrofitted to existing coal-fired electric power generating plants.

The MHD process generates electricity when coal is burned at elevated temperatures (2800-3000 °K) producing hot gases that flow through a magnetic field at the speed of sound. Conductors in contact with the hot gas carry the current generated to a distribution network. The hot gas is then directed into a conventional steam driven turbine generator. The MHD process almost doubles the efficiency of conversion of coal to electricity. Such an increase in efficiency could allow savings of $120 to $274 billion in the country's power bill by the end of the century. Additionally an MHD facility is projected to cost $400 million compared to $2 billion for a nuclear power plant of comparable generating capacity.

The most attractive feature of MHD is its kindness to the environment. The process allows the use of coal with high sulfur content. The effluent gases contain less sulfur dioxide than conventional coal-fired plants with scrubbers. Also the particulate emissions are reduced by a factor of 10. Additionally, nitrogen oxides and thermal pollution are reduced by the MHD process.

Many technical problems associated with MHD remain to be solved. However, the greatest obstacles to MHD development are not technical but political. The powerful nuclear lobby in Tennessee has until recently been successful in thwarting federal support of MHD research. Competition between both of these East Tennessee based technologies will continue but hopefully more equitably and to the greater benefit of the public. It is still puzzling that TVA has failed to support this promising avenue of energy research even though it stands to benefit greatly from progress in MHD. Perhaps Messrs. Freeman, Freeman, and Clement will confirm our faith in their leadership by continuing progressive reform in TVA to include vigorous activity and participation on the part of TVA in the MHD saga.
Echoes From The Canyon
By Harold A. Simmons

The wail of anguish from the
canyon told our group that the
new oil well was dry—and yet
also showed the despair of a
lifestyle built upon a very
narrow base...

Civilization may be younger than we think if we recognize the following:
a) agriculture is only five to seven hundred generations old;
b) the entire scientific era is only about 20 generations old;
c) the mind of man has been studied only three generations!
d) fossil fuel usage worldwide is only 6-7 generations old; and,
e) use of nuclear power is only about one generation old.

Assuming that the rate of change will continue to accelerate, and that the changes
will be directly related to lifestyle, the following questions should be posed:

1) How should we deal with such rapid change that puts
   pressure on societal and cultural value systems?
2) What new attitudes do we need to adopt toward nature
   and human life?

Value systems of the past, even those of parents and friends, were constructed
with emphasis on past experiences. It was thought that prospects for the future
would remain stable and expectations would be the same as those for previous
generations.

This prepares one for a static reality—a phenomenon that has not existed
since the start of the twentieth century. A new attitude is needed that is
designed for rapidly shifting reality and that allows the adoption of new expec-
tations incorporating new facts of history, philosophy, and science. Using
previous value systems as a basis, we will continue to experience problems until
we learn to live with ambiguity and exhibit tolerance. This would help remove
the possibility of blaming our individual or social conditions on fate, God's
will, or Zeus's anger. This also places an awesome responsibility upon the indi-
vidual and the dignity of his actions toward fellow earth inhabitants and their
lifestyles.

Organisms (e.g., plants, animals, man) are organized into basic functions
collectively termed "life." Love, awareness, joy, pleasure, and pursuit of free-
dom begin to form a list of phenomena that help distinguish man from these other
organisms. We possess the intellectual capacity, technology, available acreage,
and ships to feed all current peoples and satisfy basic demands of the biological
survival of life. The most important entity is lacking—the attitude and willing-
ness to do this because a radical shift in political and economic stances would
have to be made. Uncle Sam seems much more attuned to preserving the status quo
than willing to deal with shifting reality and changing lifestyles.
At the individual level, the missing element seems to be dignity and integrity of action, work, and interaction with other persons. This lack of dignity and integrity is founded on pessimism. What are the factors which constantly nurture pessimism?

1) How we view the overall human condition is usually equal to the way we view ourselves. Most people are reared in homes where love is conditional and used as a reward; therefore, frustration psychologically prepares one for failure.²

2) Most Western religions major on the theme of guilt, sin, wickedness, and perversion. How can one be optimistic when continuously being told that happiness and satisfaction—even biological survival—are not deserved?

3) The distinct omission of a historical perspective pervades not only school curricula but also individual reading habits. "Those who do not know the past are condemned to repeat it."

4) The lack of full utilization of biological sensory perception. Most individuals seem content with a lifestyle of preconceptions rather than observations.

