

NATIONAL PARKS & *Conservation Magazine*

The Environmental Journal

April 1971



REBIRTH

AGAIN the turning year brings April. Down the lush stream valleys, the tiny frogs are calling. The spring peepers have emerged miraculously from nothingness and winter, to fill soft moon-lit nights with clamorous music. And that phantom of spring-time meadows, all but invisible in broad daylight, yet with brisk and peremptory voice, the chorus frog, smallest of them all, defies discovery behind rock and fence post. The red-winged blackbirds sweep in from the South, drop their metallic notes from high treetops. Again comes April, brings the recurrent resurrection, new life, new hope.

The land was locked under snow and ice in January. On warm days, even then, rivulets ran beneath the ice. The February thaws filled all the little watercourses to their banks and over. The earth burst with a tumult of water. Springtime is freedom.

The green buds of hickory and walnut have exploded into leaf. The sycamores have discarded their pendants, hoarded since autumn. Oak and maple display their tassels, bronze and red. Across green pastures wild onion spills its delicious scent. Springtime is verdure.

But Springtime is seed-time also. Around mid-March, with the danger of deep frost past, the older farmers walked their fields to broadcast clover and alfalfa. Now the tractors must pause until earth is solid under wheel. Late in April, along the middle seaboard, the fields will open to the plow, and early in May to the planting of the corn. As June gives way to July, wheat and barley will come to the combine, and later oats. Such are the seed-time and the first harvest.

A YEAR AGO another Springtime burst into life from beneath a generation of apathy. Turning

for the moment from their work against intolerance and war, but not forgetting, young people all over America came together to celebrate Earth Day, to commit themselves to the defense of the imperiled life-environment of the planet.

It was a new freshening of society, a quickening of political waters. Veterans of long environmental campaigns found new strength, took new heart. And now, a year later, the tried and tested of the new campaigners, themselves experienced, celebrate a vernal anniversary.

THE YEAR has brought rumblings of a moral revolution. The apathetic interlude was preoccupied by gadgetry and possessions, by irresponsible propagation, by unparalleled waste and destruction.

But the centuries-old season of bloodless science, remorseless technology, the conquest of nature, now seen as the enslavement of man, may be ending. Shall we listen again to the voices of waters, to the rhythms of cicada when summer comes, to the songs of the birds and the winds in the trees?

If there is to be a change, a reversal before too late, it must begin with a transformation in values. Because it will revise the presuppositions of five centuries, the transvaluation will be sweeping.

WHAT of a new society in which the old passion for biological proliferation, the conscious proselytizing for the expansion of human numbers, gives way to a powerful morality of stabilization and eventual reduction in population levels? All the expansionist premises of the mass-production econ-

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NATIONAL PARKS & *Conservation
Magazine*

The Environmental Journal

April 1971

OFFICIAL PUBLICATION OF THE NATIONAL PARKS & CONSERVATION ASSOCIATION

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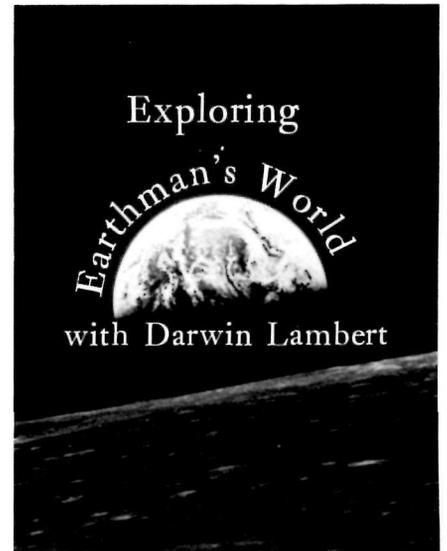
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COVER "Youth 1971" by Photo-Recon: Susan Bournique, Harold E. Moore, Jr. & Walter J. Terzano

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charles reich
douglas carroll III



*A series of short articles examining
man's relationship to nature.*

AFTER THE GOLD RUSH

Turn around
Go back down
Back the way you came
Can't you see that flash of fire
Ten times brighter than the day
And behold a mighty city
Broken in the dust again
Oh, God
Pride of Man
Broken in the dust again

Oh you who dwell on many waters
Rich in treasure wide in fame
You bow unto your god of gold
Your pride of might shall be your shame
For only God can lead his people
Back unto the earth again.

—from "Pride of Man,"
by Hamilton Camp for
Quicksilver Messenger Service

In my mind I still need a place to go.

—from "Helpless,"
by Neil Young

We are stardust
We are golden
And we've got to get ourselves
Back in the garden.

—from "Woodstock,"
by Joni Mitchell

I am a child, I'll last a while.

—from "I Am A Child,"
by Neil Young

With the new generation of American youth has come a profound philosophic change in attitude about nature. This change reverses a trend that has long been predominant in western man—the effort to force all of nature to conform to man's material and rational demands. For youth, nature is something larger, more enduring, more meaningful than themselves, and they are children, whose experiences and identity take shape from its universal mind. There may be only a few years in age difference between the young professional couple going camping for a vacation and the long-haired kids digging the sunset from the California coast, but there are two thousand years of difference in feelings. And these differences will soon be reflected in our politics, our conservation policies, and our landscape.

To begin with, youth look to nature as a way of knowing themselves. The American has long been able to avoid looking at himself because he could deal with his dissatisfactions by changing things outside himself—moving to a new frontier or changing the existing environment. But youth realize that we have used up the outside and so must turn inward to meet our needs. One consequence of this is that each individual learns to accept limitations—not only accepts them, but recognizes that the limitations that nature imposes on man are in themselves beautiful—they provide the necessary forms within which man can change and grow. At the same time, nature provides man with a source of identity and meaning. Western man has destroyed all traditions, instincts, taboos, customs, and created a civilization so changeable, so random, that it offers man nothing whatever to believe in. Nature gives him a starting point, something that can be accepted as truth. If a machine produces tin cans, no one can confidently say they exist for any reason; but if it's raining, man knows it was supposed to rain.

Starting from this point, nature allows a person to experience himself. Cold weather, the rapids in a river, a grizzly bear, the power of the ocean—these are not things to be controlled or mastered or used by man, but things before which man must feel helpless. As Neil Young's song expresses it:

Blue blue windows behind the stars
 Yellow moon on the rise
 Big birds flying across the sky
 Throwing shadows on our eyes
 Leave us helpless, helpless, helpless.

—from "Helpless,"
 by Neil Young

These experiences enable the individual to know himself, to grow, to change. There is a right to danger, a right to experience the savage and the wild, a right to know that one's own death is in nature a beginning, not an ending.

Beyond the search for personal identity, nature is something for man to worship, to feel a oneness with, to be a part of. The new generation is discarding the drive for competence, superiority, mastery, and is seeking instead the child's experience of awe, wonder, magic, mystery. Like the Eastern religions, the new generation wants to experience a greater truth than the truth he can make with his rational mind. For unlike man's chaotic civilized world, nature works. One ocean wave follows another, the geese come every fall, there is a sunset every night. The rhythms are dependable—nothing in civilization is so dependable. Man's inadequacy is shown by the fact that when he interferes with nature, he destroys its rhythms but substitutes no valid patterns of his own. As Joni Mitchell puts it:

They paved paradise
 And put up a parking lot
 With a pink hotel, a boutique
 And a swinging hot spot . . .

They took all the trees
 And put them in a tree museum
 And they charged all the people
 A dollar and half just
 to see 'em . . .

—from "Big Yellow Taxi,"
 by Joni Mitchell

To our youth, it is time for man to abandon his absurd claim to superiority over the rest of nature, his pose of dominion over the plants and animals, his preposterous stance as king of the universe. I used to be a hero, but now I'm John, says John Lennon. And Bob Dylan says the same thing:

Build me a cabin in Utah
 Marry me a wife
 Catch rainbow trout
 Have a bunch of kids who
 call me Pa
 That must be what it's all about
 That must be what it's all about.

—from "Sign on the Window,"
 by Bob Dylan

These attitudes have meaning for politics and conservation as well as for each individual. Young people are beginning to live more frugally, to be less wasteful, to repair things instead of throwing them away, to hitchhike instead of driving alone. They are finding out how little man really needs. These new consumers will not buy the destructive, artificial, and useless products of our economy. It will no longer be possible to sell as many oversized cars, or foods that are not organic, or extravagant forms of entertainment and recreation. The new economy will make fewer demands on nature, more on ourselves. And youth will want to stop the unnatural growth of population, the insane desire to dam every river, pave every swamp, chop every tree. They will safeguard the rights of trees, animals, and earth. They will want wilderness preserved as wild wilderness—if only for the vital value of knowing it is there. Nineteenth century man exploited nature; twentieth century man harnessed and controlled it. But now, after the gold rush, in Neil Young's phrase, living in the "burned out basement" of our man-made world, a new generation of Americans is realizing that their task will be to help protect and restore the community of which they are a small and vulnerable part—the earth. ■

Charles Reich is Professor of Law at Yale University and author of the bestseller on youth culture, *The Greening of America*.

