Prefatory Comment. The following colloquy is based on a talk given by B.F. Skinner at a BFSA symposium held on May 25, 1980 at Dearborn, Michigan. Dr. Skinner's remarks are directed principally to the energy problem, but they apply with equal force to all other major problems with which the human species is presently faced: resource depletion (of which the energy problem is one aspect), environmental pollution, and competition for scarce resources (of which war is an extreme phase). These problems, in turn, are in great degree the result of overpopulation and overconsumption.

Continuous population growth has several important effects. One effect is local in character. A continuous local increase in population eventually exceeds the effective range of established systems of control, which contributes pre-eminently to the attenuation of law and order. This is one of the main arguments favoring a conversion to small scale social units. Because its size does not exceed the limits required for successful planning and management, the small community is amenable to effective control and countercontrol. In the course of the present exchange, Dr. Skinner discusses the relevance of Walden Two, which is the classical behaviorist version of the small community.

Other effects of continuous population growth may be noted in more general terms. A continuous increase in population is necessarily accompanied by a continuous increase in resource consumption, and this has two serious effects: a continuous increase in environmental pollution; and a continuous decrease in the quantum of — and hence a continuous increase in competition for — the earth's non-renewable or otherwise scarce resources. This may easily culminate in war. The entire tissue of problems is greatly aggravated by extravagant consumption. It is further aggravated by a circumstance in which all members of the human species do not participate equally in whatever consumption takes place. It is aggravated still further by the availability of weapons of mass destruction.

Not every member of the human species participates in the immoderate consumption that currently prevails, but this blessing is also a curse. One of our most troublesome problems is the very poor distribution of goods and services among consumers. Unequal distribution, not to mention unequal participation in production, is a principal cause of conflict within the human species.

Conflict arising from distributive inequality is not new. Inequalities in the distribution of work (and, conversely, in the distribution of leisure) and in the distribution of the proceeds of work have disturbed the social relations of humankind since remote antiquity. Dr. Skinner's concern in the present discussion, however, is directed at a problem of much more recent origin. Only very recently, as measured in evolutionary units of time, has the human species come to consist of too many members who live together in groups which are too large, who consume too much of their limited resources, and who pollute too much the air, water, and soil of their surrounding environment. Only very recently, moreover, have weapons of mass destruction become available with which to wage competition for scarce resources. Only very recently, therefore, have all of these factors combined to threaten the human species with unprecedented disaster, perhaps even with extinction.

In any case, the crux of the problem is easily compressed into a few words: there are too many people living in groups too large and consuming too much. This linkage of problems, like all major problems presently facing humankind, is essentially behavioral in nature. Stated in a different way, all our most important problems today may be reduced to a single common denominator: the problem of maladaptive behavior. From the standpoint of the human species, people today characteristically behave in ways which are maladaptive. Their behavior has consequences which ultimately imperil the survival of humankind.

The matter may be expressed in still another way. Characteristic ways of behaving are often denoted as "life-styles" or "ways of life." A way of life is simply a way of behaving. Our currently prevailing way of life has consequences which ultimately jeopardize our survival as a species. Our way of life — our way of behaving — must therefore be changed. This immediately suggests the central role of a science and technology of behavior in discovering and implementing a cure for our present difficulties.

To effectively redesign or modify our present maladaptive way of life, we must turn to specialists concerned with the analysis and modification of behavior. And behavioral specialists, for their part, must turn their attention to two basic questions: (1) What behaviors are most likely to insure successful group living and the survival of the human species? And (2) what kind of culture — what particular ensemble of environmental contingencies — is most likely to effectively generate and maintain those behaviors? This appears to be the heart of Skinner's position.

Dr. Skinner, let us begin with the general problem of resource exhaustion. How would you describe this problem?

The important point is that many of our resources are limited. In the course of the evolution of the earth, these resources were accumulated over a span of millions of years. Now, however, they are being rapidly depleted by excessive consumption. Unless effective steps are taken soon to restrain the wanton use of non-renewable raw material, our descendants will be in serious trouble.

