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# INSTITUTIONAL ALTERNATIVES FOR IMPROVING OUR ENVIRONMENT

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The plan of this paper is to explore popular approaches to environmental problem definition. One I have called the engineering mentality, which frequently omits reference to man. Another is the gut feeling approach, which tries to draw a dichotomy between efficiency and human values. The institutional implications of these approaches will be traced. This is followed by an analysis of the role of collective action, in which I shall criticize the polarization of the issue into one of more versus less government. I shall also criticize the present focus of interest group bargaining on specific governmental action and projects rather than on system-wide rules and policy. Then, a suggestion is put forward for a more fundamental kind of reformation in our property rights. Finally, I shall explore the institution of policy education and its role in environmental rule making.

## MAN AND HIS INSTITUTIONAL ENVIRONMENT

This country—its people—is sick, and it will take big changes—yes, a reformation—to make it well. The sickness may be described in terms of substandard houses, race riots and property destruction, numbers of families living in poverty, respiratory ailments related to pollution, and the death rate of black infants. All of these ills suggest a need for technological solutions. For example, we can look for a construction technology breakthrough to solve the housing problem, better equipped police to control riots, more doctors to reduce infant deaths, better engineered highways to reduce traffic deaths, or better weapons to end the Vietnam War.

Another dimension of the problem is described more in terms of human relationships. As of April 22, 1970, there were already 142 murders in the city of Detroit and 50 suicides. Murder seems to be a lower social class phenomenon, while suicide is shared by the upper classes. U.S. Public Health Service reports estimate that one in twelve persons in the United States is suffering from some form of mental illness. Many people are on drugs or tranquilizers, or are alcoholics. There are no figures on alienation or general dropouts, or an index of uptightness. These afflict both the rich and the poor.

If we look at mankind as the ultimate product and measure of our total environment and economy, we cannot help but be depressed with our condition relative to our potential. We have been using our resources largely without consideration of the opportunity costs in terms of the total human being produced. There is more than marginal room for improvement in the human product, and its realization involves much more than technological manipulations or small institutional changes, which often go together.

The issue is how far do people want to go in changing relationships among themselves. Institutions are simply collective action for relating people to each other in an orderly fashion. If we believe that the problems of environmental management are just pimples on a basically sound body, simple extensions of existing institutions will do. But if we believe that the problems are more serious, then the institutional analysis is far different.

#### THE ENGINEERING MENTALITY

In the approach to environmental management which might be called the engineering mentality, questions about the overall direction of the management effort are seldom asked. Attention is given primarily to alternative techniques and means. This is characteristic of much public works planning. The population trend of a given area is projected, then put together with a per capita consumption rate, and a need for the product is stated for some future period. The problem then is only to find the best method for meeting this need. If the methods have an impact on the environment, the problem is one of amelioration and finding the method with the least objectionable effects. A common feature of this approach is that the question of why should this future population be in this location at all is never asked.

We can see the engineering mentality in such agencies as the Bureau of Public Roads, Corps of Engineers, or even some colleges of agriculture. It helps to have a single purpose agency tied to one kind of product with a vertical tie to a particular pressure group. That group may not be a product user, but an input supplier, such as the concrete manufacturers in the highway program or the lime producers in the Agricultural Conservation Program.

The engineering mentality strongly supports the institution of ad hoc public spending over other institutional alternatives. For example, if there is a perceived flood control problem, it is suggested that structures be built with public funds. Zoning to redirect locational decisions is not part of the approach, and there is little reference to a

population settlement policy. This attitude also tends to support even a single variety of technical solution. Every agency is trying to get on the environmental bandwagon. But that does not mean they have changed their programs much. The Corps of Engineers and the Soil Conservation Service are perfectly willing to add water quality to their multiple purpose dam water storage needs. This will be used to show that what the agencies wanted to do anyway now generates more benefits than before. Whether it is the cheapest way to improve water quality or whether the locations are the most desirable are questions asked by troublemakers and obstructionists—not by the engineering mentality that gets things done.