Douglas Carroll is a member of the Class of 1973 at Yale College. The title of this essay, "After the Gold Rush," is from Neil Young's song and album of the same name.



YOUTH, REBELLION & THE ENVIRONMENT

gilbert stucker

Our fathers came as reapers, to gather in the harvest. Our children come to sow the seeds of the future. But—first—the fields must be cleared of the garbage.

“They can see it . . . they can feel it . . . they can smell it,” said William Felling of the Ford Foundation recently, referring to the younger generation’s budding environmental awareness, “and they think they can change it.”

Changing it will not come easily. Our cities have become abominations of filth and disorder, clogged with 75 percent of the nation’s population. The countryside has been blighted by real estate developers and the land-butchering methods of strip miners and timber cutters. Cesspools and septic tanks endanger our groundwater supplies. Annually, 135,000,000 tons of contaminants are spewed into the air we breathe, while 7 million junked automobiles and 200 million tons of refuse befoul the environs of our communities. More than two-fifths of the country’s valuable wetlands have been destroyed by dredge-and-fill operations. Rivers run putrid with human, animal, and industrial wastes, detergents, and pesticides—sufficient to have killed 15 million fish in 1968. Eutrophication—the accelerated “aging” of water bodies due to excessive algal growth—threatens a third of our lakes, including California’s lovely Tahoe, Florida’s Okeechobee, Crater Lake in Oregon, George and Cayuga in New York. Lake Erie is so noxious that few but trash fish can live in it, and the shadow of things to come is moving toward Lake Superior, purest of the Great Lakes, in the form of some 60,000 tons of taconite tailings dumped daily into its waters by a mining company.

Cleaning up this mess has become a *casus belli* on campuses throughout the nation where students have organized themselves into such groups as The Ecology Coalition,

Ecology Activists, Students for Environmental Defense, Society for an Unpolluted Environment. Mass meetings, rallies, demonstrations, and marches have been held, seminars and lectures given. Campaigns have been waged against DDT in Wisconsin, the construction of overhead power lines and a freeway in California. Tree destruction has been attacked in Texas, water pollution in Michigan. An attempt to dramatize human rights over corporate privilege saw teen-age youngsters protesting the oil well leaks in Santa Barbara Channel, while others of their generation fought for the preservation of San Francisco Bay, the redwoods, and the Point Reyes seashore. A marshland in Connecticut owes its existence in large part to the determined pupils of a girls’ school who helped halt a land-fill project.

Heartened by this groundswell of youthful concern, and sensing its implications for the future, Senator Gaylord Nelson of Wisconsin and Representative Paul McCloskey of California—both ardent conservationists—proposed that a national day of environmental action be observed on April 22, 1970. Becoming known as “Earth Day,” with some 2,000 colleges, 10,000 elementary and high schools, and innumerable communities participating, it has served notice on the adult world of youth’s commitment to a restored, ecologically balanced earth. Moreover, it has brought sharply into focus the character of these young people and the true nature of their aspirations.

Our environmental problems run deep—deeper than the technology immediately responsible for them, or its ability—alone—to rectify them. These problems have to do with more than our physical surroundings; they have to do with ourselves—with our innermost drives and motivations. Their causes originate in the trauma of the human psyche brought about by our progressive alienation from natural reality and the sources of our being.

This alienation, as Lynn White, Jr., suggests in his *Historical Roots of Our Ecological Crisis*, would seem to derive from the notion, embodied in our Judeo-Christian backgrounds, of a special genesis for the human species,

Credits: Center, Mike Saaks. Clockwise from center, *Birmingham Alabama News*; Marion Patterson; National Park Service, Department of the Interior; Bureau of Solid Waste Management, Environmental Protection Agency; Planned Parenthood—World Population; Department of Housing and Urban Development.



with the earth and its forms created for human ends. From it arose the conception of man as he dreams of himself in an anthropocentrically oriented world—triumphant over nature, self-determining, disdainful of his fellow creatures and estranged from the very stones. We are paying the price for this arrogance. We pay it each time we breathe a lungful of polluted air, gag on a glass of chlorine-treated water, or spend a day in the mind-destroying phantasmagoria of our cities. The truth is that man is no more central to the fact of life than a sparrow or a blade of grass; further, he has his true being in community with these, not separated from them. A restored environment cannot be ours, in any real sense, until we restore *ourselves* to that environment.

To accomplish this will require more than the application of our technological know-how; it demands a rethinking of the basic premises under which we live and which govern our relations with nature. It is a matter of realigning our lives to the truth of the human situation in its moral and physical dependence. It means opening ourselves to a new awareness of the earth and our place on it. We need to turn away from past forms. We need to recast our attitudes in the image of a higher consciousness and a higher order of expectations than our fathers knew. We need to think biocentrically—in the way of life—and not just anthropocentrically—in the way of man. We need a vision of the future.

The outlines of that vision have begun to emerge in the hopes and ideals of our youth and in the rebellion that striving for them occasions. In its involvement with the environmental crisis, that rebellion—transcending such issues as the Vietnam War, civil rights, educational reform—has reached its ultimate datum; in it we are witnessing, not only an awakening ecological conscience, but a rejection of the massive materialism that has gripped society and, through its technology, is defacing the earth and degrading the human being.

The young question a system that expects them to take part in this process of destruction, to assume roles in the endeavors that are contributing to environmental decay. They cry out against it—against the corporate lust and individual self-interest, the desire for ease and security as ends in themselves, which constitute the major motivating factors behind these endeavors. They cry out against the emasculation of people through artificial living dedicated to the pursuit of the intrinsically trivial and banal.

What is offered them seems more a simulacrum of life than life—a travesty to be acted out in a milieu of plastic and asphalt, steel and concrete. They hunger. In the midst of the world's greatest abundance, they hunger for the touch of the real—for the reality of trees and mountains and free-flowing rivers. Human nature cannot do without these. Clean, healthful air and water, open countryside unclaimed by developers and engineers, living conditions that do not affront the sensibilities nor afflict with physical or mental ills—these are their birthright, as needful as food and drink.

Faced with the prospect of leading lives that deny them this birthright, increasing numbers of the younger generation are giving in to despair—seeking, through the use of drugs, the vital levels of experience, the sense of life imperative, so tragically lacking in our synthetic way of living. Drugs are not the answer. They compound the problem. The answer lies in fulfilling the human need to establish a fundamental relationship with natural reality—to know life “like it is.”

This need was brought out with singular clarity recently by Robert Cahn of the *Christian Science Monitor*, since appointed to the President's Council on Environmental Quality. Writing of a visit to Yosemite, he refers to an encounter with two hippies, whom he queried about their reactions to the Park.

“Bill, a 16-year-old from Georgia, replied: ‘There are no real values left in society. We come here because it is beautiful, it is real.’”

“Jack, a handsome, unshaven youth from Canada, said: ‘Here, I don't need LSD to turn me on. I can get the same feeling from seeing the beauty of the mountains and the cliffs and the trees.’”

Few statements could be more revealing. They afford sorely needed insight into the disaffection of our youth and their deepening concern for the natural environment. They do much to explain why steadily increasing numbers of them, far beyond the estimated 10,000 of a year or two ago, have left our cities and towns to create communities of their own in the most natural situations available, preferably where wilderness conditions prevail. In hundreds of communes from Maine to California the search is one for a

new life style, freed from the confinement, the stultifying routine, the clutter and glut. Working together, building their own homes and furnishings, growing and harvesting their own crops, reviving handicrafts, experimenting with new art forms and avenues of thought, the young are attempting to fashion the rudiments of a way of living consonant with their ideals.

They are seeking, as Tolstoy did, in the words of Nicolas Berdyaev, "the truth of life which is near to nature." For them, life, to have meaning, is to experience the reality of the natural world as an abiding constant, and, betimes, to feel themselves flush against the raw edge of existence with recourse to nothing but their own hands and minds. It is to be alive to the miracles of sun and wind and rain—to big things like mountains and little things like flowers. It is to hear the cry of a loon on a misty lake, to know the friendliness of a badger that has lost its fear. It is to discover cool alpine meadows where bear cubs play in matted grass, and rock slides that resound to whistling marmots. It is to travel forests that have never been stumplands and to canoe waters that exist for no other reason than to be there.

