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Roger C. B Morton

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STRIP-MINING REFORM—SOME POLITICAL AND ECONOMIC IDEAS

*By Rogers C. B. Morton**

The movement for strip mining reform, which in the beginning was mainly a political struggle, has become a three-pronged educational effort involving the mining industry, the Congress of the United States, and the environmentally aware public. Most of the mining industry has accepted the tenet that it must operate without the severe environmental damage caused by many of its operations in the past. Congress is now at work on reconciling the diverse private and special interests concerned with surface mining. Ultimately we can expect legislation that will represent a workable expression of the public interest in surface mining and the environment.

But the third part of the teaching effort—the part involving the public—is the hardest. The public is militantly alert to the truth that damaged ecology is not in its interest. Yet it takes for granted the material benefits that industrial technology supplies. The factories and the stores provide, and Americans confidently expect that they will continue to provide—although many do not understand the nature and complexity of the farms and mines whose products supply the factories and stock the stores.

Suspicion and mistrust are involved as well and must be overcome. Acknowledging our dependence on adequate supplies of mineral materials and fuels, which in the foreseeable future will be increasingly produced by surface mining methods, does not imply endorsement of environmental damage as a “tradeoff.” Yet to many, exactly such an inference results because many believe that it is impossible to end strip mining abuses without ending strip mining altogether. That view is mistaken. Correcting this error is the hardest part of the conservation education task with regard to strip mining reform.

We reject the notion that the goals of the Nation's economic well-being clash in some fundamental way with the goals of ecological protection. Indeed, if we have any serious National intention of rescuing our environment, we shall have to rely on an efficient, ever-expanding economy to help us do it.

Our economic system and our ecological systems are *not* incompatible. They are utterly dependent upon each other, as I hope to show. Our civilization's work in this "ecosphere" for the rest of this century is already cut out. Our national agenda reads like a catalog of the Labors of Hercules. We must: rebuild the cities, restore the quality of America's lakes, streams, and beaches, clean up the atmosphere, replace the healthy vegetation stripped off millions of surface-mined acres, preserve wildlife habitat, protect endangered species, build public transportation systems, build decent housing, feed hungry people, maintain National defense, and end disease.

I have seen estimates requiring almost a trillion dollars *just for construction* between now and 2000 A. D. Hundreds of billions *more* will be needed to rescue our environment. I cannot even guess how much will be required for adequate transportation. Moreover, we must provide for the needs of at least 60 million more Americans who will be part of our population by the turn of the century.

We compute the costs of these undertakings in terms of dollars, the usual symbol of value. But we ought to understand that we are really talking about work, about energy, about stone, gravel, iron, coal, copper, lead, molybdenum, zinc, and fibers, and about livestock, food crops, and forest products. Materials, energy, and work are the realities. The dollars are just abstractions, relatively meaningless as expressions of what the economic process entails.

The reality is the we are committed, culturally and physically, to a high-energy, high-production, high-consumption society with a momentum all its own. We are going to go on using ever-increasing quantities of minerals, fuels, fibers, and products of all descriptions. Doing so is the only way we can reach the goals—including the environmental goals—which we have set for ourselves and which we must achieve if we are to survive.

However much we would like to go back to the easier pace of bygone years, we cannot. We are committed to economic growth. We are dependent on the production and use of steadily increasing amounts of mineral materials and fuels which can be converted to

goods and services to meet the rising needs of the next three decades. We are stuck with the necessity for a GNP that grows, in real terms, about three or four percent per year, and with the vast demand for raw materials that such a condition implies, inclusive of recycling scrap wastes.

By 2000 A.D., the United States can expect to be using 12 billion barrels of oil and one billion tons of coal annually. Assuming that supplies are available, gas demand could be as high as 50 trillion cubic feet by then. Our needs for copper will increase by 300 percent; for aluminum, 600 per cent; for iron ore, at least 150 percent. Our overall gross mineral production will have to expand by two to three times its current rate. Yet it is the extraction, fabrication, use, and disposal of this steadily rising volume of mineral goods that has created most of our problems with the environment. Our dilemma is that to achieve our goal of making our country a better place in which to live, we must depend on processes whose unwanted side effects in the past have contributed heavily toward making it a worse place in which to live.

We are revolted by polluted water and sickened by polluted air. We are in danger of inundation by a tidal wave of garbage and solid waste. These are byproducts of the genuine affluence made possible by our stupendous expenditures of energy. Yet the altogether decent and humane goals we have set for ourselves in the closing years of this century will require even greater outlays of energy and minerals.

Plainly, U.S. mineral operations in the future will have to be vastly different from what they have been in the past. Otherwise, the problems cannot be solved on any terms.

Responsibility for radical change extends through the whole cycle of production, use, and final disposal. It involves producers and consumers alike. It means redesigning processes and reengineering products. It requires a fundamental reorientation in the way we regard mineral residues—traditionally but inappropriately labeled “wastes”—since they may ultimately be the “ores” we mine in the future.

