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"If humanity is to have a hopeful future, there is no escape from the preeminent involvement and responsibility of the single human soul, in all its loneliness and frailty." *

-- **George F. Kennan**

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*From: *Around the Cragged Hill.* (W.W. Norton & Company, N.Y. 1993) p. 258.

The following is a transcript of Robert MacNeil's "Conversation" with statesman and Soviet affairs scholar, George F. Kennan, aired January 14, 1993, on the ***MacNEIL/LEHRER NEWSHOUR.***

CONVERSATION

MR. MAC NEIL: We close tonight with a conversation with retired statesman and scholar, George Kennan. A former U.S. ambassador to Moscow and State Department policy planner, Prof. Kennan was the chief author of the containment policy designed to counter an aggressive Soviet Union after World War II. On leaving Washington, he became a scholar at the Institute for Advanced Study at Princeton and the author of many books on diplomatic history which won him two Pulitzer Prizes and a national book award. In his latest book, "Around the Cragged Hill," Prof. Kennan offers a personal and political philosophy. I talked with him yesterday.
Prof. Kennan, thank you for joining us. It's interesting to me that one of the intellectual fathers of the victory in the Cold War, in the period now when the Cold War is won or at least over, is now turning a very sober eye on this country and seeing it with such problems as to put the future of the democracy in doubt is how I read, how I read your book. Do you really have serious doubts about whether this democracy can continue to work?

PROF. KENNAN: I have doubts about whether it can continue to work as we've known it in the past and whether it can continue for any great length of time unless the present system for evolving policy and thinking about policy is expanded and supplemented with something that doesn't exist today.

MR. MAC NEIL: Because you say that the system, the political system and the governmental system cannot cope with the problems facing the country.

PROF. KENNAN: Well, that is my view, and it seems to me that that is borne out by the spectacle that we have a whole series of rather serious social problems in this country, the ghettos, crime, drugs, educational standards, problems that we all recognize but are not really being effectively taken care of to date by the political system. And I really don't see in the near future any prospect that they are going to be.

MR. MAC NEIL: You -- the list you've just given is a list that's frequently identified, but you add to it a couple of things that aren't frequently. In fact, I think they're original with you. And one of them is you say the country's just become too big to be governed and you'd like to see the federal, many of the federal government responsibilities divided into a series of regional groupings. Explain what -- your thinking behind that.

PROF. KENNAN: You know, I sometimes have been moved to doubt whether the democratic principles that were introduced by the founding fathers in this country were ever meant to apply to a country as vast and as variegated as one that extends from Maine to the Hawaiian Islands, and from semi-English Miami to Alaska. It does seem to me that when you try to govern people, and especially in the matters that are sometimes questions, intimate questions of their daily life, from a single point, you can only do it by a certain sort of least common denominator which begins to lose punch and bite and significance, but is one reason why I'd like to see the country differently organized. And I think some of these problems that we have might be better solved in smaller units than they can be in the vast, great country that we have today.

MR. MAC NEIL: One of the problems you identify -- and very few other people do -- is immigration. You say there are already too many people in the country for its air and water and other resources; it's getting too crowded in places: and immigration is out of control; and yet, the political system can't cope with that problem.

PROF. KENNAN: Yes, and the longer this goes on, the less the political system will be able to cope with it, because a great many of these newcomers are acquiring political influence which, of course, will be brought to bear against any tempering of immigration I'm afraid.

MR. MAC NEIL: But you think the point will be reached -- in fact, you say in your book a point will be reached where you can recreate in this country conditions of the third world so there won't be any appreciable difference, and that a point should be reached with control, is that what you believe?

PROF. KENNAN: That is what I believe. I think really we've had enough. It's going to take us some time to adjust to the recent, large immigration that we have, both legal and illegal, and we should have at least a period to do this, but even then I think the country, as you correctly quoted me, I think the country is too large for its own good and it is, our civilization is taking place today at the cost of vitally necessary natural resources which we are exhausting, the soil and the water especially.