The engineering attitude seldom challenges existing power relationships. The present private landowners and manufacturers of inputs tend to be served. For example, it favors the institution of public acquisition over use of police power regulation. This is illustrated by the Highway Beautification Act of 1965, which provided for removal of billboards, but required the state to pay just compensation for the taking of the *right* to erect and maintain such signs. Supporters of this policy do not inquire how the landowners came by this right which was so freely acknowledged.

The engineering mentality is not solely possessed by engineering organizations. Let us examine the role of the courts in this regard. In a particular case in New Jersey, a pipeline company wanted to put a line across a wildlife preserve owned by a nonprofit organization and maintained for esthetic use. There is a great thrust in case and statutory law supporting condemnation for utilities. The general rule has been that the only actionable question is the amount of compensation. The courts are exceedingly reluctant to permit litigation over the necessity or wisdom of a condemnation or the way it is exercised. There is surely something to say for cutting off interminable arguments over such questions as alternative sites, since each owner would like to shift taking to a neighbor. Nevertheless, this is characteristic of the engineering attitude.

In this particular case, the wildlife preserve was able to get the court to hear the case. The pipeline company wanted to lay its line along an upland forested route requiring tree removal and causing erosion and siltation of a marsh area. The wildlife preserve management would have preferred no pipeline at all over their area, for any location affected the natural habitat. Yet, they knew they could never win that one, so they argued that a lowland marsh route would affect the wildlife values the least since the danger of erosion was reduced. In the course of the trial, the judge discovered another alternative, namely, with proper techniques and care the upland route could be

followed with minimum damage to the environment. The wildlife people asserted, but could not show factually, that the marshland location would create less damage to the environment than the careful use of the upland route. The pipeline company agreed to follow certain techniques and protective measures and the court allowed them to proceed with their preferred location.

If public groups want to change environmental management, they had better be prepared to present to the courts (or to any decision point) concrete alternatives with clear connections to environmental results, and not mere assertions. They will need information which shows alternatives in increments gained and lost. In this case, it was obvious that the pipeline would be more costly to lay in the lowland. The court did not have to face the issue of weighing this extra cost against the incremental environmental damage since no evidence was presented to show that there was an incremental damage difference between the carefully utilized upland site and the lowland site. It did not explicitly examine the issue of extra costs, but in effect ruled that the extra cost of more careful digging and revegetation were offset by mitigation of wildlife damage. The court got a feel for the size of this extra construction cost by the fact that as the trial proceeded the pipeline company volunteered to use the ameliorating practices.

Joseph Sax, a legal scholar, observes that the court's ability and willingness to intervene rested upon "the assurance that the case would not be merely a vague debate over values, but rather a rigorous comparison between two precise and available alternatives with specific evidence of specific damage to be used to compare them." On the face of it, this seems consistent with the above argument for presentation of specific trade-off and cause-effect information. But, it is subject to an engineering mentality interpretation. Just what "precise and available" alternatives are to be considered? The case suggests that not building the pipeline at all is not in the court's thought pattern. How about an alternative energy source which does not require soil removal to provide for transmission? How about putting the population growth somewhere else where it can be served with less environmental disturbance? Where will these questions be considered? Sax suggests that we should not expect it of the courts, nor are they the appropriate institution. He says courts "are not only professionally conservative, but they are genuinely and correctly concerned about their competence and their proper role in such disputes." While there are exceptions, the courts seem better able to handle decisions involving more marginal alternatives.

Before leaving discussion of the engineering mentality, I should take care to say that the term is not meant to characterize all engi-

neers, nor is it limited to them. However, this is what their job frequently calls for, and we need competent people who can solve the problems put forward in this context. Still, it is a limited view and reaction has set in.