What about alternative sources of energy?
Proposals concerning alternative sources of energy may not be immediately applicable. The widespread conversion to
solar energy, for example, seems impracticable at the moment, and the use of nuclear energy may be fraught with unacceptable risks. Nor does the substitution of alcohol for gasoline seem a wise alternative. This would commit large areas of the earth to the production of alcohol at the expense of agricultural production, which would aggravate the already growing shortage of food.

Assuming that present trends continue, what, in your opinion, is likely to be the result?

The stubborn optimist, of course, will assure us that all our present problems will eventually be solved, just as our problems were eventually solved in the past. But to me this is like telling a dying man not to worry, since his recovery is assured by the fact that he always recovered from his ailments in the past. We know that many species have eventually become extinct, and there is no guarantee that homo sapiens will not suffer the same fate. It is entirely possible, I think, that the technical achievements which enabled our species to expand its numbers on a vast scale—most notably, the achievements in food production, food preservation, and medicine—have brought us to the point of no return. By the end of this century, eight billion people will be competing for limited and rapidly vanishing resources. The violence in the world today is in great measure due to growing shortages of all kinds. We would not, at the moment, have the slightest concern about the Arabs if it were not for the energy problem and the territorial disputes arising from it. As the resources of the world become increasingly scarce, violence will increasingly prevail as a means for appropriating what remains. This, I think, is the general direction toward which present trends are taking us.

What, then, is to be done?

The only promising way to meet this crisis, I think, is for everyone to use less energy. We must all reduce our consumption. Until very recently, most people simply worked enough to feed, clothe, and house themselves. Now people living in advanced technological societies work not only for food, clothing, and shelter, but also for nonessential luxuries that are believed necessary for a fully satisfying life. This belief is almost certainly mistaken, and it has led to the present crisis. The assignment is to somehow induce people to take the future into account and live simpler lives, consuming less and moving less.

But how can people be induced to live simpler lives?

That is a difficult assignment. Behavior is not easily modified by appealing to its remote consequences. Day after day the newspapers publish accounts of crippling and fatal auto accidents, but this does not stop people from driving in ways which can lead to tragic consequences. The same can be said about invoking the ultimate consequences of overeating, smoking, and the use of drugs. Behavior is not effectively changed by facts about its deferred consequences. Many people simply cannot take the future into account. The answer, therefore, is in the immediate, rather than the remote, consequences of behavior. To work a substantial change in behavior and thereby met our problems effectively, we need to arrange immediate consequences which will induce people to act in ways which have consequences that are ultimately constructive.

Can you offer some examples of how immediate consequences might be arranged to reduce consumption?

It is possible to imagine many ways of arranging immediate consequences to produce long-term results. An immediate economic sanction may be imposed by installing monitoring devices in automobiles which would inform people when they are driving efficiently and when they are not, and thus when they are spending money needlessly on gasoline and when they are not. Monitors in homes which indicate the amount of electricity being used, or the cost of using an electric appliance for a given length of time, offer additional examples of immediate sanctions. It is true, of course, that sanctions of this sort are rather primitive, but even saving money, for whatever reason, is in a sense a sanction. But if they are effective for promoting a less averse future, they need to be considered. No plausible solution should be dismissed without carefully appraising its possible effectiveness.

In what ways might the design of social units be changed to curtail the expenditure of energy?

Public transportation illustrates a means for reducing the consumption of gasoline. Changing the design of cities and suburbs for reducing the distance people need to travel to and from work is another example having the same effect. A major difficulty is that of deciding what to do with the technical advances that have been made. Technology must somehow be adapted to activities which involve a substantially reduced consumption of energy. Distant events need to affect those who design and implement changes in social groups and in the immediate consequences which govern behavior. Agencies or institutions which are created to devise and arrange immediate consequences must themselves be under the control of remote consequences.

Dr. Skinner, everything you have said makes excellent sense. But from what agency or institution can we expect a dedicated respect for the future? It would seem that any faith in governmental or business establishments would be badly misplaced. The officials of government are primarily concerned with arranging immediate consequences which have the ultimate effect of keeping themselves in office. Business leaders are chiefly concerned with arranging immediate consequences which have the ultimate effect of enriching their businesses. Political and propertied interests are clearly at odds with the ultimate interests of the human species. To whom, then, can we look for implementing policies which take into account the future of humankind?