MR. MAC NEIL: Do you have any hope that the new administration will be better able to deal with any of these problems and make the government work better?

PROF. KENNAN: Yes, I have some hope, but a little bit of hope because, after all, the new administration, while it has certain advantages which I'm happy to recognize over what we have been having in the past, that is it's a younger administration, it's more in tune with the broader elements of the population here, but, nevertheless, it has been elected in the way in which other administrations have. It suffers from the abrogations that you have to go, undertake to become elected in this country, particularly financial ones which I think are shocking and really, really distortion of the original concept of American democracy. I hope that Mr. Clinton will attack some of these problems in a new way and more effectively, but I, my hopes are limited because the system is, is still subject to all the limitations which I mentioned in the book, the way in which one has -- what one has to go through to become elected, the abrogations one has to assume in order to become elected, also the pressures that bear both on the legislators and on the executive branch officials, which really rivet their gaze to the short-term and make it very difficult for them to sit back and look at problems in the long-term. All those, those handicaps will continue to rest on the new administration.

MR. MAC NEIL: Let's turn to foreign affairs with which you've been identified most of your career. You say the best service the United States can perform for the rest of the world is to put its own house in order right now, and that is a, that's quite a prescription in itself, is it not?

PROF. KENNAN: That is my firm belief. I have always felt or felt for many, many years that the most effective way for this country to exercise a benevolent influence over the rest of the world is by example and not by precept. People respect us more for what we're able to make out of our own country than out of what, than for what we've promised to make out of theirs or try to make.

MR. MAC NEIL: You call for a more modest restrained foreign policy, but many have made the point, in fact quite recently, that America is the only nation in the world with the stature and resources to provide leadership now which, which seems to argue against a more modest restrained, shyer --

PROF. KENNAN: There are arguments against it. Certainly where our armed forces have been employed abroad, as in the Gulf War, presently, at the present in Somalia, I think they've performed magnificently and they have reflected very well upon this country. It sometimes seems to me a curious fact that these armed forces, which are the most disciplined elements in our society, should have the great enormous respect that they have and we should remain so largely a permissive a society ourselves. In other words, we, we do better when we discipline ourselves, obviously, as we do in the Marine Corps and other elements of the armed services, than we do when we're looking after ourselves on the political scene at home.

MR. MAC NEIL: Regarding the former Soviet Union, which was -- occupied so much of your study during your career, you talk about the emotional fragility of the new nations emerging from the former Soviet Union as possibly the greatest danger for the future. What, specifically, what dangers do you see coming from them?

PROF. KENNAN: Oh, I see dangers on every hand. Unfortunately, many of the people who are coming to the fore and exercising power in all these places that have broken off from the old Russian and Soviet empire, a great many of these people seem to have ideas which are not only a century out of date but are primitive in the extreme, and they reflect a form of romantic, rather aggressive nationalism, which I had hoped we would be leaving behind in the centuries from which we're now departing.

MR. MAC NEIL: Serbia would be an example of this?

PROF. KENNAN: Serbia would certainly be an example, but also some of the others against whom the Serbs are fighting. They too are not immune from this, but all around the borders of the Soviet Union I see people trying to imitate great powers with curious ideas of what leads to prestige and to success. The fact that the Ukrainians have said that they must now have their nuclear weapons because people will respect them, my goodness, I thought we got over this many years ago and realized that the nuclear weapon is not really a weapon, that it isn't usable, 40 years of the Cold War demonstrated that, but still these people believe it. They look for outward prestige. They look for the trappings of sovereignty but not for the real problems of governing their countries and bringing them into the modern age. I'm very disillusioned with some of them.

MR. MAC NEIL: Some commentators on Russia, for instance, Peter Redaway has written recently that the Yeltsin democratic experiment in Russia is on the verge of collapse, is on the verge of break-up. Are you -- how hopeful are you that Russia can make it as a democracy?