The change we need will mean new rules and regulations. Above all, it will mean a new accounting philosophy that registers all the costs of bringing a product to market—not just those on the books of the producing company.

We are just now beginning to see the full scope of these costs; we are just now recognizing that for centuries we have been cheat-

ing on the prices we paid for the use of our land, water, and air resources. Almost no attention was paid to waste disposal and land restoration, because the scale of operations was so small that few were burdened with the consequences of neglect. But the rapid rise in U.S. population (with its steadily increasing demand for goods and services of all kinds) long ago reached and exceeded the limited self-repair capacity of our finite land, water, and air resources. Now we see these costs in their full and ugly detail: degraded streams and lakes; eroded hillsides; ruined farms; poisoned air; landscapes made ugly by spoil banks, dumps, and junkyards—the staggering unpaid bill for past generations of abuse and neglect.

For a generation or so we shall have to pay double. Not only must we begin charging the full costs of current operations so that the future is not burdened by the neglect of the present, but we must also amortize the huge environmental debt from the past. This means, of course, that the price of practically everything we pay, including taxes, will be higher in the future than it has been in the past, because for the first time we will be paying the true money cost of the goods and services we are using.

Many of these cost increases are deceptive. We are not accustomed to paying for air, for example, which we traditionally have thought of as free. Now we find *clean* air costs money; this cost is going to show up in our utility bills. But dirty air costs money, too, and it costs more than the price of preventing pollution. The cost of dirty air shows up in laundry bills, clothing bills, paint bills, hospital bills, and funeral bills. It always has—we just haven't been allocating it to the proper accounts.

When this principle of Full Cost Accounting is fully adopted, and enforced fairly and uniformly—as it eventually will be—it will be easier to get mineral producers to do the right thing on their own because it will be to their economic interest to do so.

Standards will have to be set by the Federal Government to make certain that operators in all States are governed by the same set of rules. Our competitive economy rewards producers who supply the best articles at the lowest prices. This is perfectly compatible with environmental protection, provided that *all* the resource costs are included in each item that comes to market. The function of government in these circumstances is to make such accounting a requirement. President Nixon described the problem and its solution this way in his Message on the Environment:

Increasingly, industry itself has been adopting ambitious pollution control programs, and State and local authorities have been setting and enforcing stricter antipollution standards. But they have not gone far enough, or fast enough, nor to be realistic about it, will they be able to without the strongest possible Federal backing. Without effective government standards, industrial firms that spend the necessary money for pollution control may find themselves at a serious disadvantage as against their less conscientious competitors. And without effective Federal standards, States and communities that require such controls find themselves at a similar disadvantage in attracting industry against more permissive rivals.

These requirements have special relevance to mining operators, who by nature are temporary users of the land. Their interest in it begins to decline with the first ton of production, and diminishes right down to the last. The land offered other potential uses to other tenants before the miners came; succeeding tenants will value it in their own ways afterwards. Therefore, every mine operator—and every oil or gas well operator—ought to know that the costs of cleanup and restoration are a proper charge to the cost of his operation, to be recovered from each unit of output produced through the life of the property. If the purity of the water resources is endangered by his activities, remedial action must be taken. If the air must be protected from gaseous or particulate emissions, that must be taken care of too. And it is fair for these costs of protecting the environment to be reflected in the costs and prices of the minerals extracted.

There are no indications that such costs will be prohibitive, or that prices will skyrocket because of them. For example, strip-mined coal today in the Eastern United States sells to industry at between \$4.50 and \$5.50 a ton, depending on such factors as the grade of coal and transportation costs. The average cost of reclaiming strip-mined land is about 10 cents a ton, or only about 2 percent of the selling price. When one considers the benefits, a 2 percent increase is not hard to accept. In the western States where coal seams are thicker the cost of restoration is even less.

In an effort to protect the environment in mining areas on an equitable, total-approach basis, the Administration has recommended to Congress the Mined Area Protection Act of 1971.¹ The bill provides for cooperation between the States and the Federal Government in developing environmental regulations for all surface and underground mining operations. The States will be re-

quired to develop mined-area protection regulations within two years of the bill's enactment. Federal regulations would be developed for a State that defaults, or proposes inadequate regulations.

The aims of the Administration's proposed law are: (1) protection of land, air, and water resources from the adverse effects of mining operations; (2) elimination of regulatory inconsistencies from State to State; and (3) establishment of equitable mined-area protection regulations consistent with variations in topographic, geologic, and climatic conditions. Key provisions of the bill provide for research on mined-area environmental protection techniques and for training programs to develop the new conservation skills that are needed.

The best time to restore mined land is generally before extractive operations conclude, while the operator still has equipment on the site. Action then would avoid the need for costlier reclamation by the State or Federal Governments. Of course, the cost of reclamation by the operator would be passed on to the consumer in the form of higher-priced mineral products, in direct relation to the amount of the mineral product consumed. To keep such costs low—and to stay competitive—the domestic minerals industry must take the lead in developing the technology required to arrive at a total system approach that includes exploration, extraction, processing, occupational health and safety for mineral industry employees, and land reclamation—all with the aim of reducing the social cost of minerals.