As realities these come to be known and lived with, a man sheds a blindness, an opacity of the spirit. Something is restored to him that he had lost in the noise and confusion of the city—some original gift of insight given back, some sense of timelessness and beauty. No longer does he look to possess and exploit as his forebears did; he perceives in larger dimensions. The wilderness is seen to exist, not only in its relation to him, his needs, and desires, but as it has being in itself, serving its own ends. A river is not simply a source of hydropower nor a means of getting rid of wastes. A prairie is to be valued for its wildflowers and grasses—in the way that a woodland is thought of for its trees as forms of inspiration and delight. Trees are more than the boards and shingles that can be milled from them, or the price these products can bring on the lumber market. They have reason for their existence as living entities with lives and purposes of their own, performing their functions of purifying the air, safeguarding watersheds from erosion, beautifying the land. They have meaning for us as *trees*—as they exist in nature, in their truth, their reality.

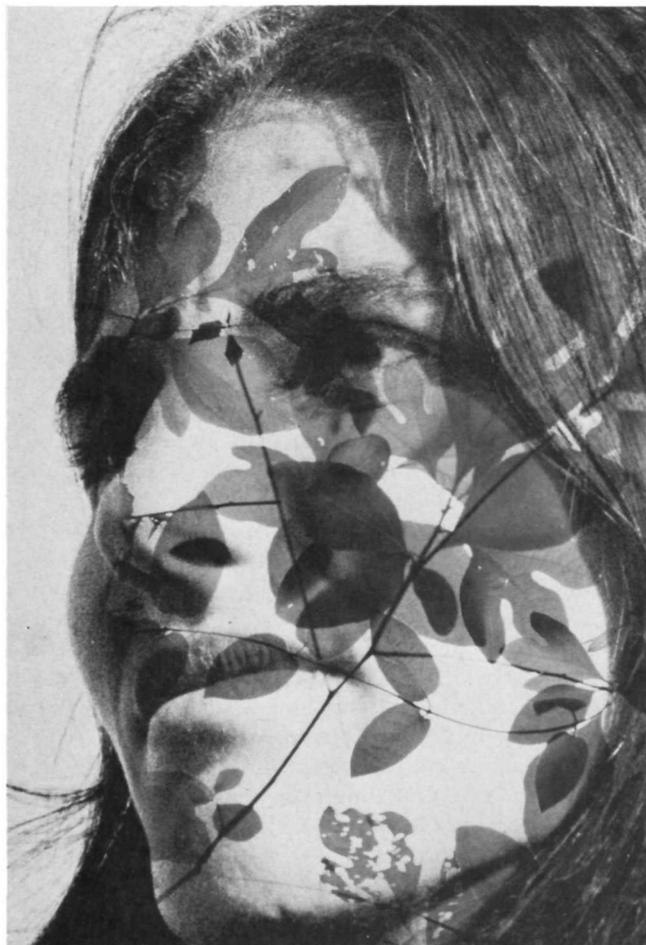
Seeing in such light, we may come to view ourselves accordingly—the order of our thinking changing—and where previously we sought to relate the environment to us, we relate ourselves to the environment. Only in so doing can we transcend the attitudes that have alienated us from nature for so long and assume our rightful place—moving through the forest in sympathy with all that is there; to feel the life in leaves and grass as part of the life in us; to know the hurt of a crippled animal as our hurt; to think—not as man living in arrogant disregard in the fabricated make-believe of his technologized world—but as he lives in fraternity with the rest of nature, in *his* truth, *his* reality. Then will the ground of our individual being and the ground of universal being meet and coalesce and reveal themselves to be the same. Then will we begin to comprehend truly the nature of the natural environment as the expression of a dynamic and continuing process—a web of interconnecting existences and lives in ceaseless flow, so closely and intricately harmonized that should one part fail, the system suffers.

The wilderness, one comes to realize, is not a place or a state of being so much as it is a condition of creation—an affirmation of the forces implicit in existence itself—a perpetual beginning in which youth, most significantly, finds both substance and symbol.

The young do not see the world as shape—fixed, rooted, and fulfilled; they see it as possibility—a foreshadowing of what is to be, a light at the far end of the present darkness. It is toward the light that they grope—"pilgrims of the future," as Teilhard de Chardin would say—seeking the morning of *their* day.

Yet—it is *our* day, too. All of us are born to more than we are; all of us have a stake in the future. Beyond the immediacies of the present, beyond what there is for us here and now, lies a hope. Beyond the perimeter of our senses, our ordinary, everyday perceptions, exists a higher reality than the one we know—not of the world as it is, but as it could be. ■

A Trustee of the National Parks & Conservation Association, Gilbert Stucker has had a long-time interest in natural area preservation and the environment in general. He is presently engaged in museum work in New York City.



COMING OF AGE ON EARTH

FUTURE-FICTION might aid the environment by stimulating man-earth thought and feeling and placing problems and possible solutions in intimate human context, believes the author of this story,

darwin lambert

drawings by meredith rode

October 19, YE55

Great'pa—your grandfather, Dad (I'm so uncertain what you know or don't know about situations on Earth)—is on his third heart and apparently strong. But he's changing. After being so busy in his communications room that I seldom saw him during my first three years here, he's sold what seemed an essential part of him, his ham-video set. He's retired from the Earthmen's Council and taken to sitting on the floraporch of this 49th-floor apartment. When I look out at him from a window and glimpse his cheek, his pale skin stretched on the bones as if by the weight of folds under his chin, he's squinting at a red-fruited dwarf tree in a porch corner, or the fall-colored park-strip below, or the hazy lands farther out where he says the old capital Washington, D.C., crumbles in wilderness, perhaps at the whole pattern he claims his generation created in which every home has flowers and views of farms or fisheries reaching wild forest or sea.

I feel he's waiting for something from far away or from deep within himself—maybe a message of reconciliation from his son Benjy, who left him without saying good-bye so long ago, or maybe a rising of faith that his line of descent won't perish on Arkten. But Grandaunt—his only other child, Freda (Granddad Benjy's sister who never married)—thinks he's waiting for death. "He'd welcome it just any minute at all, Art," Grandaunt says. She suspects he's stopped taking his longevitin, and she urges me to go to him—"at once, but gently," she says, prodding me.

As I said, Dad, I'm unsure what you know about your forebears here on Earth—or about Earth itself. Even these liteletters take so long to reach you and might, for all I know, turn out so snowy on Arkten's receiver-printer as to be largely illegible. We knew little—re-

member?—when you let me come here for college against Granddad Benjy's opposition, his tight-lipped refusal to acknowledge either Earth or the past. I can't forget his sarcastic laugh when I said I'd board the first return galaxiliner after graduation, bringing an Earth-girl to help build up our decimated population. Has he relented at all? Has he been reading my liteletters? Has he volunteered anything about Great'pa and Grandaunt as he knew them in his youth?

Great'pa isn't pitiful, Dad—don't any of you misinterpret. I feel he's essentially at peace with himself and his surroundings—as if tuned into eternal harmonies. Grandaunt says he's always loved the touch of soil and of vegetation and all creatures including fellow-humans—previously known friends or stranger-friends. "He has an open heart," she says, "no bars on its gates at all, Art." So when I go out on the floraporch now, clicking the door to let him know, and still he doesn't choose to turn or speak at my coming, I touch his tendony-veiny hand on the chairarm and feel the current of him there. He spreads his first two fingers in that old V-sign of victory or of peace. Invariably since he's been porch-sitting, he says, "Art-boy, have you told your Granddad Benjy that we don't pen our students in classrooms any more—I mean, that we encourage them to explore our communities and way of life on their own initiative? Have you told him the cities are dead and we live with nature? Benjy had that hang-up—you know, Art—hating crowds and coercion and money and status." But of course I didn't know, Dad. I never knew what had gnawed so hard on Granddad that he refused to speak of it, and I doubt if you knew either.

Great'pa implies many things strange to me—the university, though without an actual taboo I can pin down, hasn't encouraged probing the past, only the present and future. So I record Great'pa's words to play for Tess. I wish the microtapes didn't stress the disadvantages of Arkten (though Tess does have a right to know), or end with his urging me to invite all of you back to Earth. More than once he's said, "The thought of your leaving us forever after graduation next June—I mean, with or without your lovely Earth-girl to bear children en route and on a

Darwin Lambert, formerly a newspaper editor in Alaska, now is a freelance writer with several books and many magazine articles to his credit and a Trustee of the National Parks & Conservation Association. Mr. Lambert and his wife practice the art of Earthmanship at their home on the western slope of Virginia's Blue Ridge Mountains near Luray.



desolate planet as your Dad and your poor Mother were born—and you too, of course—rankles in me, Art-boy, rankles.” I answer him gently—but firmly, Dad, believe me—telling him I can’t change my life-plan, not after all we’ve accomplished and sacrificed there on Arkten, not in the face of that challenge I’m being educated here to help meet, not with our dedication to being out of the breathing helmets and the bubble-buildings in one more generation.