PROF. KENNAN: Well, I'm impressed with Redaway's arguments and with those of others who feel that this whole process has gone much too fast in Russia. There's a lot to be said for that. On the other hand, this is a very puzzling situation to judge because a great deal of what is going on in Russia today is beyond the control of the government, and some of that may be hopeful too. I don't -- it's very difficult to predict, and in my own opinion there's a lot to be said both Mr. Redaway's rather gloomy view of this, but also for the would-be reformers, the people who've been trying to reform the system, but in both cases, unless they can bring the inflation of the currency under control and establish a currency the value of which one can anticipate from one month or one year to another, I don't think either way that they can be successful. I think that is really their first problem. And perhaps that's where the other, the great Western powers should look to see whether they could be helpful.

MR. MAC NEIL: Do you think Russia, the former Soviet Union, poses a potential danger for the United States in the future?

PROF. KENNAN: No, no. I really don't, not in the foreseeable future. This danger was greatly exaggerated in the past ages. What the Russians have been guilty of, if you can call it guilt, was for a creeping frontier expansion along the edges of their realm, and that was occasioned by their own sense of insecurity, and the feeling that wherever the border was it was a little dangerous, that, that it was so close. I don't anticipate anything more than that in the future and, in fact, we don't know what the new Russia is going to be like. The fact that in this putsch that took place, what was it, a year and half ago --

MR. MAC NEIL: August '92.

PROF. KENNAN: That you have tens of thousands of young Muscovite people out onto the streets defending what they believed was a democratic system and that they went through days of this, they didn't strike anybody, they didn't lynch anybody, they didn't beat anybody, there was no violence in this, this is in itself a tremendous and hopeful change. And perhaps these people can work it out. For anybody who knows Russia and who has an affection for it, culturally and psychologically, this is a very difficult time. One could weep to see what's going on there, but still I feel that there are qualities in the Russian people, high intelligence, and also a certain moral earnestness which are going to come to the floor, and I wouldn't want to bet against them. They may go through times even harder than this. But I think there is the stuffings there really of a nuclear id. And I wouldn't want to be completely negative about it.

MR. MAC NEIL: Finally, because it's come back in the news just now, what do you feel about the way the U.S. has got itself involved in Iraq, with Iraq, both the war two years ago and now the, the need to reinforce the U.N. resolutions?

PROF. KENNAN: Well, here we are. We are in the thick of it today. And no advice from an outsider is going to mean very much there. I think the reasons why we got into it though through errors which were committed long in the past, some of those might be corrected today. I see no reason why we should be dependent on Persian Gulf oil. I see perfectly plausible ways in which we could liberate ourselves from that dependence, and I should think that if you're looking at it from the long-term, that there's a good place to begin. But as to what's going on today, I can't fault anyone. We got ourselves in the position, and Mr. Saddam has been behaving in such a manner that I don't think that one could let it go on. I do feel very strongly, and this applies not only to Iraq but also to Somalia, that regardless of the wisdom or the lack of wisdom in the way we got into these situations, once we're into them and once they became military situations, then we have to show that we cannot be trifled with, which is what Saddam has not yet been convinced of perhaps and this today will help him to understand that. But the same thing in Somalia, and I'm very glad to see the, the Marines feel free to go ahead and protect their positions and to do it firmly, and to be sure that whatever else happens, when the American people put armed force into another place, that it's serious and it's not, as I say, not to be trifled with.

MR. MAC NEIL: Well, Prof. Kennan, thank you very much for joining us.

PROF. KENNAN: You're welcome.

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Fundamental fallacies of building agricultural sustainability

By Frederick Kirschenmann

Society is faced with choosing between an agriculture based on industry or on nature. Which will it be?

IN the late 18th century, Edmund Burke wrote in *Reflections on the Revolution in France*, "The most wonderful things are brought about, in many instances, by means, the most absurd and ridiculous."

Current, widespread interest in sustainable agriculture would indicate that Burke may have been right. Who would have believed that a handful of ridiculous and absurd farmers, acting contrary to conventional wisdom by raising crops without chemical inputs and introducing diverse cropping systems that reduce their government payments, would start a revolution in agriculture?