One major misconception that forms a basis for current problems of interaction and lifestyle is the idea that man is somehow outside the realm of natural laws. Man is, in fact, a part of nature and any value system must include this basic scientific fact. The abuse of nature and misuse of natural products is derived from the concept that man is dominant to all the earth. The best example of this is our own Western lifestyle. The fossil fuel crises is somehow considered a threat to the "great American lifestyle" and threats evoke defensive reactions.

The scope and complexity of problems faced by individuals and nations may indeed seem discouraging. Any form of planning is based upon the assumption that man, individually and collectively, does have a future. The kind of future should then be the major concern.³,⁴

Three points may be listed in favor of optimism in resolving crises and in affecting basic lifestyles.

1) we need to be logically oriented to accept that change will accelerate more and that future scientific advancement will tax the mind of every thinking citizen—thereby forcing usage of intellectual capacity never before achieved and forcing a change in academia also;

2) the overall emergence of tolerance is becoming evident despite the fighting of some religious and political factions²

3) the inherent strength of the individual should represent an untapped source of resiliency and imagination from which to fabricate future men.
Charles F. Kettering is quoted as saying "We should all be concerned about the future because we will have to spend the rest of our lives there." This is much more than a cliche, and is a more responsible position than the "just live day-to-day" pessimism which has become predominant in the populace. Optimism⁵,⁶, the biology of hope, seems to be the needed attitude in dealing with ambiguity and never-the-same situations. It seems imperative to embrace optimism when broading the base of a lifestyle.

Notes

1. Gorney, Roderic. The Human Agenda.
2. Esfandiary, F. M. Optimism One.
5. Tignor, Lionel. Optimism--the Biology of Hope.
And Still There Are Hostages
By Charles Baldwin

At 2:00 A.M. (Washington, D.C. time) on November 4, 1979, a ragtag band of 400 self-described students marched through the streets of Teheran shouting "Death to America" and "Death to the Shah and Carter." When they arrived at the sprawling U.S. Embassy compound, one of them cut through the heavy chain on the Embassy gate, meeting no resistance from the Iranian guard stationed there. Squads of ten to twenty attackers each moved quickly into position around the compound. At 3:03 A.M. senior watch officer Robert S. Steven in the State Department received a call from the U.S. Embassy in Teheran. The calm embassy officer in Teheran stated simply that demonstrators had broken into the compound and were occupying embassy buildings. And as a footnote he added, "They do not appear to be violent." Inside the Teheran Embassy, U.S. personnel were frantically trying to get the Bazargan government to protect the diplomatic post and halt the attack. The phone calls to Bazargan's Foreign Ministry went unanswered. Marine guards herded staffers first to the basement, then to the second floor, issued them gas masks and told them to keep quiet.

Outside the demonstrators held a banner that said "We don't want to harm you, we just want to hold a 'sit-in'." Even though the marines offered only token resistance, firing a few tear gas canisters while staff members shredded sensitive documents, the attackers took nearly three hours to gain control of what they called, "the nest of vipers."

In Washington, State Department official Steven could hear the demonstrators' chants over the phone line which remained open for nearly two hours. Steven heard demonstrators crashing through barricades and finally, at 4:57 A.M. (Washington time) after an envoy calmly reported, "Some of our people are being led out of here one by one," there was an "electronic squeal" and the phone went dead. Over sixty Americans were tied up, blindfolded, and led away to the Ambassador's residence.

When the U.S. failed to extradite the Shah who was undergoing treatment for cancer, which was to eventually cause his death, the militant students vowed to try the hostages as spies and CIA agents. In a brief moment of goodwill, five women and eight black people were released late in 1979. Then, in July, Richard Queen, suffering from multiple sclerosis, was released, but for 444 days the other 52 Americans lived beyond the eyes and ears of their friends and relatives.

The term, hostage, has taken on new meaning. For a time, ABC News sought to keep the hot flames of revenge fanned with their nightly "America Held Hostage" program, but pseudo-patriotism soon gave way to Nielson ratings and economics. This Christmas season just passed saw an attempt to re-ignite those embers of ill will toward the Iranian people with emphasis upon spending 417 seconds in the cold directing our frustration and tiredness toward the citizens of Iran. I must confess some frustration of my own at a campaign that generates ill will in a season when creative ways of demonstrating goodwill have traditionally been sought. It is a prostitution of Christmas Day to spend even one second hating others when He whose birthday we celebrate lovingly gave his life for those who took him hostage.
Much can be learned from the Iranian experience. The fourteen months of national anxiety focused our attention on a state of being which escapes the Western sensitivity. The rest of the world understands enslavement and recognizes that to varying degrees we are all hostages. Perhaps, in the future we will concern ourselves with freeing the hostages—all of them.