### EFFICIENCY VERSUS HUMANITY

One attack on narrow efficiency calculation is glorification of gut feeling as an approach to environmental problem definition, that is, if our present state is the result of economic calculation, then let us turn to spontaneous action. Act, don't think! Let your instinct be your guide. One writer in commenting on proposals for new highways and tall buildings in San Francisco noted that advocates present many tables and charts to show the tax benefits and how market valued needs are met. He admonishes opponents not to play this game. Don't investigate to see if the charts are correct and don't prepare any of your own showing other effects. Simply insist that tall buildings are bad and stand (or sit-in) ready to die for what you know is right.

The consumer decision to purchase an orange, enjoy the tax benefits of new buildings, or avoid the view of tall buildings and auto smog all come ultimately to the same focus—the human personality. Man is the measure and measurer. The consumption of market goods such as steel *and* nonmarket goods such as air both affect his being. As the hip poets say, “You are what you eat.”

Why should we employ intellect and economic thinking for one type of good and not another? We must test the charts and tables of developers *and* the assertions of conservationists on the same anvil of humanity. We need to create institutions to relate choices of these widely different kinds of goods, for ultimately man is a whole being and not two separate entities consuming market goods on the one hand and nonmarket goods on the other. Science becomes an input into these product and institutional choices by showing relationships and consequences. But, this does not make the choice easier, just more intelligent.

The freedom implied in the above argument is frightening to many. Policy educators should be aware of the escapes from freedom that are offered people. One is retreat to the engineering mentality, where we can pretend that no choice is really involved since what to do is merely a deduction from present population trends and consumption rates. The familiar, “you can't fight city hall,” is a variety of this escape. The wrong kind of people may be produced, but that is just something one learns to live with.

Another escape is retreat to the cult of the expert. If engineers (or

economists) have caused all of this environmental degradation, let us set up some boards of ecologists to control things. We can hardly deny this new group its areas of vertical control because this is certainly the mode for regulating everything from medical standards to television. We have set up organizations that either explicitly have representatives from the professions they ostensibly control or are captured by those they are supposed to regulate. We have largely ignored how these experts come to be selected for these positions.

The fact that no one of these experts thought about the final product (which is us—the whole man) is ignored in this institutional approach. Many ecologists do not practice a truly ecological approach. They talk about interaction of organisms but frequently fail to ask what preservation of the osprey has to do with better human beings. If this question were asked, it might be discovered that fighting rats and controlling drunk drivers are more important environmental issues. Some ecologists I know would even deny the relevancy of the question since nature is a value in itself for them—again an example of making us schizophrenic, which is, ironically, nonecological. I believe that policy educators must help people learn to trust themselves, for people are the only experts on the whole man.

Another escape from freedom is to glory in unthinking gut choice. This is a sort of anticollective action in any form. In fact, community action of any kind is suspect, and all administration and authority must be reduced, if not abolished. We must get down to each person doing his own thing. There would be no eminent domain or taxation. This radical solution does not appeal to me, and I doubt it will produce the kind of people its supporters want, but its popularity is a fact that educators cannot ignore.

A less severe subset of gut choice is the attack on evaluation techniques such as PPBS (Planning, Programing, and Budgeting System) and benefit-cost analysis. Interestingly, the attack is made by some environmentalists as well as some developers. The proposition is that economic type calculation is only suitable for market priced goods, and if new values are to be taken into account, these techniques must be replaced. I believe it would be a tragedy if in our attempt to introduce new values into environmental decisions, we should abandon that part of economic thought which emphasizes systematic display of opportunities foregone. Economic rationality can insure that new values and priorities, whatever they are, will be effectively obtained. One of the reasons that we have made such little environmental improvement is the gross inefficiency in the application of those resources and energies that we have devoted to it. Efficiency calculation is not

the enemy of humane ends. Vague, hidden, ill-informed, piecemeal, and segregated specialist decision making is the real threat.