An agricultural crossroads

Today, we stand on the threshold of two potential revolutions in agriculture. Either, or both, could determine the shape of mainline agriculture in the decades ahead. One, started by a small group of tenacious farmers, is variously described as "alternative" agriculture, "biological" agriculture, "eco-agriculture," or "agroecology." This type of agriculture was recognized in the National Academy of Science's study, *Alternative Agriculture*, as having great potential to benefit farmers economically and to benefit the nation environmentally (2).

The other potential revolution in agriculture is being promoted largely by agribusiness. That revolution was recently described in an article in *Cooperative Partners* (*8*). In the article, a "leading futurist and agricultural economist" predicted what a farm will look like in just two decades:

"Tiny sensors, robots and artifical intelligence will automate farming's physical labor and production decisions. The next 20 years will see a doubling of our current volume of ag information and technology, freeing farmers for the mental challenges of farming.

"Chemical and biological reactions triggered by microscopic soil and crop sensors will revolutionize crop protection. You will use more chemicals but they will be benign 'biological' ones. For example, once pest populations reach a critical level, genetic engineering will enable plants to trigger enzymatic processes harmful only to those pests. Production decisions that monopolize your time today—spraying, fertilizing and irrigation—will be handled routinely by artificial intelligence, using if-then logic. Satellite hookups and soil, air and weather sensors will provide all the necessary data on pest populations, fertility, protein levels, moisture, world weather patterns, and price movements. Those decisions will be handed on to robots.

"In the barn, microscopic sensors in livestock rumens, udders, and wombs will provide the necessary data for robots to customize individual feeding, breeding,

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milking, medication and birthing routines. Robots will even memorize the contours of each cow's udder for milking.

"Mankind will have cracked the animal communication code by 2010.... 'They will be able to communicate with us and we will understand it.'

"Thanks to biotechnology, livestock will become at least two times more productive than they are today, in terms of days to market and rate of gain. Cows, for example, will regularly produce 100,000 pounds annually.

"The Green Revolution has already given way to the Gene Revolution."

Our society is faced, then, with choosing between an agriculture that takes its paradigm from industry or one that takes its paradigm from nature. The industrial model treats a farm like a factory, with inputs and outputs, and considers fields and animals to be "production units." Economic performance is judged almost exclusively by the year-end bottom line. The new generation of high-tech hardware available makes this kind of farm extremely attractive to the industrial-minded.

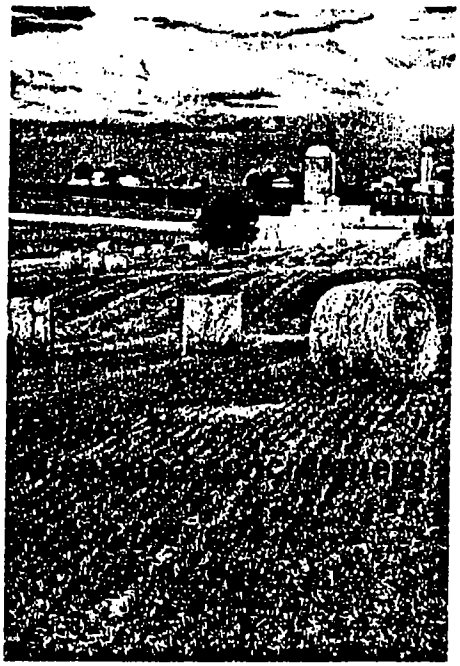
The nature model, on the other hand, treats the farm like an organism consisting of many complex, interrelated suborganisms, all of which have distinct biological limits. Economic performance on this farm is generally judged by the long-term health and achievement of the total organism within a larger bioregion.

The question is which revolution do we want? Which revolution will most reliably serve the broad interests of society? Which revolution will we choose to promote through our public policies and investments? Which revolution is likely to prove sustainable?

