The Face of Tomorrow

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by STEWART L. UDALL

From the first settlement at Jamestown, in 1607, it took us about one century to populate the regions between the Atlantic and the Alleghenies.

From these mountains it took us another century or so to fight and farm our way inland to the Mississippi.

From the greatest of our rivers to the Pacific, to the official pronouncement in 1890 that the frontier had, for practical purposes, disappeared and ceased forever to be a motivating factor in our national life, it took us the third of our centuries on these shores.

The fourth century—so far—has been one of growth scarred by more than occasional greed; of development marked by frequent despoilations; of inventions accompanied by almost universal indifference as to their consequences other than mere profit; of wheels for each man, but a wasting away of public transportation.

Indeed, from the closing of the frontier until recently, with but a few exceptions, notably under Teddy Roosevelt and FDR, our decades are testimony to the triumph of folly . . . of failure through fragmentation.

We failed to view the whole picture, to search for ways in which to maintain balance between the works of man and the ways and wisdom of nature. Now, thankfully, that has changed. Under the two Presidents I have been fortunate to serve, the brush and palette of conservation have been liberated from the flat and one-dimensional canvas. We have begun to use broad brush strokes and a myriad of colors and shadings as we look up to the sky and out to the most distant horizon, as we look down, deep into the earth and below the ocean floor. Yes, we have begun to enter new dimensions with unfettered dreams. We have begun to look at the entire environment as ecologists aware of the relationships between all living things.

However, within the framework of one nation and one total environment lie many factors—among the more disparate of which are two known as East and West. Will they ever meet amicably under one national conservation banner, or will divisive sectional interests continue? The issue is yet uncertain, but there are forces today which convince me the ultimate

resolution is no longer in doubt.

East-West conservation differences, as viewed by their constituencies, have to be greatly oversimplified to be stated at all in a limited space. But, essentially, they might be put something like this: The highly developed Eastern portion of our country has exploited its natural resources. In doing so, it has practically run itself out of open space and beauty. Meanwhile voices are raised across the land, demanding preservation of our remaining resources and natural beauty—which means, at least to some Westerners, that their regions must accordingly stay unindustrialized but lovely for the good of the nation.

Should the East, speaking from the patched-up shambles of pell-mell development, ask the West to put its highest premium on preservation? Should the West exploit its resources as did the East?

Marshall McLuhan has accused politics of offering yesterday's answers to today's questions. I should like to suggest that in too many cases we are doing the same thing with environmental problems. We are sitting with a lapful of current conservation crises and failing to stand up to them with the solutions available to us today. In the cases where we *have* applied today's answers, the lapful of problems has done just what any lap does when you stand up—it has disappeared.

The two most pertinent considerations to this East-West conservation discussion, it seems to me, are tourism and technology, and since technology is by far the more complicated of the two, I would prefer to begin with tourism.

When the 1966 travel facts were tallied from across the United States, it was found that another new travel volume record had been set. And when the percentages of visitors to regions visited were analyzed, the computer cards stacked up well with the words of Horace Greeley. Leading all 10 regions was the Northwest, with 27.81%; next came the Rocky Mountains with 20.38%; the Southwest was third, with 20.09%; then the Great Lakes, 14.51%; New England, 11.5%; Middle West, 3.89%; South Central, 2.28%; Southeast, .45%; Northeast, minus 6.92%, and East Central, minus 1.51%.

The entire nation's travel was up 10.92% over 1965, but the lion's share went West.

In view of the money that went West with vacationers, one might want to ask the West, seriously, if it really is such a sacrifice, especially in the light of the lasting values of natural beauty and the unending stream of tourist dollars it attracts, to give up the ephemeral wealth which accrues from such practices as cutting the remaining redwoods. It would seem that an excellent economic case could be made for a resounding "no!"

We might begin our examination of the significance of how technology applies to East-West conservation differences, by considering its role as a mover of, rather than as a part of, our environment. Most of the lessons we have learned in and from the East boil down to the essence that there are ways *and* ways of working our will with nature. The practices that drew the shortest lines to the highest profits were the greatest despoilers. Many parts of the East are scarred and sullen witnesses to the folly of such false profits.