Early last year, President Nixon proposed a general reorganization of the entire Executive Branch of the Federal Government, including the grouping of responsibilities for energy and mineral resources within a new Department of Natural Resources. The proposed Department would bring together, in one Cabinet-level agency, most of the primary responsibilities for assuring Americans more effective achievement of natural-resource objectives and related environmental goals.

Federal policies and programs could thus be more responsive, more coherent, and better able to apply appropriate emphasis and institutional vigor toward meeting the many needs connected with natural resources. These badly needed Governmental reforms are essential to a consistent, long-range attack on the problems of reconciling our material necessities with our need to preserve and enhance the environment.

The Government has already started using the total systems

concept as the best approach toward resolving the power development controversy that centers on the Four Corners area of the American Southwest. The conflicting views are over how best to develop that region's vast potential for low-cost coal-fired power generation, while protecting the natural beauty of the area, upholding the rights and opportunities of the American Indians there, and guarding the quality of the air, water, and land. Most of the land near the Four Corners area of Arizona, Utah, Colorado, and New Mexico is Federally administered. Thus, both as administrator and policy leader, the U.S. Government bears responsibility for environmental protection and conservation in the area.

In order to provide for 20 million people in six southwestern States about 23,000 megawatts of electrical energy is now required. By 1980 the need is projected to 48,000 megawatts, and by 1990 to more than 90,000 megawatts. Hydroelectric generating plants have essentially peaked out and coal-fired plants have been constructed or are under construction in order to meet this increased demand.

To carry out its responsibility—and to demonstrate the total-system principle embodied in President Nixon's proposal for establishing a United States Department of Natural Resources—the Government has marshaled a special Southwest Energy Study Task Force. The inter-Agency group has been assigned the job of providing the information and recommendations that are needed to reconcile the many differing views held on Southwest power plant development in a manner that will assure optimum environmental protection for the Southwest area. The Task Force is operating with the highest Federal priority under chairmanship of the Under Secretary of the Interior. Its membership represents the Bureau of Reclamation, Geological Survey, Bureau of Land Management, Bureau of Indian Affairs, Bureau of Sport Fisheries and Wildlife, National Park Service, Bureau of Mines, Office of Coal Research, Council on Environmental Quality, Environmental Protection Agency, Federal Power Commission, Department of Transportation, Department of Agriculture, National Oceanographic and Atmospheric Administration, National Science Foundation, Office of Science and Technology, Atomic Energy Commission, and other Federal Agencies as needed. Moreover, the Task Force maintains active liaison with Congress, the States, Indian tribes, private industry, public environmental interest groups, and universities.

The study effort was organized into 12 work groups, each of which was assigned to investigate specific areas related to energy

and environmental aspects of power production in the Southwest. The 12 areas investigated were water and air pollution, atmospheric studies, land use alternatives, biota, coal resources, water supply, water resources monitoring, coal mining impacts, alternative uses of coal, power development and its economic effects, and Indians. The work groups completed their studies in March, 1972 and made their reports public. The reports then were consolidated by a study management team and in April were submitted for public comment. A final report then is to be submitted to the entire Task Force, which will make recommendations to guide me in making the policy decisions needed to determine the future of this area of the Southwest.

Until a regional assessment is made as a result of this study, the Department of the Interior has called a moratorium on new plants but through careful monitoring and contractual stipulations is permitting completion of plants that are under construction.

Although the proposed Department of Natural Resources would not need to include all the agencies taking part in the Task Force Study, its organization and authority would make possible the kind of comprehensive approach which can be approximated today only by a group as far-reaching as the Task Force. This situation signifies not just that the Government needs to be reorganized, but that our thinking concerning resource needs and the environment needs to be reoriented.

All Americans, not just people in Government, need to understand the imperatives of our situation as we move into the final third of this century. Natural resources, produced and used in prodigious quantities, are the source of our wealth, our power, and our capacity to act. The formidable tasks that we have set as national priorities will require an even greater use of natural resources in the future than in the past, and an even greater outpouring of goods and services. We are back again to the basic economics of work performance, to foot-pounds, ton-miles, kilowatt hours, horsepower-hours, kilogram-calories, and BTUs. Our objectives as a Nation can be satisfied only by the work units required to attain them; no return is possible to a simpler, more primitive condition.

If we as a Nation are to go anywhere except downhill, the commercial and industrial processes which sustain us must go on. What we must do is supervise the production and consumption of these increasing amounts of materials and energy so that damage to

the environment never exceeds the capacity of man or nature for quick and adequate restoration. Meeting this challenge will require the coordinated work of Government at all levels, as well as the economy's private sector; of producers and consumers; of Americans of all ages, in all parts of the Nation, who have a love of their country and a concern for keeping their land America the Beautiful.



* Secretary of the Interior.

¹ S. 630, introduced Feb. 5, 1971; H.R. 4704, introduced Feb. 22, 1971.