Despite the fact that some politicians, and agricultural experts are still saying that the nature model is not profitable, a growing number of farmers are proving that it is. Even when using yield comparisons as a yardstick, alternative farmers are proving they can hold their own. In 1990, for example, our farm produced a 46-bushel-per-acre-average hard red spring wheat yield—the highest in the history of our farm. The average yield for 1990 in the county was 31 bushels an acre.

In the meantime, the new generation of high-tech capability makes the industrial model attractive to investors and to those who believe in the "technological fix." Those who support the development of this new, high-tech industrial agriculture, however, need to answer several fundamental questions:

1. Are we now better adept at predicting the environmental ramifications of tech-



nology that did not evolve with nature than we were in the past? It's likely that this more complex technology has even greater potential for creating some of the very problems it purports to solve. As Stephen Schneider reminds us, "The bigger the technological solution, the greater the chance of extensive, unforeseen side effects and, thus, the greater the number of lives ultimately at risk" (*5*).

2. Will these new technologies prove any less detrimental for farmers or the planet than similar technologies of the past?

3. Will the "gene revolution" burn out in the same way that the "green revolution" burned out, and if it does, will the costs and benefits to society have been positive?

At a time when our planet and the human communities that inhabit it have become so fragile, it is no longer enough to ask only whether a farming practice is possible or economically viable. In choosing which agricultural revolution we want to evolve with, we need to pay careful attention to the lessons of the past and to some of the assumptions that underlie our decisions.

Three common fallacies

All too often when faced with difficult decisions, we order priorities and choose alternatives without questioning the presuppositions on which our decisions are made. But it is often these presuppositions that lead us into difficulties.

Accordingly, to have reasonable success in choosing a long-term, sustainable practice, we must scrutinize some of our fundamental assumptions. In doing so, there are at least three common fallacies in our current thinking that need to be addressed.

The fallacy of misplaced concreteness. The first of these fallacies is what Alfred North Whitehead called the fallacy of misplaced concreteness (*7*) and goes to the heart of the way the modern Western world thinks. Put simply, the fallacy of misplaced concreteness is the tendency to believe that our abstractions of reality are synonymous with reality. The result is that we force reality to fit our abstractions, rather than adjusting our abstractions to fit reality.

A simple illustration demonstrates this fallacy. Several years ago, an event took place just outside of Medina, North Dakota, that caught the attention of the national news media. The event took place in early February, and one of the national network news reporters delivered the story wearing a heavy, down jacket with fur-lined hood. Local residents found the reporter's dress amusing because the temperature that day had reached 58 degrees in Medina, four degrees higher than the day's high in New York City, where the reporter lived.

Obviously, that news reporter had created an abstraction of what February weather in North Dakota was like and then adjusted reality to conform to abstraction. It is a classic example of the fallacy of misplaced concreteness.

Similarly, some agricultural economists have constructed abstract models to describe the economic health of agriculture that have little to do with real farms. For example, because their models show only marginal impacts from soil erosion, they conclude that erosion has minimal significance, and policymakers proceed in misguided fashion.

Accordingly, if we are to choose a sustainable agriculture for the future, we need to check carefully the abstractions we have adopted about agriculture and make certain they accurately reflect reality. If we insist on making reality fit our abstractions, we may formulate agricultural policies that lead to inappropriate decisions. If we are to make intelligent choices about a sustainable future, we must resist investing our current abstractions with the concreteness that belongs only to our evolving understanding of reality.