Today, we know many techniques of gaining the same economic ends via vastly different

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methods. These methods are particularly applicable to developing regions where good practices may be conscionably *built-in*, rather than merely cosmetically *tacked-on*.

I believe the patterns of conscionable and creative technology are beginning to emerge all over America, but particularly is this so in the West. A case in point is the series of agreements worked out last summer between the Department of the Interior and members of a new planning organization in the Pacific Southwest called Western Energy Supply and Transmission Associates. WEST, as it commonly is known, is an amalgam of 11 private companies, eight public and municipally owned systems and three generation and transmission cooperatives. Under WEST auspices, two mammoth 750-megawatt coal-fired steam plants and over 1,000 miles of associated EHV (extra high voltage) transmission are being built.

From the conservation standpoint, important advances have been incorporated in this project. Our agreements provide for water supply, utilization of Indian-owned coal and transmission rights of way across Indian-and federally-owned lands. And for the first time in agreements of this nature, the utilities have pledged to abate air and water pollution caused by operation of electric generating plants powered by coal-fired steam.

To combat air pollution, the most effective commercially proven electrostatic equipment is being installed in plants to control smoke, fly ash and dust in stack emissions. Provision also has been made for periodic review of air pollution controls in the light of technological advances.

This is sound policy, in line with President Johnson's instructions that in pollution control, the federal government is expected to provide an example to the nation. It represents preventive rather than remedial action against pollution. It also is a bellwether for future development in the West—development that will provide wealth and services without tearing up the land, without befoulment of air and water.

Project WEST is only one example of the conservation advances presently at our technological fingertips. We know *many* techniques that make it possible to deal more kindly with our environment and with ourselves. We can generate power without grossly polluting our air; we can extract minerals without scarring the face of the earth; we can manufacture goods and return to our streams, in acceptably clean condition, the water used in their processing. We can even build mountains of our solid wastes, overlay them with dirt, and make ski runs out of them, enjoying them recreationally until some later day when new mining techniques and dwindling ore deposits make it economically feasible and necessary to mine them for their mineral content.

What we cannot yet do, we are learning to do. *It is a fact of social and economic life that we are an internal combustion-oriented society now choking miserably on the wastes of the horsepower chambers.* We have made the elimination of the poisonous by-products of our vehicular progress a national goal. Who knows, we may have to change to some other form of propulsion which, while temporarily distressful to our economy, would at least save our eyes and lungs.

If the means of applying technology to the improvement instead of the destruction of our environment are legion in the field of industrial development, they are not entirely lacking in the recreational picture. A signal case is that of Mineral King,

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California, where a $35-million outdoor recreation venture is contemplated as one of the most spectacular wild alpine paradises in this country . . . perhaps anywhere in the world.

A classic conservation fight is shaping up in this Sierra Nevada mountain valley, part of the Sequoia National Forest surrounded on three sides by Sequoia National Park. The question is whether to let private enterprise (Walt Disney Productions) drive a double roadway, some 100 feet wide, through the uniquely beautiful mountainsides leading to Mineral King or to provide instead some form of electric railway as access to the planned winter and summer resort.

At stake are not only the groves of old-growth redwood and the superlative mountain scenery which would be inflicted with irreparable long-term scars, but the very air of the resort valley itself. Picture the 15,500 acres of Tulare County that make up the Mineral King site, developed as delightfully as the Disney people are demonstrably capable of doing, and imagine them seen through air as crystal clear as the air cupped in that valley today . . . the closest automobile held 25 miles in abeyance, at the other end of a clean, electric-powered transportation line. All valley vehicles would move noiselessly and cleanly about by battery, and nowhere would the scene be dimmed by the dismal pall of the internal-combustion chamber.

People would come from near and far just to experience firsthand the charm and joy of such surroundings. Such a resort would be the most popular and enjoyable outdoor recreation spot in all of California—a beacon to future

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developers, a welcome substitute for the old-style, pollution-ridden "last resort."

It is worth considering that the aging process taking place on the body of civilization (as evidenced by the decay of our cities, the pollution of our air and water, the mounting piles of solid waste and rubble) may be signaling an abrupt change of life. Evolving from the despoiled picture is a technological possibility which may change the face of tomorrow—the possibility of going underground. I do not speak of a tunnel here and a utility line there, but a massive use of our inner earth.