Lokesa is a citizen of Mbandaka, Zaire. He has supported his wife and four children by doing domestic work. His last job was as a cuisinier, a cook. He asked one of his employers, Millard Fuller, to keep 60 Zaires (approx. $120) for him. Lokesa would add a little each year to his savings which was intended to purchase materials to build a house. His family lived in a mud hut covered with a palm-leaf roof that was caving in. The "house" was so small they could only sleep in it; at other times they stayed outside. Realistically, Lokesa's children would live in a house of mud walls and bear him grandchildren who would know nothing more. They would never know the taste of roast suckling, pheasant, or lobster. They would know the pain of hunger. Furthermore, they would not have the power within themselves to change that—they are prisoners of poverty—hostages if you please.

We do not have to travel to Zaire to encounter men who are trapped in poverty. Consider the family of 12—a mother, old at 34 with 10 children and her younger brother living in a three-roomed framed house, five miles southwest of Henderson. No family income—only a small welfare check and food stamps with which she bought formula for the baby. The formula was "stretched" as it had been done with each of the last three children by adding twice as much water as the formulation called for. This malnourishment precisely at the time the baby's brain and body was in a critical stage of development determined that the child would never be on equal ground in the classroom, on the athletic field, or in the workplace. He would marry and the cycle would start over again—a squirrel cage (or gerbil or pet mouse). Yes, indeed a hostage.

Ironically, the person who has much is also a prisoner. Millard Fuller at the tender age of 6 began working on his "first million." His dad, a grocer in Lanette, Alabama, gave him a pig and told him to fatten him up, sell him, and make some money. That he did and more pigs followed; and chickens; and rabbits; and a small enterprise in firecrackers. When he reached the age of 12, he sold his assets and got into cattle. The money he made from then until he graduated from high school paid his way through college at nearby Auburn University. Later, as a law student at the University of Alabama, Millard launched a series of business ventures with a fellow student, Morris Dees. Their interests included student apartment-house rentals, fancy birthday cakes, student telephone directories and desk blotters, and a mail order business offering products such as holly wreaths, door mats and trash can holders to youth groups throughout the country for fundraising. By Commencement Day they were making $50,000/yr.—and they questioned the wisdom of graduating. Within 3 months of graduation, one product, tractor cushions, had made the Fuller and Dees Marketing Group, Inc., $70,000 net profit. Eight years after beginning their company at the University, Fuller and Dees owned a plush modern office building in Montgomery, employed 150, and had sales of over $3,000,000/yr.

One day in 1964 as Millard sat in his office, the treasurer of the company burst into his office and tossed a stack of papers on his desk. "Congratulations" she exclaimed, "You are a millionaire." After confirming from the financial statements that both he and Morris were indeed millionaires, he accepted his treasurer's congratulations and got to work on his next goal—$10 million. But Millard Fuller's
life was a thunderstorm about to break. Although less than 30, he had difficulty breathing. Several times per day while gasping desperately for breath, he would grasp the arms of his chair and push himself up to relieve the pain. A big sore that would not heal developed on his ankle. His doctors attributed it to nervousness. But more tragic was the direction his marriage was going—what had been a close and loving relationship had cooled to the point that marriage for Millard and Linda simply meant sleeping in the same place. Millard says, "We had everything—successful business, cattle ranch, cabin on the lake, speedboats, expensive clothes, Lincoln Continental, big house, and plans for a mansion. But deep in the recesses of my mind I was beginning to wonder: Is more and more of this to be the sum total of my life?" Millard Fuller had slipped into a prison. Like a racing mustang the desire for wealth had drawn him into a box canyon. He was a prisoner of affluence—a hostage of wealth.

None among us are immune to the shackles afflicting the human state. It seems necessary, therefore, to consider one of the factors affecting the lack of human freedom on the premise that those living in the state of greatest freedom are in the best position to have an impact upon the global condition. It should be noted that no effort is made to link freedom quantitatively with the political system within which one lives although such an argument may be cogently put forth.