### END OF LIBERALISM

Our institutions for formulating and communicating demand for publicly provided inputs affecting man's being have been largely predicated on interest groups. Our rules are based on the dogma of simple pluralism, which means that many interest groups compete for the favor of government. Present institutions tend to focus bargaining on specific public acts, programs, and projects rather than on general system rules and directional policy. Pluralism is the political equivalent of pure competition in the market. Self-regulating competitive equilibrium is emphasized with little specific attention to overall performance. This has led to loss of public confidence in government's ability to solve problems. Each organized group secures help from government in its own special area. For example, big farmers get price supports, doctors get controlled entry, industry gets tariffs, and bird watchers get wildlife preserves.

Still, as I have been insisting, man is a whole being. A person belonging to a potent group can protect his income, but that may not give him much toward a good life in total. The big farmer may secure his income but suffer poor rural community services. The doctor may enjoy his income but still get mugged (and may even have difficulty getting good medical service). Bird watchers may have preserves but never see nature in their workaday world.

We are pluralistic in the sense that no one group controls everything. But, it also means that no one has thought much about the total product—man—that emerges. Each group can use government to help supply one dimension (albeit a major one) of its members' total inputs. The things in common tend to be lost. And that is our sickness!

Solving pieces of the problem will not suffice, and even those who do relatively well by the process are losing faith in the ability of government to really make the total environment better. This is not to say that they will easily let go of their individual hold on the collective power.

We have also taken on too many good causes without a sense of priority or complementarity, and the effect is disillusionment. The environment is just one of the most recent concerns where we have extended government through new agencies, some public spending, and a few new prohibitions, and of course, many more forms to fill out. Much of this is a circus for the masses which pretends action without doing much that is measurable in people's experience.



I have not mentioned the plight of those who are not organized and who represent a hole in the pluralism dogma. They have realized that the great liberal-conservative debate over more or less government is misleading. The liberal bleeding hearts support great extensions of government which really do not deliver, for example, urban renewal, which evacuates the poor rather than building housing for them.

The conservatives have never really been against government, just against the wrong people using its power. Much of the public power serves them by such things as having a regulatory commission help a particular group to do things it could not do as effectively for itself as a completely private organization. Much of the public spending power goes for things that could be done privately, which leaves so little for uniquely public functions. This burden is producing taxpayer revolts against the general concept of government spending.

All of the above adds up to a crisis for collective institutions. People are becoming disillusioned by government in general whether they be rich or poor, young or old. Only a few die-hard liberals remain enthusiastic. They are still talking of massive new programs and new bureaucracies. But this is the end of liberalism!

#### PROPERTY AND COMMUNITY CHOICE

We can probably do without liberals, but we cannot do without a sense of community and collective action. We must not conclude from our failures that collective choice is to be abandoned but rather that we should choose more wisely and look to more basic institutional changes if we want a significant change in environment and man. I believe we must look in the direction of some fundamental redistribution and redefinition of property rights which form the basis for system-wide rules and policies rather than the present emphasis on interest group bargaining over individual projects and regulatory actions. A series of examples will illustrate.

*Example 1.* There is talk of effluent charges to control water pollution. The charge is really a rental of a resource where the owner transfers use rights for a periodic fee. If costs were associated with use of resources for waste disposal, there would be a different allocation of the resource. But there is a fundamental directional question which makes these charges function. That is whether the public owns the resource in the first place and is in a position to ask for rent.

The thrust of present property law is that right follows appropriation. As new aspects of resources become valuable, the right of use goes frequently to those who can in fact make physical use. It is

clearest in water appropriations doctrine, but it functions in other resources as well. The burden of proof to support any other result rests with the conservationist, not the developer. This is the tremendous dynamic built into present property law that is not overcome by marginal changes in institutions such as new spending programs, zoning commissions, or the like.