In the past year, we have explored the feasibility of developing a more advanced, rapid, underground excavation technology. Such a system, when perfected, will be used first, probably, to reduce drastically the cost of extracting minerals. It will make possible the commercial development of vast but presently uneconomic resources. But perhaps more important in the long run will be the benefit to future concepts of land utilization, communication and transportation.

The program, nicknamed Project Badger, was described by President Johnson in his Air Pollution Message to Congress January 30, 1967. He said:

The clutter of our land not only offends our sense of beauty, but also limits our capacity to live fully and work effectively. Living space itself is a valuable resource. Webs of wire, carrying power and communications services, mar the landscape. Congestion has reached serious proportions in many of our metropolitan centers.

A promising alternative to this clutter—the earth's depths beneath us—has received only passing attention. But it can provide a location for the arteries a modern city must have—the wires, pipes, tubes, passageways and parking spaces.

Subsurface excavation today is difficult, slow and expensive. One hundred miles of subway, to be built in major urban areas during the next 10 years, will cost more than $1 billion for excavation alone. Obviously we must develop cheaper and better methods. I recommend a program for research to develop rapid and low-cost excavation technology.

Most of our conservation problems today are surface problems. They concern the skin of this planet and the air most closely overlying it. Standing in the wings today, along with burial of wastes, is another potential avenue to an improved environment—conversion. While we contemplate burying as much of our wastes and as many of our unsightly service lines as possible, leaving intact as much as possible of

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the surface of our land, we also wrestle with the problem of converting wastes back into usable solids and energy.

These are the two great new conservation thrusts today, forced on us by circumstances over which we are only now trying to exert control. We have nearly reached the end of our ability to extract power or pleasure or mobility from what is available on the surface of the land. We are everywhere coming to the end—the end of the river, the end of the highway, the end of the picnic ground, the end of our tolerance for junk and jostle.

We have yet to find completely satisfactory means for spreading out underground, but this may be the direction of the future. While the reach for outer space captures our fancy, the dig to inner space reflects our failures. No one can deny that *Gemini* and *Apollo* have more "imagination" appeal than Badger. But Project Badger offers promise to accommodate more inner spacemen than will be hurtling off the launching pads into outer space for a good many moons to come.

I would like now to examine with you another technological advance, one that is bound further to blur the distinctions between East and West. Within a few years—*not* as a means of leaving the earth and its problems—we will have a small, instrument-packed satellite, hundreds of miles out in space. This will be a joint effort of the Department of the Interior and the National Aeronautics and Space Administration. The little, unmanned Earth Resources Observation Satellite, appropriately nicknamed EROS, may prove to be the most significant step forward we yet have made in applying the overall view to our environment.

Ecology is the name of our approach to conservation today. It means the interaction and interdependency of all living things to each other and to their environment. It takes the total environment, with all its living organisms, and studies it *as a whole*. We have known, ever since the days of George Perkins Marsh back in the 1860s, that to disturb the balance of nature without calculating the consequences was inviting disaster. But EROS will give us our first chance to "step back in space" and take a long look at our planet as a whole . . . literally an eye to the betterment of earth.

The data that can be collected from space in 17 days by remote sensors riding in the satellite and transmitting instantaneously back to earth would take 20 years to assemble from aircraft. As seen from hundreds of miles out, our planet will appear smaller, but we will achieve immeasurably increased vision for our ecological approaches to management of earth resources. The EROS program itself is a classic application of this ecological approach, melding East and West, earth and space, and powerfully affecting our thinking about our environment.

And this brings me to my final observation—the emergence of technology not merely as a mover, but as a *part* of our overall environment. The new and impressive tools of technology are first of all powerful extensions of man's hands and feet and eyes—his muscle and his mind. They magnify, almost unbelievably at times, his ability to move and control and change. With these tools we can accelerate the headlong course of sprawl and pollution and blight, or we can give direction toward wise development and proper use.

Now the social sciences have entered—late—upon the scene and told us that technology has pushed and pulled and shoved and hauled until it has built itself in—become a part of our very existence: no longer merely an *alterer*, but now threatening to become an *altar*.