What do each of the "hostage situations" have in common? Realizing that some will take issue with this writer's opinion and at the same time welcoming diverse comment, the following ideas are suggested. A major factor creating each hostage situation is greed. The headlong rush for money, material, land, and power equates with hostage taking. The gain of material wealth for one individual or a group of individuals must be accompanied by loss for others. It has been said that wealth is the resources of many in the hands of a few. Inevitably wealth translates into power. The late Shah upon the advice of then Secretary of State Kissinger was able to convert oil into big dollars which he exchanged for military hardware. At each stage the greed of some human element gave energy to the snowballing process. Kissinger's desire for diplomatic prestige, the insatiable appetite of the U.S. for energy, and the Shah's own lust for political power worked to increase the entropy of global society. The chaos thus spawned erupted on November 4, 1979, as predictably as cold weather accompanies winter.

It seems possible that the societal damage could have been prevented or at least minimized by the absence of any one of the three greeds. The chain would have been broken and catastrophe averted. I shall not judge the Shah's or Mr. Kissinger's motives but will focus on the third link in the chain in order to make my point of this article and thus bring it to a quick conclusion. The average citizen of this country does not seem to be inspired by the effect which energy and resource conservation can have upon "global hostages." To use less gasoline in this country means that developing nations have a better chance of realizing their technological goals and thus creating jobs for their people. To eat less grain-fed meat means more hostages of famine and hunger can be freed.

Some have argued that we should not go without in order that others might have. That is to say, why should we become semi-prisoners that others might go free? I believe the answer lies in the fact that if we choose to get by with less we have validated our freedom. Others are prisoners because external conditions
make them so. To voluntarily adopt a simpler life style authenticates the state of being free. The Galilean knew the truth of this logic and so stated it when he said, "For whoever wants to save his life will lose it, but he who loses his life for My sake shall save it."
Living Within Our Means On
A Small Planet: A Review Article
By W. Clyde Tilley

Entropy: A New World View, By Jeremy Rifkin with Ted Howard
The Viking Press: 1980
The Emerging Order: God In The Age of Scarcity, By Jeremy Rifkin

Who remembers the gasoline lines—including the reported shootings in those
lines—of a summer ago?

According to Rifkin and Howard, life is going to get a lot uglier. In fact
"the frustration and anger experienced in gasoline lines in the summer of 1979 was
just a warm-up exercise for what is going to take place in the grocery store lines
in the years ahead" (p. 140).

The authors of Entropy have a very arresting and highly convincing analysis of
this crisis, a sobering justification of the above projection, and a challenging
programme of response to it.

The current energy crisis comes in the aftermath of centuries of aggravated
defiance of a very fundamental law of nature: the law of entropy (also called the
Second Law of Thermodynamics). Although the amount of energy in the universe can-
not change (the First Law), the form of energy is constantly changing—from usable
to unusable forms. We can get work out of energy only when it is hotter than the
environment in which it operates. This is what the law of entropy means: the
entire universe, conceived as a single energy system, is undergoing a constant
cooling process and the supply of energy available for work is continually declin-
ing. No mere theory, this undisputed law applies when "renewable" energy, as well
as unrenewable energy, is being used. Entropy also means that this leveling pro-
cess is moving the universe toward greater stagnation and disorder.

Although there is nothing that human efforts can do to reverse this process,
it can be greatly accelerated or slowed down. For over 300 years the whole mode
of human living has accelerated the rate of entropy to crisis proportions. The
mechanical way we have been taught to view our world as a sphere where unlimited
human progress and unlimited economic growth are possible has set the stage for a
crisis. At a more practical level our world view has resulted in the encouragement
of human selfishness, the greedy exploitation of our planet, the uprooting of man
from his setting in nature, the spiraling and insensitive rise of technology, and
the inflation of our living standards and consumer habits beyond the capacity of
the earth to sustain them over the long haul.