*Example 2.* Let us look at attempts to get a better environment by controlling land use through zoning. It is perhaps a bit of an overstatement, but it is not far wide of the mark to say that zoning is a failure. It fails to effectively shape developing areas. The rewards to private owners who can break the zoning from a single family residential to high rise apartment or commercial are considerable. This institution standing alone cannot resist the pressure resulting from the underlying property laws, which in effect say that the impact of community action on property values is captured by the owner. Unless we change this basic thrust of the law and deny some of the publicly created value to the owner, who did nothing to produce it, the more marginal institution of zoning will remain as it is, a monument to faint hearts.

*Example 3.* Another direction in which we might look for fundamental change is to pay more explicit attention to the rules for bargaining among governmental units, that is, more effective implementation of our pluralistic philosophy. We have a pluralistic philosophy of competition among pressure groups, but little attention has been given to the rules for this competition. Part of the problem may be that government is not seen as consisting of bargaining units. Some conceive of it in only hierarchical terms with lines of command running from the legislature through the chief executive to the agency. Yet, much bargaining goes on between agencies which really represent different groups.

It is very awkward for a dispute between state agencies to be settled by the courts since the attorney general would be in the position of representing both parties. This means disputes are usually bargained out in less explicit forums not open to public view. This fosters trades which are sufficient to keep sleeping dogs asleep but not necessarily to solve conflicts which remain festering even if unidentified as to source.

It is popular in many circles to support interagency planning efforts. An example is so-called comprehensive river basin planning under the U.S. Water Resources Planning Act. These have largely failed to clearly define objectives and establish priorities because each agency puts in its pet schemes regardless of the conflicts. The

plans are seldom put together by more than a staple. I believe this is because we have not first openly debated the rules for interagency bargaining. We just put them together with a gross laissez faire approach. However, if we did think through the bargaining rules, we would have to accept the responsibility for influencing performance. It satisfies some to escape by saying that whatever emerges from these interagency rituals is the best that can be done, even if lamentable. Since many interest groups are represented, it is pluralistic and that is enough of a criteria for some.

*Example 4.* A final example to illustrate the direction in which I think we could move if we want more fundamental changes in environment involves the role of the courts. Michigan has just passed a law which allows citizens to sue polluters or state agencies without having to show that they suffered particular and unusual personal damage. This allows action against anyone affecting the environment, even if the governmental agency responsible for its regulation has failed to act. The standard referred to in the law provides that action can be taken to protect the public trust in natural resources from impairment. Defense may show that "there is no feasible and prudent alternative to defendant's conduct and that such conduct is consistent with the promotion of the public health, safety and welfare in light of the state's paramount concern for the protection of its natural resources." Such a broad standard can be supported by people who have widely different views on the desirable environment. I believe these vaguely stated standards only lead to public cynicism and contribute to the crisis in respect for public authority and collective action.

We should not expect a great deal from this citizen suit law. The law probably would not be necessary if the state natural resource regulatory agencies had been given clear guidelines for their actions in the first place. This deficiency cannot be corrected by still another procedure with no clear statement of policy and standards. The new law begs the question of what the public's ownership claim really is. I suspect that is why the bill got such wide support. It talks of protecting the public trust in natural resources but never says what that is. Surely, there is a reference point in the common law, but this is a slow and usually marginal process. It is not the place where decisions on new directions should be made. We must look to the legislature for more precise expressions that the public recognizes its sickness and wants to make fundamental changes by redirecting resources from paper, chemicals, and steel to other things which can contribute more at this point to mankind.

The Michigan legislature has never firmly stated what resources

belong to the public although it now has facilitated citizen suits to protect the public trust, whatever that is. Perhaps this is because the public wants to escape from freedom and does not want to admit that property rights are not defined by deities but by public affirmation of who counts and has power and what common environmental outcomes the people really choose for themselves.

It was stated earlier that the dichotomy of more versus less government was not very useful. Changes in property law and more precise standards for public agencies involve government to be sure, but they are quite different from those changes that *necessarily* involve new agencies, employees, and budgets.