The bulldozers and drag lines and channel dredges have ensconced themselves as valid parts of our environment; in other cases, almost as objects of worship. August Heckscher, in an address, "The Individual and the Mass," cites the case of the bayshore town where he spent his summers. He described the delightfully quiet, shallow, wildlife-rich bay, and then:

> *Suddenly it was announced that this harbor would be dredged and a broad channel created. The shellfish would be destroyed—the community's principal resource. The quiet would be permanently ended. The earth dredged out would be piled on the shore to remain an unsightly dead mass for a time and then to provide the foundations for scores of speculative houses . . . It was explained solemnly to the citizens of the community that the county owned a dredge and it was not economical to keep it standing still without work to do.*

This threatening world of "technological imperatives," in which the machines dictate their own destinies, composes a second world in which we live today. The sociologists refer to a dual world of two external environments. The world of nature is still the cradle of our species and the nourisher of our existence. But the other world—the one man has built within and around the world of nature—calls for us to divide our dependence and allegiance—to re-evaluate our supreme faith in technology, and to examine it for ways in which it may be denying the very nature of man and his natural world.

Roland C. Clement, staff biologist for the National Audubon Society, describes this man-built world as "including all our technologies, from the axe and the hair shirt to electric power and atomic fission; and all our media, from the alphabet to Telstar and television."

The task of conservation today is to apply *human* understanding and wisdom to the dual environment in which we live. Conservation, which began with wildlife protection and grew to habitat preservation, must now extend its concern to this man-made environment. It must recognize that in an ecologic age our technologies — whether TV, typewriter or electronic computers — are just as much national resources, as fossil fuels, forest products or wildlife. They are cultural resources rather than natural resources, but they form an increasingly important part of men's lives and they require increasingly sophisticated watchdogging if they are to be made to serve and enhance the quality of human life.

One of conservation's most urgent tasks today is to create a general awareness of ecology in both its biological and sociological senses. This is a task which, if pursued diligently (the only form of pursuit that offers hope of success), will inevitably cancel out our regional differences and make of conservation a unified task.

Public expectation must be raised to require a more responsible performance from everyone—whether that "one" be citizen, corporation or government agency. Political machinery must be revamped, if necessary, to enable the formation of public policy—a task which often involves difficult choices between conflicting public interests and private demands.

In this connection, *Cry California*, the journal of California Tomorrow, has devoted its spring 1967 edition to "a critical survey of the multitude of uncoordinated federal programs which are adversely affecting California's land and landscape." Cities, parks, air, water, highways, airports, recreation—all these and more of the federal areas of involvement are studied, with a special eye to the clashes of developmental interests.

The concluding proposals are built around a recognition of the regional nature of California's cities and the need for government structured to this reality. Specifically, the report says:

> *To meet the unsolved regional problems of California in a coordinated way, the federal government should stop pussyfooting and insist that the state create general-purpose*