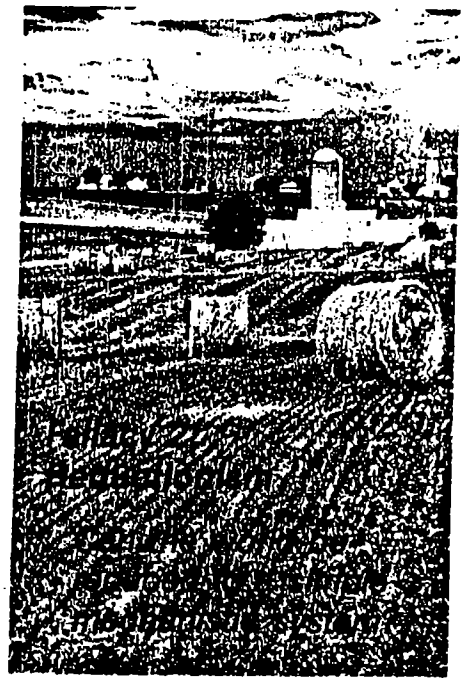
Two further examples show where such abstractions are leading us astray in agriculture.

The first accepted abstraction is that good farm management produces maximum yields. As a result, farmers conclude that so long as they continue to maintain good yields they are "good farmers" and "good managers," no matter how much soil erosion or environmental damage their farming practices may cause or how heavily indebted they may become.

John Gardner, superintendent of North Dakota State University's Carrington Research Extension Center, suggests that at-

titude toward soil management may be inappropriate. In a speech delivered to farmers at the 1990 annual Farm Verified Organic farm tour, Gardner stated that one of the difficulties in making proper decisions about soil management is that we observe soil changes in years and decades, while the soil itself changes in centuries and millennia. In other words, while we have formulated abstractions about soil and how to properly manage it, based on responses we get from the soil, in reality the soil can only be properly managed by paying close attention to what is happening to the soil itself. It is misplaced concreteness that allows us to conclude that we are good stewards of the soil so long as soil erosion on the north 40 hasn't caused a measurable decline in yields over the last five years.

A second example of misplaced concreteness in agriculture can be observed in the well-known proclamation that a "farm is an industry like any other." This is seen often in the *Cooperative Partners* farm magazine article. To propose introducing such technological innovations without raising questions concerning how such innovations may affect the organisms on the farm (let alone the social and environmental impacts they may have on rural communities and the planet) is a case of extreme misplaced concreteness. A farm is not a factory—it is an organism made up of numerous suborganisms, each alive and interdependent, each affected in numerous, complex ways by the introduction of the many technologies proposed in the article. We must consider such interactions if we hope to evolve with a sustainable agriculture.



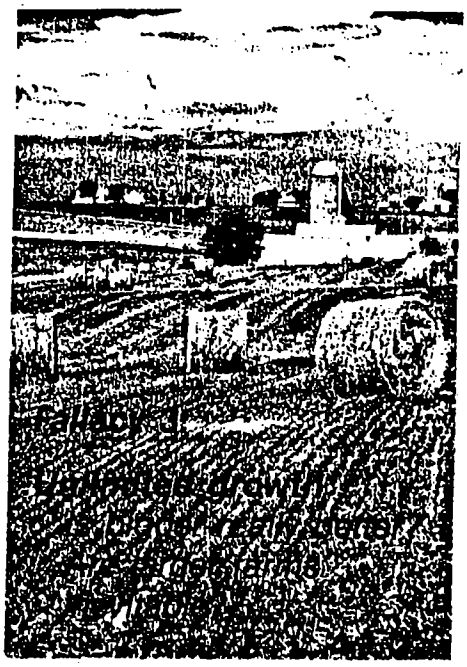
To suggest that we can increase a cow's milk production from 20,000 pounds to 100,000 pounds annually, for example, without considering the problems already created in the cow's organism by increasing production from 15,000 to 20,000 pounds, is to be blinded by the abstraction that a farm is an industry like any other and a cow is a machine that can be pushed to higher levels of performance simply by adding computer chips or growth hormones. Anyone who attends to clues from reality will recognize that a cow is not a production unit but a biological organism. And when you intervene in one part of the organism's functions, like the udder, you are likely to affect every other part of the organism, sometimes in surprisingly destructive ways.

Herman Daly and John Cobb recently did a tremendous service to our society by exposing how the fallacy of misplaced concreteness has led to inappropriate and destructive decisions in economics (*3*). A comparable study on agriculture is desperately needed if we are going to make intelligent decisions for building sustainability into agriculture's future.