Our main hope, I think, lies in the field of education. But first of all education must be vastly improved. Its effectiveness must be increased to the point where it can successfully accomplish its avowed aims. Only then can it assume an additional task. Effective educational techniques can supply individuals with immediate and compelling reasons for restricting their consumption of energy and other scarce resources. I emphasize education because it is directly concerned with constructing behavioral repertories, and hence with constructing reinforcement histories. Because we are intelligent and can extrapolate, it is possible for us to respond to future conditions. But this requires a particular kind of reinforcement history that not everyone has. Those who have it need to respond to future contingencies by rearranging present contingencies. Educators are in an excellent position to do this. And their object in doing this must be to modify behavior in ways which minimize the use of energy and other scarce resources. By constructing the kind of reinforcement histories or behavioral repertories which work for the ultimate interest of the species, education can lead the way in solving our most important problems.

In traditional language, then, you seem to be saying that
education has a moral role to play. Producing behavior that affects the group or species is a moral issue, is it not?

Yes. Moral issues are behavioral issues, and behavior is engineerable. Educators are behavioral engineers, and for that reason I emphasize their role in meeting the problems we are discussing. These problems are, as you say, moral or ethical problems in the sense that they pose serious threats to our society and our species. I think it is important for people in affluent nations to become fully aware that they are consuming an extravagantly disproportionate share of the world’s resources. I also think it is important for Americans to know that they are consuming approximately ten to twelve times more energy than most people living in other parts of the world. The reproof or guilt arising from this fact may itself serve as a kind of immediate consequence for a person who enjoys riding a bicycle instead of driving a car.

In view of the speed at which we seem to be moving toward a crisis, is it not imperative that education take immediate steps to increase the effectiveness of its technology and to enlarge the scope of its concern to include the problems we are discussing?

Yes. It can scarcely be denied that the world as we know it today cannot last very much longer. This is not because we are in any immediate danger of exhausting our scarce resources; rather it is because the shortages which threaten us will generate mounting competition for those resources and culminate, quite possibly, in a nuclear convulsion. There is no time to lose for designing and implementing programs which will produce significant changes in behavior.

Is Walden Two relevant to the problems we are discussing? Is Walden Two the kind of moral or ethical community we need to promote the longevity of our species by preserving the environment upon which its life depends?

Although I did not realize it at the time I wrote the book, it seems that Walden Two is, in miniature, a description of the kind of world that is optimal for solving all these problems. It is the kind of world where resource consumption and environmental pollution are minimized, and where reinforcing social relations supporting that society’s survival are maximized. If a Walden Two type of culture will work — and those of us who heard the recent report on the Mexican Walden Two, Comunidad Los Hornos, may be inclined to believe that it will — then we can build a world in which people enjoy life, acquiring from it the things which are most reinforcing and which, at the same time, reinforce behaviors that will maximize the prospects for the survival and progress of our species.

In addition to entertaining hopes for improving the effectiveness and enlarging the scope of education, then, you also entertain hopes for improving the effectiveness and enlarging the scope of the intentional community movement. Is that correct?

Yes, that is quite correct. The two go hand-in-hand, I think, because a really effectively educated population will live in small intentional communities. It is certainly true that I would like to see intentional communities become vastly more effective, and I would like to see a vast increase in the number of these communities.

In bringing this discussion to a close, I would like to condense into a few words what appears to be the central task of the behaviorist when he enters the field of cultural design. The cultural designer, if I have understood correctly your writings on the subject, needs to address himself to two basic questions: first, what particular behaviors will most effectively promote successful group living and the survival of the species? And second, what kind of culture — what particular set of reinforcement contingencies — will most effectively generate and maintain those behaviors? Do these two basic issues accurately summarize the main task of the cultural designer?

Yes, I believe they do.

Thank you Dr. Skinner.