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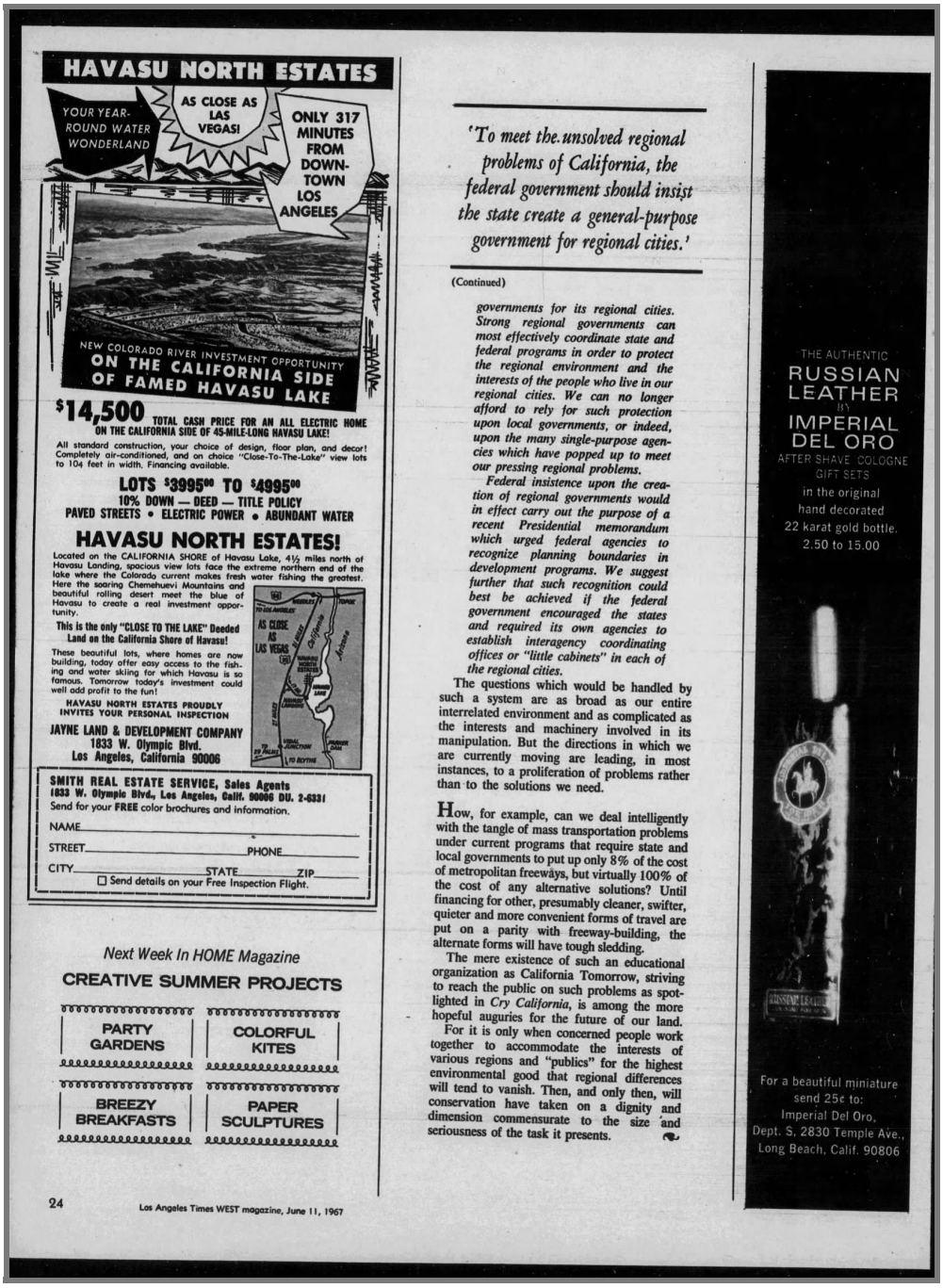

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'To meet the unsolved regional problems of California, the federal government should insist the state create a general-purpose government for regional cities.'

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governments for its regional cities. Strong regional governments can most effectively coordinate state and federal programs in order to protect the regional environment and the interests of the people who live in our regional cities. We can no longer afford to rely for such protection upon local governments, or indeed, upon the many single-purpose agencies which have popped up to meet our pressing regional problems.

Federal insistence upon the creation of regional governments would in effect carry out the purpose of a recent Presidential memorandum which urged federal agencies to recognize planning boundaries in development programs. We suggest further that such recognition could best be achieved if the federal government encouraged the states and required its own agencies to establish interagency coordinating offices or "little cabinets" in each of the regional cities.

The questions which would be handled by such a system are as broad as our entire interrelated environment and as complicated as the interests and machinery involved in its manipulation. But the directions in which we are currently moving are leading, in most instances, to a proliferation of problems rather than to the solutions we need.

How, for example, can we deal intelligently with the tangle of mass transportation problems under current programs that require state and local governments to put up only 8% of the cost of metropolitan freeways, but virtually 100% of the cost of any alternative solutions? Until financing for other, presumably cleaner, swifter, quieter and more convenient forms of travel are put on a parity with freeway-building, the alternate forms will have tough sledding.

The mere existence of such an educational organization as California Tomorrow, striving to reach the public on such problems as spotlighted in *Cry California*, is among the more hopeful auguries for the future of our land.

For it is only when concerned people work together to accommodate the interests of various regions and "publics" for the highest environmental good that regional differences will tend to vanish. Then, and only then, will conservation have taken on a dignity and dimension commensurate to the size and seriousness of the task it presents.