Indeed, if Rifkin is correct, our high standard of living has brought us to a
brink of destruction and we will need both wisdom and good fortune if we are to
recover. "Addiction" best describes our dependence upon the manner of living to
which we have become accustomed. The advertisers and a pace-setting GNP threaten
to increase this dependence upon a habit that we can continue to support only by
bringing the world down upon us in ruins. Already, as six percent of the world's
population, we Americans consume one-third of the world's energy. We consume
more energy than all of the countries of Western Europe combined even though they have 75 percent more people. "Today, Americans consume more electricity for air conditioning during three summer months alone than does the entire population of the People's Republic of China to meet all of their annual electrical needs. And China has four times the number of people." (p. 118)

It requires no genius to see that such exorbitant patterns of energy consumption—and the bottom line of all consumption is energy consumption—in a world where there is already a strain on the energy supply is out to shipwreck Spaceship Earth. It all means that if 18 percent of the world population consumed like we do, there would be no energy left for anyone else of the energy presently being used. Furthermore, that 18 percent could not live and consume without the other 82 percent of the population, for our material well-being depends upon keeping the rest of the world alive (as producers) and poor (as consumers). And yet our motivation for wanting to increase the energy supply is so that we may continue our wasteful Western technology.

A whole array of possible responses may be made to this crisis. Rifkin outlines three unsatisfactory ones: The optimists cling to their stubborn faith that somehow the entropy flow can be reversed. They believe that technology, by means of new renewable energy sources and genetic engineering, can stem the tide. Rifkin, however, warns that the law of entropy is as irrevocable as the law of gravity and we cannot break it. We can only break ourselves by our defiance of it. The pragmatists will attempt to make slight changes in our present way of doing things in the faith and hope that these minor adjustments will save us. This response simply delivers "too little, too late." The hedonists with realism but insensitivity, asking "What has posterity ever done for me?" adopt the "Let's go out with a bang." slogan.

To tinker with the existing order is not adequate. To behave responsibly toward the present crisis we must dismantle the old order and replace it with a low entropy society. This is possible only if we dare to develop a total new world view that derives its directions from the fact of entropy. Progress must be dethroned as the central value. If the human species is to survive we must cease our aggression against the planet, choose to respect its physical confines, and accommodate ourselves to the natural order. As we seek to exercise our dominion over Spaceship Earth, we must cease to commandeer it as pirates or to commit mutiny as rebel navigators against the other navigators on board. We must as a full crew re-evaluate our voyage plans, rechart our directions where necessary, adjust our rate of energy consumption, and let our pantry provisions be dispensed according to need rather than greed. Rifkin sketches changes that must be made in economics, agriculture, transportation, urbanization, the military, education, and health if these values are to be incorporated into a new society.

"The highest moral imperative (of this new order) will be to waste as little energy as possible. By so doing, we are expressing our love of life and our loving commitment to the continued unfolding of all of life" (p. 259). To be sure this transition will be "accompanied by suffering and sacrifice. But there is really no other choice. The fact is, the suffering will be minimized if the transition is made now in a thoughtful, orderly manner, rather than later, out of sheer panic and desperation."
What are the prospects for the orderly emergence of such a society in contrast to the catastrophic advent of its alternative? In an earlier book, The Emerging Order: God in an Age of Scarcity, attention is directed to the church for hopeful signs of such a social ideal. Since the Protestant Reformation provided the rationale and driving force by which we have produced and consumed during the age of expansion, perhaps a second Reformation can do the same for our age of scarcity. What we are dealing with here is more than just a starry-eyed hope. The signs of an emerging order are in evidence.

Since our age of expansion and Protestant Reformation ethics have existed in a mutually dependent relationship since their inception, the death of the one will mean the death of the other.

Today, the virtues of work for work's sake, frugality, and self-reliance--the behavioral principles of the Reformation age and the liberal ethos--are falling victim to a new economic reality: a reality highlighted by a basic change in the mode of production, a shift to a service economy, and increasing emphasis on consumption over production.

These broad economic changes have begun to undercut the Protestant ethic... creating a theological vacuum which grows larger day by day (p. 185).

An adequate theology for filling this vacuum must provide two things if it is to have impetus for the reordering of society: a liberating force and a covenant vision. Twice in America's history--the American Revolution and the Civil War--evangelical Protestantism has provided this spiritual impetus. Once again "the Christian community is responding to these jarring changes with the beginning of a new liberating force and the elements of a new covenant vision" (p. 210).

There are two prongs to the current Christian renewal movement: the charismatics and the mainline evangelicals. The authors believe that the charismatic movement has potential for providing the liberating force for the new theology. Unlike Calvinism which was the theological fountainhead of the capitalistic era of expansionism, this multi-million member movement roots proof of salvation in supernatural gifts. This contrasts with Calvinism's proof of salvation--unceasing physical work, which soon came to be translated into materialistic production. The supernatural emphasis has a revolutionary potency and the seed for a liberating force. "The loss of faith in science and the corporate medical establishment and the movement back to faith in supernatural truths for health cures is as earth-shaking in portent as the turning away from Papal authority and the ecclesiastical truths of the Roman Church doctrine 600 years ago."