Yet Tess wants to humor him. She thinks we might shape our Earthlife film around his little-known revelations. But although Tess and I have agreed to do this final university project together and have registered ourselves as a team with the producer-in-residence, I remain skeptical, Dad, about her suggested theme. Wouldn’t want her to get the idea that life on Earth could be more fun than life on Arkten.

October 24

I trust you got my liteletter of two years back, Dad, that introduced my long-haired brunette, my “amalgam of all races” as Tess calls herself, being part Greek, part Ethiopian, part Egyptian anyway. I repeated her description of the place she grew up, her home webstrand along the rocky bluff above the Nile River that incorporates the famous pyramids, and of the desert beyond her west parkstrip—“like your description of Arkten, my sheik,” she said to me then with sparkling eyes, “where we shall ride the camels to be raised from your spermovabank and pick the dates to be raised from your seed-bank.”

Tess is fond of the dead city she looked down on from the webstrand that replaced it, so we decided to take our micromovie camera and visit a dead city in America. We started early this morning, Dad, speeding underground to the nearest websplice, then hiring bicycles to take us to the wilderness edge. Leaving the cycles where cracked asphalt and twining vines made the path difficult, we walked for three hours among collapsing, forest-canopied tenement houses where, we learned from droppings, wild animals live now—raccoons, deer, bear. I’d like to make a scientific study of their moving in where more people than I’ve ever seen must once have lived, must have swarmed like

ants for miles in all directions, the ruins are so endless, Dad, the returned forest crumbling the old pavement and walls.

We came to this high dome, the former United States Capitol. Great’pa says the Congress gathers at various assembly halls along the webstrand now, freed from stationary confinement by the instant and massive communication—somewhat as the President utilizes widely separated White Houses. One pillar of the high dome has fallen, leaving a gap that pulls the eye like a missing tooth. I’m sitting on what may be a fragment of its white marble, writing this letter while Tess films me. She pans from the kaleidoscopic fallen leaves at my feet up my legs to my writing hand and to my face looking down at the paper (somewhat pensively, Dad, believe me, as I play along with her highspirited whim), then up through the half-bare branches and twigs to find the great dome with the pillar missing, and pausing on it while a gray cloud drifts by, drifts so slowly as if waiting, the cloud waiting, the camera waiting, for the dome to fall.

This is how we planned the scene together, Dad, having probed film-making last summer in preparation for this Earthlife competition involving senior students all over the planet—remember, Dad? It’s sort of a life-style competition, the students seeking to reveal both diversity and harmony of planet and people, perhaps making an original contribution helpful to Earthmen’s art of living. Our film is to be ready, except for the lab technicians’ final combining of sight and sound, before the annual galaxiliner leaves for Arkten in June. Perhaps Great’pa really has provided a winning approach for us, narrating how the present pattern of man on Earth has evolved. “Our interest would surely please him in his dying, would it not?” Tess argues in her boldly lilting language I find so irresistible. “Particularly if the film might ultimately reach his long-lost son Benjy on Arkten.” I’m tentatively agreeing, Dad—but, believe me, it’s because I’m interested in the truth and feel the “case” has as much chance of being against Earth as in favor—or, most likely, will turn out inconclusive, yet nevertheless useful training for Tess’s and my work on Arkten.

November 15

Great'pa is directly involving himself in our film, Dad. On the floraporch now he ignores our humming camera and recorder and looks straight at Tess as he speaks what may be our main thread of narration:

'We were the first generation into ecology. In our teens we defended trees. A hundred of us might join to save a big oak from bulldozers—lie down under it, I mean, forming a carpet of flesh, all of us looking up at its leaves and branches, drawing strength from their life and from the soil beneath our backs and the roots twining. In our twenties we fought to save whole forests. Helping put the brakes on the **Washington Post** was my thing for a year—hundreds of acres of forest it was consuming every week. I mean, we gathered the massive weekend editions from city and suburbs and stacked them each Sunday night around the newspaper offices as walls 15 feet high and 40 feet thick.'

Tess blinks at me to see that I'm noting down the pictorial possibilities. We can reenact the fight for trees all right, Dad, and it should go well in the film, which is becoming a summary of man's most recent century, our family line linking the parts. Both Tess and I will narrate some too, and we'll appear in many of the pictures. Only puzzle not solved yet is an appropriate, vivid, and strong conclusion of the story line. Great'pa continues:



'Later we tackled books, piling them mountain-high on publishers' parking lots, thus hitting the automobile too, the worst air-polluter. Such protests went on planetwide—I mean, my generation **communicated**—and we made gains. You see, we'd discovered recycling—I mean, recycling as the secret of the universe—recycling, plus small dashes of evolution, as the basic way of life. It was living philosophy emerging from convulsions. My generation vomited the cultural past—history—and set out to live in the eternal reality of nature.

'But even our break proved too slight, too slow. The next generation—including your Granddad, Art—with them, everyone over 22 was out. Little overt hostility, which made them so hard to understand—just inexorable separation. The resulting Youth Exodus lives in Earthmen, like maybe Christ or the great flood and Noah's Ark—I mean, we number our years from it now. Without violence but more like infiltration, they took control of selected laboratories, factories, spaceports. They had a plan of positive action, you see, while the rest of us didn't, just negative impulses—I mean, the old generations defending the status quo of culture; our ecological generation, the status quo of nature; neither allowing for evolution, especially as consciously accelerated through increasing knowledge and new combinations of basic process.

'Twenty-year-old scientists took over the moon and Mars. They worked with such feverish energy, in those primitive bubbles that retained breathing air, they multiplied the speed of spaceflight and greatly advanced air- and water-making and bubble-confined photosynthesis. Perhaps their key breakthrough was made on Mars—you know, Art, the induced double-mutation of reindeer moss, the new strain rapidly producing food in spacecraft or stationary bubbles and possibly adaptable to inhospitable planetary surfaces, gradually adding oxygen to the atmosphere and making it habitable by advanced forms of life.'

Our deerbread, Dad. It's wild on Earth now and sometimes eaten. I'll reenact those experiments for filming in the biology lab where I'm participrobing—and, while I'm at it, I can begin getting Tess used to Arkten food. Other reenactments might prove complex, but many fellow students are already volunteering to dress up in past fashions and act out past events.

'The teens-to-twenty-tuos fled like overcrowded lemmings from this solar system. They'd colored it doomed—radiation and other poisons destroying it despite us ecological types. Prospective emigrants went first to the moon for conditioning—which, fortunately, your Grand aunt flunked, Art-boy. Spaceships were mass-produced and filled with boys and girls, plus spermovabanks of assorted animals and seed-banks of vegetation. They headed for the nearest stars—I mean, no advance exploration, no knowledge of planets. Although video circuits could connect youngsters at the galaxiport with their parents on Earth, few thus said good-bye. I didn't learn Benjy was going until he was a year and a half out. He had become a bubble technician, you know.

'After nearly a billion youngsters had blasted off—names and exact numbers never recorded—the mania cooled. My generation halted all galaxiflights and devoted the major

resources to research in space communication and survival. First landing was reported in YE16, on an arid planet circling a normal star beyond the triple Alpha Centauri. Further liteletters reported progress in bubble-housing—but then communication stopped. Within the next year there were 93 known landings, many reports of tolerable temperatures and surfaces, several of water, but no evidence of life or of oxygen-carbon cycles. We're in touch now with only twelve settlements—you know that, Art—I mean, Arkten communicates with the other eleven, too.'

January 26, YE56

Was Mom hard to keep in focus, Dad? Tess is. Since I've known her she's probed music, then poetry and drama, then settled as if permanently into chemistry, which we need on Arkten. But recently she's dreamed people-people adventures as if culture were the basis of life instead of biology or chemistry and physics—I mean (Whoops, Great'pa's language creeping in, I guess, Dad)—I mean, the ways of nature we might combine and utilize but can't invent or create. "I shall be the creative sociologist," she reminds me now. "Can Arkten not use a social engineer?"