To conclude, those who think the use of our resources must be redirected in major ways to produce a better mankind should give more attention to institutions which fundamentally reshape the power relations of our society in certain key priority areas. This puts more emphasis on basic property rights definition which can redirect private market transactions as well as governmental bargaining and less on things like piecemeal public spending, zoning, or even regulatory bureaucracies. This latter group of institutions has its place, but success in application depends on some fundamental restatements of basic property rights in resources. For example, we either say appreciation of land values due to public action belongs to the private owner or not. The public either owns the paramount use rights in small trout streams or it does not. Much of the rest of the environmental control trappings are marginal. They only keep the masses quiet while providing jobs for lawyers, planners, and economists.

#### ROLE OF THE PUBLIC POLICY EDUCATOR

Much of our concern with environment is relatively recent and people just have not made up their minds on relative values. I am impressed by the large proportion of people who respond to public opinion surveys with "don't know." Another common situation is when people have decided, but in widely different directions. The standoffs and lack of public action which emerge from the above factors are becoming increasingly costly since the dynamics of our current institutions favor the developer. Even if the developers and their consumers are in the minority, they carry the day if the majority is split or undecided over the alternative. In the past, we have developed new institutions by a slow experimental trial and error process. This will no longer do, or we shall have substantially fewer alternative results to choose from.

Extension education can help people discover common ground

and analyze the cost to the many if conflicts are not resolved. There is a great need to reach substantial consensus on new environmental issues more quickly. Some think the educational process and mass political representation of the new consensus is inherently too slow. This explains those who want a larger role for individual citizen court suits as well as the rock thrower and rioters. Much energy is being wasted looking for institutional loopholes where the well meaning few can get new environmental performance without educating and persuading the many. I believe this is dangerous. We must bring the majority along or we are lost. This is the challenge of public policy education.

The role I urge for policy educators raises its own issues for institutional control. Education changes relationships among people, but little thought has been given to its rules. Perhaps this is because it is regarded as a voluntary *laissez faire* exchange, and people do not have to listen. This is hiding our head in the sand, for the timing and packaging of information affects public choice. If formal education becomes more involved in helping resolve conflicts and creating common ground, the rules for its competition with other information sources will become more critical. At present, it is common for a prominent politician or group spokesman to assert that a certain proposed institutional rule will have a given effect. This will be reported in newspapers without any attempt to check its accuracy. It will stand as the only widely read information that forms public opinion on a given issue in a certain locale. While academics might be inclined to favor rules insuring wider access to some of the media, our academic freedom instincts favor no public rules for our own behavior. There are as few system rules for extension priorities as for public works projects.

But we public educators cannot insist on information exchange rules for others and omit ourselves. If there are no rules for information exchange, the situation will be dominated by those who can appropriate attention, and publicly supported education may not be very influential. To be influential at all may require a self-discipline that lies at the heart of all collectively created property rights.

### CONCLUSION

Institutions reflect the basic underlying covenants and values of society. One set of rules for relating people follows from the engineering approach to human problems and another set from the gut feeling approach. Institutions embody the major directional choices that are widely shared. If society judges that no major changes in direction are wanted, then such institutions as zoning and some new subsidy

programs are appropriate. But if many people judge that our present condition constitutes a sickness requiring a major change, then the institutional analyst and policy educator can prescribe more basic changes in our underlying property rights definition and distribution.

To accomplish a major change in performance of the economy and in its product—man—requires fundamental changes in the rules of human relationships and power. I have illustrated this type of change by the efforts to define the specific extent of public ownership in water resources and the ownership of land value appreciation created by public acts.

These are not matters for faint hearts. They change basic power relations, the locus of decision making, and items of accountability. But if people come to believe that the human potential is not being realized with present institutions, this is the direction to look. Policy educators should not fool the people into thinking that any lesser kinds of institutional changes will do!