The fallacy of reductionism. The second fallacy that threatens our chances of making intelligent choices for a sustainable future in agriculture is reductionism. Reductionism is related to misplaced concreteness and based on 16th and 17th century science, which provided an abstraction of the world that reduced reality to a mechanistic system consisting of two basic entities: matter and motion. That mechanistic view of the world still influences modern perceptions.

It is this reductionistic view of the world that causes us to assess the performance of agriculture in narrow, microcosmic units and to judge the economic health of a farm based on an individual farm's year-end bottom line, rather than the decade-long prosperity of groups of farms within rural communities. It is this fallacy that continues to cause us to judge the "economic thresholds" for insecticide applications based on mathematical calculations that balance the cost of application against the dollar loss caused by the target insect. It causes us to ignore the fact that we may be creating the very problem we are trying to solve by killing off beneficial insects and natural predators and by creating resistant strains of the target pest.

Farmers are slowly beginning to recognize this fallacy. Some time ago an advertisement appeared in a farm magazine announcing the development of a new sunflower seed that would double current yields. The tag line announced to farmers that the product would "increase your profitability." A local farmer, upon reading the advertisement, remarked:



"That won't increase my profitability. It only means that I will be producing twice as many sunnies with twice the storage and handling costs, and I'll be selling them for half the price." What the farmer realized is that farm profitability cannot be calculated by such reductionistic thinking.

The fallacy of reductionism also is evident within the alternative agricultural arena. So far we have been assessing the potential of the alternative agriculture revolution solely from the perspective of on-farm practices. But this revolution will never be successful unless compatible global trade policies, social policies, and nutritional guidelines that support the new farming practices are developed. It does no good, for example, to encourage farmers in the Northern Plains to add millet, buckwheat, and legumes to their rotations if we do not create new markets for these crops.

The fallacy of unlimited growth. The third fallacy that must be considered in choosing a sustainable future for agriculture is the fallacy of unlimited growth. Unlimited growth has two components relative to agriculture. The first involves the implications of unlimited growth for global survival and the second involves the implications of unlimited growth for the farm.

As we examine the expansion of agricultural production in the growth scenario, we should ponder William Rees' observation that "a dependent part cannot grow indefinitely within a limited whole" (*4*) and question policies that assume that bigger is better and that larger farms are both inevitable and desirable. While not discounting the fact that there are benefits to be derived from economies of scale, there is a pressing need to scrutinize the assumption

that continued expansion is essential to the economic health of the farm and to the sustainability of agriculture. When one abandons the conventional economic models and looks at real farms, it is actually the mid-size farms, not the large industrial operations, that are most efficient (*6*).

Industrial agriculture

Once we overcome the fallacies attending our current way of thinking, we must reassess the impact that each model of agriculture has on agriculture's resource base and the environment. Then we must anticipate the long-term, social consequences of each model.

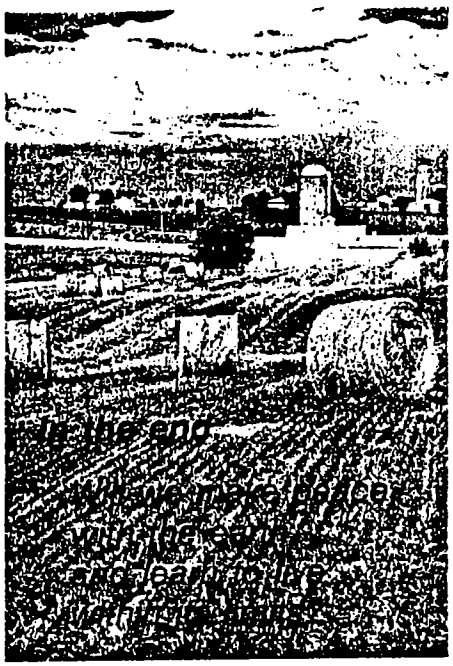
The continued shift away from mid-size, family farms, managed as self-contained biological organisms, toward larger, industrial operations, managed like factories, portend a serious threat to future food security. In this regard, Wendell Berry's cogent observation concerning the key components of any agriculture that seeks to maintain productivity should be noted:

"...if agriculture is to remain productive, it must preserve the land, and the fertility and ecological health of the land; the land, that is, must be used well. A further requirement, therefore, is that if the land is to be used well, the people who use it must know it well, must be highly motivated to use it well, must know how to use it well, must have time to use it well, and must be able to afford to use it well. Nothing that has happened in the agricultural revolution of the last fifty years has disproved or invalidated these requirements, though everything that has happened has ignored or defied them" (*1*).

The following list anticipates some of the consequences that are destructive to efforts to build a sustainable future for agriculture and that will most likely evolve with the continued trend toward large, industrialized farms:

► Continued growth of farms into large, industrial operations will shift management decisions from the field to the front office. When the dust settles, historians will conclude that one of the key reasons for the failure of Soviet agriculture was that management decisions were placed in the hands of front office managers who were far removed from field experience and field conditions.

► The growth of farms into large, industrial operations will almost certainly evolve a similar kind of management scenario. Agricultural efficiency is rooted in the presence of professional and knowledgeable people with direct field experience making key management decisions in the field. To



lose that is to lose the competitive edge that American agriculture has enjoyed.

► Continued growth of farms into large, industrial operations will increase labor costs. Consumers have derived enormous benefits from the labor efficiencies of family farms. Families who own and operate their own farms don't charge overtime for getting up at 3:00 a.m. to deliver a calf or for working 110 hours a week to bring in the harvest on time. And only people who have never set foot on a real farm believe that robots will eventually determine when a cow needs assistance with calving and provide the proper ministration.

► Continued growth of farms into large, industrial operations will further increase the captial intensiveness of agriculture. Farming will be put even further out of reach of our most competent and professional young farmers. Even under present circumstances, it has been calculated that only about one-third of the young farmers of this decade will have the necessary capital to acquire the land that will become available by retiring farmers.

► Experience shows us that further concentration of farms into a few large, industrial operations will inevitably lead to vertical integration. This raises the prospect that the entire food industry, from production to retail sales, will be owned by a few conglomerates. Under that scenario, it is difficult to see how the average citizen will be able to control the quality of food they buy. The ability of ordinary citizens to exercise control over their own food supply is a cornerstone of our democracy. Again, as Wendell Berry warns, "...we cannot be free if our food and its sources are controlled by someone else" (*1*).

► Finally, the further development of large, industrial operations will cost us a very important human and cultural resource—the apprenticeship education of young farmers—a part of the family farm system. That education has been the source, not only of the most professional farmers in the world, but also the source of much of our national leadership in many segments of our society.

As rural communities disappear, so will the local culture that has been the repository of local land wisdom from which new generations have learned to farm and care for the land in their own ecological niches. To lose these resources is a loss of inestimable worth and a loss that is irretrievable.

Farming practice choices

Which revolution do we prefer? The green revolution to the gene revolution? Or the green revolution to the serene revolution? Will we embark on a course that leads us to make yet another assault on nature with our new technological capabilities, or will we make peace with the earth and learn to live with the limits that are integral to its organisms?

As we ponder our choice, we might do well to listen to a new voice of political leadership out of the Eastern Block. On February 21, 1990, the new president of Czehoslovakia, Vaclav Havel, addressed the U.S. Congress with the following words:

"If we are no longer threatened by world war or by the danger that the absurd mountains of accumulated weapons might blow up the world, this does not mean that we have won. We are, in fact, far from the final victory.... We are still under the sway of the destructive and vain belief that man is the pinnacle of creation and not just a part of it and that therefore everything is permitted. There are still many who say they are concerned not for themselves but for the cause, while they are demonstrably out for themselves and not for the cause at all. We are still destroying the planet that was entrusted to us...."

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