In the half-dark of the film lab where we've come to work she remains inactive until I try to answer. "Maybe that's exactly what we need," I oblige, wondering if Arkten now has even a hundred people. Immediately, she starts buzzing our city-web sequence through the film-editor, reversing, repeating, making notes for cutting, splicing, arranging, while I play Great'pa's voice as soundtrack:

'In the shock of the Youth Exodus, even the ecological generation, my generation, forgot its ecology. We joined a panicky backswing to fill the vacated cities, overflowing the streets while constantly quarreling, or toiling in hostile competition for property and power or just to vent our bitterness. But then, again, the tide turned—I mean, after we'd largely failed in research to save our youngsters speeding into the unknown, the ecology movement lived again, irrationally. We abandoned jobs and property and went to "live with nature." Hard-drug use intensified, government became spineless, even more unresponsive—I mean, unresponsive to **anyone**, not just to my generation. The mass media proved uneconomic, people having little use for the advertised products or the news, preferring musicians and storytellers in flesh and blood.

'But ham-stations—audio alone or video—multiplied. They were inexpensive installations, all individually owned, and through them the Earthmen's Council came into being—not as a body, you must understand, but as a process. It was the first time the grassroots of all Earth had talked together, something they couldn't do through the corporation—or government-owned media. A dozen or so of us on each continent became principal spokesmen, but anyone could listen in, anyone could speak up. I usually had 10 to 50 participants with me. Discussions went on in all languages, using interpreters from the streams of world-wanderers. An amazing convergence of attitude, a foundation of human values, became known. We who remained on Earth were, we might say, reborn—as **Earthmen**, inextricably identified with our planet, our home.

'The plan for the Web grew swiftly then—despite a few arguments about losing the critical mass for the socio-

cultural chain-reaction if we let the cities die. Such arguments hadn't considered that we no longer had a city-culture but a planetary-culture. Even the largest city was out—I mean, merely provincial within itself. Nor had they considered the ease and speed of transportation, nor the multisensual and large-volume communication swifter and more complete than personal talk, which had become feasible. The Council sparked the plan, but existing governments administered it, coming to life when they discovered what their people truly wanted. The World Organization, pulled together from the hodgepodge formerly called the United Nations, provided Earthwide coordination.

'In the United States the old Interstate highway network was decaying. With few exceptions it followed ecological lines most suitable for permanent settlement. We began excavating the freeways to a subsurface level averaging 50 feet—and building the Pipe—I mean the flattened cylinder of concrete and steel that now carries underground all our freight, fuel, power, and most of our passengers and communications.'

Wish you could watch this film footage now, Dad—but we'll bring it to Arkten. From 38,000 feet up in an electrisoarer we caught the thin webstrands crisscrossing loosely, lightly, almost as if not there—until the glass of the single lines of buildings turned brilliant with sunrise scintillation. Dropping to 1,500 feet, we focused one strand of the Web in sharp detail—the skyscraper apartments with staggered floraporches like hanging gardens; the townhouses (back-to-back duplexes with front yards on either side, or with front and back yards, depending on family taste); the long, low factories (whose gaseous, solid, and liquid wastes are channeled within the Pipe to recycling plants, along with a constant pumping of used air and all the sewage and other wastes, to become fresh air and water for recirculation plus diverse products, mostly organic fertilizers); the double-fronted shopping centers; the microlibraries with projectoreaders and transmitters that place reading material quickly on home or business screens (a system using no paper, thus saving forests)—everything in that single line, Dad, bordered on both sides by tree-canopied walkways, playgrounds, and parks, no two sections alike, some of the parks merely strips, yet others in depth with lakes or rivers or with forested bands where old highways or railroad rights-of-way were left to nature or adapted as bicycle or bridle paths leading out into farmlands or through them to the wilderness.

'Public funds were abundant because in the long turmoil "defense" costs had dwindled—not that hostility was dead quite yet, but with our youngsters lost in space nobody cared to organize it—so 10,000 miles of the Pipe were being built in North America annually by the year YE22. Private and corporate construction kept pace. We traded city lots for webstrand lots. New York, we might say, was stretched out to a thousand miles in length with breathing space all around—though in fact its businesses and people chose their own locations along the whole 50,000 miles of webstrand.

'Towns came in too. Often a single apartment house became an entire new town with mainline service at much-reduced cost, a single line being so much simpler to serve

than a massive city, yet simultaneously providing both urban and rural advantages.

'More than 90 percent of our people have come to live in the webstrands, considering the low-cost convenience primary; but some prefer isolated homes or commune compounds among farms or in nonwilderness forests. (No development permitted in designated "wilderness.") Grandaunt and I lived out by the Potomac River until I was 80 and sought the ease of this apartment. People shift from the strands to rural or wild interstices, or back; but the balance maintains itself without regulation, except that antipollution enforcement eliminates all but electric motors and permits only sun- or water-power for home electricity—or inspires doing without artificial power, an in-style thing now as demonstrated by last year's winner of the Earthlife film competition.

'Each mile of webstrand is an organized community of between 3,000 and 10,000 people, while each websplice—or intersection—is a community center for a million or more, all of whom can reach its facilities—on single lines crossed—within half an hour by the Pipe.'

Great'pa is right about the Pipe's efficiency, Dad. We've filmed the monorail, for example, that takes us the 63 miles to the university center in 20 minutes—and the freight con-



veyors, the private-vehicle tubes, the oil and gas lines, power and communication cables. And we have ample footage of education. Tess—not pausing to munch deerbread with me—she doesn't really like the deerbread I grew, Dad, which worries me, though sometimes she eats it stubbornly, insisting she'll learn to enjoy it—but not pausing now either for coffee, which she does like, she continues running film through, with ohs and ahs and little giggles and audible intakes of breath and fast note-taking, as if time were expiring.

'Our planners found no need for schools in the old sense, though the mile-community centers have teacher-consulting rooms, and each websplice has its university center. Every apartment and office building, factory, museum, art gallery, theater, concert hall, laboratory, and shopping or social center has student rooms. Every institution, private or governmental, has people introducing learners to what is going on, letting them try operations that interest them or wander about observing and asking questions. Transition from the learning life may be gradual—I mean, when a learner begins producing significantly, he goes on the payroll and may soon decide to become a full-time worker—or may at any stage of life revert to participrobing.

'Learners continually find unsolved problems—as if we've hardly begun. Talk about challenges! Our harnessing of ocean-power, like tides and waves, remains primitive, and though we've gained in direct harnessing of sunlight, we're far behind plant-life in both technique and volume. Perhaps the way forward is through your creative biology, Art. And human population—I mean, after the chaotic reduction it's rising again, perhaps to become one of many problems for your creative sociology, Tess-girl.'

Great'pa keeps forgetting we're not staying on Earth, so we'll have to edit the narration heavily—but we'll tackle that after the picture sequences become more or less final.

'Other problems remain—I mean, like long-distance jetcraft. We've reduced their noise and pollution, but they still burn our dwindling petrofuel in our atmosphere and require 3 miles of webstrand out of every 500 miles for airports. Some of us would eliminate them as we did short-distance jets. Of course our supercommunication reduces far travel because we can carry on many kinds of work, go sightseeing or visiting around the world, get an education, and enjoy entertainment without leaving home. Yet gatherings and excursions nearby are as frequent as ever—in homes or community centers, in the parks or along rivers or seashores. Electribuses run hourly between webstrand and wilderness. Drama clubs and musical groups flourish—amateurs—and professional performances attended by large crowds. Live talk-fests and poetry-reading, with groups of 20 or 30, are frequent.

'Almost all known forms of religion remain active, yet the content is becoming more of man and the planet, less of unearthly paradise and gods. What we've thus far created of key importance is a people-land pattern conducive to Earthmanship. The accompanying sociocultural pattern is evolving—I mean, for example, work and recreation merging, becoming less rigid as to time or place or skill, more

often a combination of the mental and the physical, its particulars more voluntary and flexible, hence more satisfying. The primary purpose of work might prove to be enjoyment by the worker, with the material product and the pay secondary. Crime is dwindling; creativity, increasing.'

On the film-editor now, Dad, our electrisoarer footage shifts from men and women walking to work under park-strip trees to a group of children cycling out for a day of agricultural participrobing, probably at this season feeding the cows hay or grain, perhaps probing the refrigeration system, perhaps gathering eggs from the chickens. The land rises gradually with more farms terraced, a design of curves that, along with the green winter wheat and the white snow just melting, persuaded me to expose too much film—according to Tess. "Where's the meaning, Art-dear, without the people?" But soon she's running my footage of the forest, and inconsistently she likes that, repeating it over and over.

'Most farmers now live in the webstrands and commute in electritrucks that receive beamed power as do the buses and soarers. The same trucks bring in the crops, most of which are consumed locally—I mean, our arrangement of population results in diversified crops and thus cuts use of pesticides, reduces transportation and spoilage, improves flavor at time of eating. And everybody's involved with the soil, with the whole process of Earth—nonfarmers helping part-time during planting and harvesting seasons, or raising food items at home—radishes, parsley, lettuce, and tomatoes, or apples from dwarf trees, on the roofless florporches, often adding bubbletops for winter production.