Within the second prong of Christian renewal, the neo-evangelical movement, there are encouraging signs of the emergence of a new covenant vision. A new understanding of work is resulting from a revitalized creation doctrine. A new emphasis upon the image of God in man entails that man is both a producer and a conceptualizer, two roles that capitalism's division of labor has separated. A new concept of man's dominion over the earth proclaims "stewardship rather than ownership and conservation rather than exploitation" (p. 271). Some consistent conclusions are beginning to be drawn from the stewardship doctrine that relate to disarmament and our economic and ecological limits. A reconstructed view of the
family stressing equality, interdependence, and responsibility is being evidenced. The upshot of these new directions could fill the vacuum of our time and provide a new covenant vision for the steady-state society that our age of scarcity demands.

If the reader tends not to be convinced by these signs in which the authors sustain their hope, perhaps he/she needs to be reminded that the optimism of the book is by no means a blind one. The claim of this book is that these directions are not the order or even the trend of the day. They are rather signs. It is with considerable caution that we are taught to hope in them. For instance, hope from the charismatic movement is fraught with a tendency for the movement to buttress the status quo. Concedes the writers: "There are as many reasons for believing it will end up accommodating itself to the existing technological society as there are for believing it will help overthrow it" (p. 228).

It may well be, as some of us suspect, that the prospects for covenant vision are more firmly rooted than that of the charismatic liberating force. But it may also well be that the kinship of both in the Biblical tradition will see to it that the charismatic forces of liberation may be amenable to instructive direction by the covenant vision if that vision becomes sufficiently bright.

While it is too early to tell which way the charismatic movement will eventually lean, a great deal will depend on the understanding of the nature of our secular-materialist culture. If they see the problem simply as one of saving fallen individuals from an evil world, leaving the institutional basis of materialism untouched, then it is likely the existing world will end up changing them, rather than they it. If, however, the evangelical participants in the new awakening are able to introduce the Biblical notions of fallen "powers and principalities" as a dual concern along with individual renewal, then this new awakening may, indeed, combine liberation with covenant and change the course of history (p. 231).

Our faith is a faith that hopes. This book serves to remind us that our present hope is not simply framed in a historical void. Rather it is a hope like that of an ancient prophet whose persistent servant said to him: "I see a little cloud no bigger than a man's hand, coming up out of the sea."
Contributors

Charles Baldwin is Associate Professor of Chemistry at Union, a position he has held since 1970. In his essay, "And Still There Are Hostages," Charles contends that "a major factor creating each hostage situation is greed. The headlong rush for money, material, land, and power equates with hostage taking. The gain of material wealth for one individual or group... must be accompanied by loss for another... The chaos thus spawned erupted on November 4, 1979, as predictably as cold weather accompanies winter."

Kyle Hathcox began teaching Physics at Union in 1974 and is currently Associate Professor of Physics. Kyle expresses his belief in "The Energy Choice" that "we will find that with conservation our standard of living may actually increase as a result of our increased self-worth and pride of accomplishment. Americans will find that a high quality of living does not mean excessive quantity in living, and we will learn that living can be traded for necessity without lowering our standard."

Harold Simmons came to Union in 1977. His teaching assignment is in the Biology Department as Assistant Professor. "Echoes From The Canyon" reflects Harold's view that "value systems of the past... were constructed with emphasis on past experiences... A new attitude is needed that is designed for rapidly shifting reality and that allows the adoption of new expectations incorporating new facts of history, philosophy, and science."

Clyde Tilley has taught in the Department of Religion and Philosophy since 1966. He also edits this issue of JUFF. "Living Within Our Means..." can perhaps best be summarized in this passage. "As we seek to exercise our dominion over Spaceship Earth, we must cease to commander it as pirates or to commit mutiny as rebel navigators against the other navigators on board. We must as a full crew re-evaluate our voyage plans, rechart our direction where necessary, adjust our rate of energy consumption, and let our pantry provisions be dispersed according to need rather than greed."

Grove Robinson has been chairman of the Art Department since he came to Union in 1971. Meredith (Micky) Luck has taught with him in the Art Department since 1976 and serves presently as Assistant Professor. These men are responsible for the art work in this volume.