'Ecological forestry prevails, and there is much camping plus fishing, hunting, and gathering of wild greens, roots, berries, and nuts in season, plus flora- and fauna-watching—all biopsychological play, you understand, not for survival so much as for fulfillment of the biologically programmed human body and spirit. No region between webstrands is without its wilderness, whether forest, marsh, or desert, whether primeval or resurrected—I mean, springing from Earth anew through enforced absence of manipulation. National parks have been cleared of all man's installations, such progress made possible by abundance and accessibility of other recreational lands.'

Tess ends this sequence, Dad, with what both of us consider our most artistic footage so far—mine of wilderness hikers crossing tree shadows through misty sunrays on a green, yellow, and snowwhite grass-textured meadow.

May 23, YE56

I'm sorry, Dad. I know *you* worry about me here, even if Granddad Benjy does go on insisting he's not interested. I'll communicate more often in future—I mean, mostly now on the long trip home that starts in two weeks. Don't think I won't be aboard, Dad, despite a pile-up of obstacles and confusions. For one thing, I can't stand the thought of Granddad Benjy saying, "I told you so," if I should stay!

The problem since my last liteletter in January has focused in this film that drives me, keeps me awake at night. Through it our producer-in-residence pushed Tess and me into a psychological whirlpool. "Your film could

be a powerful demonstration of harmony," he said, "if you would merely melt it into a living unity." He felt we were trying to capitalize on personal involvement, then sneak off into what he called a god's-eye view for our conclusion. "Won't work that way," he said. "Your Great'pa and you, Art—and you, Tess, by association—have public images. Especially Art. What other student here was born in another solar system? Obviously, you can't separate this film from yourselves in the typical audience's mind. No requirement of the university; my staff will do the sound synch and so on in any event. But I would hate to see you throw away such a likely chance of winning a program-niche in the annual Earthfair. Why not work out the film's ending, then reorganize backward to the beginning?"

I caught Tess's big tearful eyes trying to penetrate me, but we didn't talk until that night under the bare trees, looking up at the lighted windows on one side and off at the moon and stars above the far forest. We agreed then that we felt a harmony as of silent music playing, each part of the scene a different instrument, yet all, including us and other people, fitting together and moving onward, onward with a slow, magnificent rhythm. But how focus such harmony on film? Trying to come closer to it, I took her into my arms. She yielded against me, and for a magic instant I felt the answer, a form of the old happy ending, yet forever valid. But she broke away. "I'm not so very sure I want to leave Earth, Art-dear," she said.

I stared at her in the near-dark. I'd thought the case for Arkten and me had long since been won and that I could indulge her whim for Earth's case, while pleasing a great old man. But now we seemed at odds in the whirlpool's swirl, dueling with invisible rubber swords. "Perhaps we should spend a few weeks apart, the Earth between us, while letting our feelings sort themselves out," I said at last.

We've communicated only by relaygrams, Dad, which catch up as we travel. She has footage of world harmony in terms of current life in Europe, the Mid-East, and Africa (including materially and spiritually productive farms and gardens where that city died on the Nile). Human nature hasn't changed from what Great'pa revealed of the long ago, but the emphasis is different. I mean, nowhere has Tess found destructiveness prevailing over creativity. Military forces are small and generally defending their people against disease or famine rather than against other people. My findings have been similar—in South America, Australia, and Asia.

I'm far inland in China now, where the webstrand starts up a rocky bluff between the Yangtze and Chialing rivers. The Pipe brings power and fuel and furnishes escalator service replacing poison-producing automobiles and trucks (which replaced the human carriers and ricksha pullers), while restricting new construction to the single-line pattern with maximum breathing and viewing space for everyone. Rice and vegetable fields are terraced and fertile, though this soil has served for millenia. The forest on the hills beyond the Yangtze is now public and protected. The rivers transport most of the freight, and I like this diversity. I feel the best adjustment of land and men is being worked out, and I've recorded the cheerful people chanting their identification with Earth.

May 24

Relaygram this morning from Grandaunt. Great'pa is dead. I don't know whether I'm happy for him or broken apart by his slipping away before the powerful and complex forces he stirred in Tess and me have been resolved in our film and our lives.

May 25

I've talked by videophone with Grandaunt and, after months of abstinence, with Tess—where she's been photographing the webstrand on rocky foothills above old Cape Town, which is now apple, cherry, and apricot orchards. The connection was snowy, and only her long black hair showed at first. Then her face came on dimly, yet alive with joy, then sorrow, then an effort toward reasonableness. She'd been up on Table Mountain, she said, thinking about Great'pa "while watching ocean waves in the mist far, far out there, disappearing, reappearing, forever coming in. You don't have oceans on Arkten."

I ignored that last remark, Dad—believe me. I told her Grandaunt's suggestion that the funeral be held at least three days before our wedding, to allow time for change of mood.

"Shall we not postpone the wedding, Art-dear?" Tess asked, showing a face so innocent, so disarming. "Perhaps one month?"

We'd set the afternoon of June 4, Dad, because the last moonferry to catch this year's galaxiliner leaves June 5. "I'm not so sure a change of mood is necessary, Tess-dear," I thrust back. "I'll talk with you at Great'pa's."

June 5

After the first day Grandaunt was ready to agree to anything, Dad, hence was of no use as a referee. The producer-in-residence was something else, and the swirl centered around our film which had, for now anyway, become our life. We spent most of four days and one long night in the film lab, and the producer never failed to advocate resolution in the deepest harmony, though its birth be painful.

The ceremony we finally agreed on was an elemental and apt, Dad, as a dark cloud filled to repletion spending itself in rain that, falling on soil, brings forth flowers. Any sadness, I know now, implies joy, for without an opposite how could it be? So any joy has its undertones of sadness. I mean, neither can be total or remain at its zenith or its nadir forever. You—and hopefully Granddad Benjy—will understand that I mean more than I can say.

The body had been cremated the night following death. It's a taken-for-granted function of local government. The doctor's certificate, signed also by a responsible survivor, is delivered to the community office, whereupon the body is picked up and the ashes returned next morning in a small green urn. They may be the focus of commemorative rites (at church or elsewhere), may simply be kept (at home or in a memorial vault), or may be buried or sown on the land. Most frequently now they're dusted into the soil of the family's floraporch in the presence of family members and a few friends. There may be no speaking, just times of silence before and after the dusting.

Earthman's Council spokesmen wanted Great'pa's ashes to be sown more widely. They offered a 20-passenger electrisoarer and planned videocapsulating the ceremony for

distribution to any of Great'pa's friends who might want to witness it. I felt they'd mind-read what he would have wanted, and Grandaunt approved—as she did Tess's and my plan for student-friends to operate our camera and recorder.

We gathered in silence on the parkstrip within sight of Great'pa's porch, between a large oak and the soarer. The urn under the oak reminded me of Great'pa's protecting trees in his youth. Tess read me, and we lay near the urn looking up at the leaves and branches, "drawing strength from their life and from the soil beneath our backs and the roots twining."

When the silence was over, I stood and as gracefully as possible helped Tess up. We exchanged promises, then followed Grandaunt who carried the urn to the soarer. The minister came briefly between us, putting his arms around our shoulders. Grandaunt turned, and the minister, looking toward the urn, whispered, "Dust thou art to dust returning," joined Tess's and my hands and pressed us forward, whispering more strongly, "to live in glory again!" Meanwhile, our maid and man of honor were putting our backpacks into the baggage compartment. *Please* understand, Dad. Consciously, I'd never wavered about returning to Arkten, but my unconscious proved deeper than I'd known, its music other than I'd heard. I mean, in the crisis, that music broke through, and I moved to its rhythm.

Great'pa's ashes were sown on the wind to settle unseen from webstrand to wilderness to webstrand. Returning the same route, the soarer rested on a forest meadow long enough for Tess and me to get out and be filmed walking away side by side with "Just Married" scrawled across our backpacks.

I'm writing from the meadow now, Dad, while Tess cooks dinner on an open fire from which the blue smoke teasingly pursues her. The wild strawberries are ripe, and we've been eating them in a mood of communion. When Tess isn't too noisy with spoon and kettle or asking me to add wood, I can hear beyond the crackling fire the liquid laughter of a creek and from farther yet the wind singing in the wilderness where we will spend our honeymoon. ■



EARTH WEEK 1971

jan schaeffer

Earth Week 1971, April 19–25, will not capture the crowds and the headlines that celebrated Earth Day in 1970. It will be a far different kind of event—involving low-key, locally oriented efforts with no national coordination. Earth Week was proposed by politicians, and many of the organizations that campaigned loudest for the original Earth Day gave the 1971 plan lukewarm endorsement. They have settled down to the more serious business of working for political change.

This indifference does not mean that interest in the environment issue is fading, among either students or the general public. More people than ever are altering their ways of living to be more respectful of their natural surroundings. Consumers, for example, are beginning to demand the return of the returnable bottle. Many colleges offer new courses in ecology to nonspecialists. Environmental action groups are fewer in number but far stronger than they were a year ago. They have developed broader constituencies, expanding from exclusively student organizations to community-based groups. They have formulated sound programs for political action, and with some successes they have gained recognition as a political force. The strategy of using Earth Days to fight environmental destruction was, like the Moratorium as an anti-war tactic, a fad; but interest in environment is not.

Earth Day—I spread the environment gospel to millions. To the activists who organized Earth Day programs, Earth Day was a symptom, not a cause, of the growing excitement. During the period when they were forming, student groups used Earth Day to attract the support, both physical and financial, of the public. Earth Day lent the cause a sense of legitimacy that other political movements took years to achieve.

Thanks to Earth Day, Environmental Action—Zero Population Growth of Pittsburgh is, only 1½ years after its

organizers became active, a solid, solvent group supported by dues-paying members from all parts of Pennsylvania. As happened in most cases, Earth Day helped establish EA-ZPG, but the real impetus came from aroused individuals. Mark Hiller, the coordinator of the organization, became interested in the environment problem after a January 1970 visit to the shores of Erie, the dead lake. Back at the University of Pittsburgh, where he was a senior, Hiller read Paul Ehrlich's *The Population Bomb*. He enrolled in an ecology course. Hiller and several of his friends were impelled to organized political opposition to the newly discovered crisis. At that point he read a full-page advertisement in the *New York Times* promoting Earth Day, so Hiller joined others in the area who were already planning a citywide program for April 22.

For Hiller, one Earth Day was enough. He has no interest in seeing a spring 1971 version. "Earth Day raised awareness of environmental problems," he said, "but only for one day. Alone it was no answer to the problems we face. It was a tremendous waste of time and money."

Others remember Earth Day with gratitude. Iowa State University founded an environmental action group in September 1969 before anyone thought of having an Earth Day. As a graduate student that year, David Trauger helped the students' Environmental Action Council plan a 3-month program of weekly seminars that culminated in an Earth Week. It was one of the more thorough and well-planned Earth Day projects. Trauger explained: "Earth Day has done what nothing else was able to do—what the people in conservation were trying to do for years. It gave our groups a platform," he said, "reinforcing what we were doing by playing it in a national spotlight."

The national group that focused the spotlight owes its existence to Earth Day; yet it is opposed to taking any role in organizing Earth Week. Environmental Action was

organized in late December 1969 when Senator Gaylord Nelson formed a group to plan what he called the Environmental Teach-In for April 22, 1970. By that date the young organization had contacted nearly 35,000 individuals. They were part of 2,000 college groups, 2,000 community groups, and over 10,000 high school organizations that took part in Earth Day. Millions participated, the largest peaceful demonstration in American history. Measured by numbers, Earth Day was a success.

Environmental Action concluded that Earth Day had only laid the groundwork for the real job. It did not take any specific steps toward preventing an eco-catastrophe or even toward cleaning up pollution. To make the people's Earth Day pledges valid, the group decided to stay alive in Washington as an activist environment organization. Its duties: representing citizens' environmental interests before Congress, doing general government and industry muckraking and analysis in its biweekly publication, using lawsuits against environmental criminals, and keeping people around the country in touch with each others' environment activities. Conservation organizations traditionally are concerned with preserving wilderness areas and endangered animal species. Environmental Action and related organizations challenge policies that threaten the ecological balance of the earth. These groups promote the conservation of mankind.

In its post-Earth Day efforts, Environmental Action gained the respect of some older, established Washington organizations through victories on Capitol Hill. Most of

the provisions of the Clean Air Act Amendments of 1970—the Muskie Clean Air Bill—initially were proposed by EA. The group also was instrumental in defeating the SST in the Senate in 1970. EA's successes are proof that interest in environmental matters has not diminished, inasmuch as legislative victories are impossible without the support of strong local groups.

Since Earth Day many student groups have invited support from individuals outside the schools, and some have formed statewide organizations. Environmental Action Council at Iowa State formed the Iowa Confederation of Environmental Organizations in November 1970. During the same month the Michigan Student Environmental Confederation was formed. Both groups specialize in lobbying for state legislation to protect the environment. Arizonians in Defense of the Environment (AIDE) does the same job for the state of Arizona. This outgrowth of Earth Day groups was formed in summer 1970. The three are among the strongest links in an expanding national chain of citizens' lobbies for environmental improvement.

The activities of the second-growth environment groups, like AIDE and the Michigan Confederation, are more sophisticated than the lecture series/carnival approach that was generally applied to Earth Day planning. The major emphasis is on "action," and differences of opinion range only among the kinds of action projects selected. Some groups choose lobbying, with its characteristic letterwriting and telegram campaigns. Others prefer more localized, muckraking projects to determine specific sources of pollution,



PHOTOGRAPHS BY GILBERT STUCKER

Earth Day 1970 participants protest the annual slaughter of Canadian harp seal pups which are clubbed to death for their fur.

coordinated with publicized legal efforts to shut down the sources. State coalitions tend toward lobbying and educational programs, allowing their constituent groups to carry on the local projects.

Some locally based bodies operate with a relatively unstructured view of what it takes to rescue the earth. Jim Reardon's Ecology Action in Cambridge, Massachusetts, seems more like a crash pad for street people than the telephonized, paper-stuffed campaign headquarters that environment offices usually resemble. Reardon maintains a bulletin board that lists action projects, and he encourages visitors to volunteer. His most successful programs are a free community bus and cooperative food exchanges. He produces mimeographed sheets with suggestions for individual actions: recycle newspapers, glass, books, clothes; use soap rather than detergents; drive in carpools, hitchhike, bike, or walk rather than ride alone in an automobile. "If everyone did his part to eliminate the problem, there wouldn't be any problem," one such sheet concludes.

Ecology centers with similar programs—most of them avoid intensive political organizing and stick to educational tactics instead—have sprung up in approximately 20 cities. There is talk of opening a national office to aid communication among these outfits and to raise money to keep them going. As a preliminary step, 18 groups sent representatives to a national conference in St. Louis in fall 1970.

In addition to consolidating environment groups, Earth Day and the accompanying attention to environmental deterioration have been followed by a proliferation of college ecology courses geared to liberal arts students as well as to science majors that include coverage of the politics of ecology as well as its biological description. A typical case is that of Franklin and Marshall College, a small institution in the southeastern Pennsylvania town of Lancaster. Dr. John Moss, chairman of F&M's respected geology department, offered a new course during the spring semester of 1970. He had hoped to lure 12 students to the course, which examines the geological aspects of ecology—water supply, mineral resources, and natural catastrophes like earthquakes. To his surprise, 57 students had elected the course before he decided to close the enrollment, and many more waited until the following semester to sign up. The interest remained so high that Dr. Moss offered the course for the third straight term in spring 1971—very unusual for that small college.

The course's drawing card is its attention to the political causes of water pollution. There is an impending water shortage in Lancaster, but, according to Dr. Moss, "People won't believe there is a problem until they turn on their taps and nothing runs out." To illustrate this claim he invited representatives of local and state agencies that are or should be concerned with water quality to address his class. Each official passed the buck to other agencies and denied his own power to solve the water crisis.

Larger universities have gone further in the area of environmental education. The University of Wisconsin, for example, has an Institute for Environmental Studies, whose academic status lies somewhere between a college and a department. Courses are offered toward bachelor, master, and doctorate degrees in environmental studies. At the



University of Michigan 300 students enrolled this year in a special ecology course that gave no exams and offered lectures at 2-week intervals. The core of the course was 25-member student workshops. The University of Iowa offers a course in environmental biology, with no prerequisites, that has attracted 1,300 students. They divide into 20-member discussion groups. Following the revolution toward free-form education, some colleges give credit for ecology courses designed and conducted by students.

In their courses and through less academic educational processes, people are learning that the root causes of the crisis for survival lie far deeper than most Earth Day celebrants realized. Litter-picking, they have discovered, will never solve the solid waste problem. Patterns of consumption, not overpopulation, determine how quickly the earth's natural resources will be exhausted and replaced with a legacy of deadly poisons. Even without Earth Days the course of natural events will continue to build environmental awareness among the public. No lecture or rally is as effective as an oil-soaked dead bird. Political activism in the name of the earth will continue indefinitely, so long as the destruction is visible. There is no danger that we will reach a quick solution. ■

Janet Schaeffer worked with Environmental Action to coordinate Earth Day 1970. Until recently she was co-editor of its newsletter, *Environmental Action*.



PHOTOGRAPH BY HARRY SNOW

Dunes At Sunset

Silent sentinels
Etched in articulate clarity
Against vagabond streaks of sky.

The canvas mellows.
It is youth—impetuosity and flame—
Relinquishing itself to a
Quieter maturity

The twilight deepens
As with one final impassioned sigh
The dunes become one with night.

Dorothy Trebilcock



Our World

A 7-Week Trip Which Encircles It

Honolulu • Japan • Hong Kong • Thailand • Nepal • India • Iran • Rome

September 25 to November 13, 1971

Through the eyes of the astronauts and their cameras we have been privileged to see from the depths of space that lovely green-and-blue planet which is our home, afloat in a sterile universe. From the moon, our world seems peaceful. Yet we who live here know that we are caught in an age of rampaging change, and the new forces which man has unleashed threaten his survival.

This crisis has come upon us very quickly. Until a few years ago, pollution of the air, the waters and the land concerned only a few far-out experts. Today there is a growing realization that only a radical change in the way of life of man — the dominant species on the planet — can avert disaster.

The key to resolving this crisis lies in an understanding of man, and of his role on the planet which is his home. As planets go, ours is a medium-sized item, equipped with at least one feature found nowhere else in the solar system: a wafer-thin envelope of air, land and water less than ten miles thick, without which life could not exist. We humans have always thought of this biosphere as an inexhaustible resource, ready to hand for man's exploitation. Through all the past, man's powers have been so feeble that he could not harm it irretrievably. Modern technology has changed all this. Air safe to breathe and water fit to drink are not free gifts of nature with no strings attached. The biosphere is in danger and should it be destroyed, man and the other higher forms of life would cease to exist.

The technological developments which create the crisis come from the West. We Westerners, with our activist, things-dominated culture, would do well to look closely at the older, slower agrarian civilizations of Asia. What we see may help us to find values for survival and for real enjoyment of the earth.

Accordingly, this trip will view some of man's finest achievements, and some of his most devastating failures. It will examine, in areas of greatest stress, the nature and the consequences of one of the most awesome developments of human history — the fantastic multiplication of people that has taken place in the past century. It will consider how this unprecedented human explosion came about, how it is affecting the planet whose welfare determines man's fate, and what is being done to contain it.

This will not be a "tour" which encompasses merely the advertised attractions. It will include them, of course, but it will range beyond hotel lobbies, museums, temples and shops. It will explore areas of crisis, and in doing so will move out onto the land where the great majority of the people of these ancient civilizations live. It will consider on

the ground how the destruction of the intricate balances of nature have turned abundance into desert. It will examine the steps that are now being taken to retain or to restore that balance.

The trip will take seven weeks and will encompass only six countries, all of them remote. In each there will be time to explore, to soak up impressions, to reflect and to converse with people who are devoting their lives to dealing with those facets of the world crisis which are most acute in their countries.

Japan

Japan is the only major Asian nation which has gained control of its population growth — and just in time. This came about within ten years after the end of World War II. How this was done is a story important to all the world.

Japan has an area about that of the state of Montana and like western Montana, Japan is mountainous. It has the highest density of population per arable acre of any major nation — 8 persons per acre, compared with about 5 acres per person in the United States. Japan is able to raise most of the food needed for her people by reason of a very sophisticated agriculture, intensively using the most advanced genetic and agronomic discoveries. The tour will visit at least one of the great research institutes which have contributed to this agricultural revolution.

Our ten days in Japan will be divided between cities (Tokyo and Kyoto) and two conservation-recreation areas (Nikko and Fuji-Hakone-Izu National Park). By limiting ourselves to a few significant places we shall see more of the real Japan and have a better time.



Japan — Canal Scene

Hong Kong

The Crown Colony of Hong Kong is unique. It has one of the world's most beautiful harbors. It is a beehive of private enterprise on Communist China's doorstep. It is the world's greatest free market and the products of many nations are for sale at lower prices than anywhere else.

Seven eighths of the Colony is comprised in the "New Territories", leased from China in 1898 for 99 years. The Colony has a total area of only 400 square miles and a population of 4 million — 10,000 persons per square mile. Over 80 percent of these people live in less than 20 square miles, much of it mountainous, in and around the cities of Victoria on Hong Kong Island and Kowloon on the Mainland.

Hong Kong has one of the most successful birth control programs anywhere on earth. The birth rate has declined by nearly a half in eight years. The tour will visit the headquarters of this operation and talk with those who performed this miracle.

A glimpse of life in Mainland China will be afforded by a visit to the "New Territories" across from Hong Kong Island. There one can glimpse the life of the Chinese Mainland in villages and farms where a highly productive traditional agriculture has been developed by 200 generations of farmers. Chinese agriculture stands at the other end of the spectrum from that of the United States. The latter boasts highest yield per agricultural worker; the former very high yields per acre.

Thailand

Thailand has maintained its independence over 700 years — longer than any other country in Southeast Asia. The economy is agrarian and there is a sophisticated traditional culture which express itself in architecture, the dance and craftsmanship.

Bangkok is doubling in population, modernizing and losing its charm. But we shall see the unspoiled life of farms, villages and provincial towns in a 125-mile drive to Khao Yai National Park which is a sanctuary of elephant, bear, deer, boar, tiger, monkey and tropical birds.

There will be talks in Bangkok with leading conservationists and population experts connected with the United Nations. We shall see dances, craftsmen working, floating markets, palaces and the flow of daily life.

Nepal

This small, agrarian country borders Tibet and reaches up into the Himalayas.

Primitive by Western standards, Nepal is the seat of an old sophisticated Buddhist culture which is manifested in architecture, sculpture and beautiful articles of use. With Kathmandu as a base we shall explore the towns of Bhadgaon and Patan, both treasuries of beauty. One day will be spent on a trip to Simbhanjyang Pass for a panoramic view of the Himalayas, including Everest.

India

Eighty percent of India's 400 million souls live on the land. The flood plains of the major river systems are fertile and intensively cultivated, but much of India's food comes from fields which depend on monsoon rains. When the monsoon fails, the crop fails. The threat of hunger is always present.

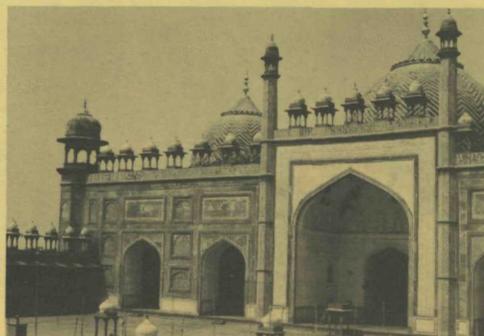
India's population is growing at the rate of 13 million a year. It has the world's largest fertility control program in budget and staff. This has had as yet no significant effect. It is hard to interest illiterate peasants in the control of fertility.

We are going to spend more than two weeks getting balanced impressions of India, so big that it is called a sub-continent. We shall enter at the East coast city of Calcutta and leave at the West coast port of Bombay. We shall visit Delhi, representative of the North, and Mysore, characteristic of the more prosperous South. We shall see the Ganges ghats at Banaras, the Taj Mahal and other Moghul architecture at Agra and Delhi, 800 year old sculptured temples at Belur and Halebid, the sculpture and painting of the Ellora and Ajanta caves. We shall visit Corbett National Park in the Himalayan foothills, habitat of elephants, tigers and other elusive creatures. In the cities we shall be immersed in street life. Driving through the country we shall see how most of the people live. There will be planned visits to villages.

Iran

Before 1935 this was Persia whose history goes back 2500 years to Cyrus the Great. We shall see the ruins of Persepolis, founded by Cyrus and destroyed by Alexander the Great in 331 B.C. We shall explore Isfahan which is a living monument to the aestheticism of the Persians of the past thousand years. And Shiraz. And Teheran which is west-ernizing.

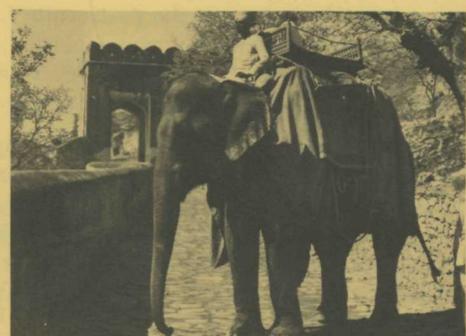
The parts of Iran we shall see are high and rugged. The center of Teheran is 4500 feet above sea level, the residential area is 6000 feet and snow-capped mountains are in sight. By Asian standards Iran is sparsely populated. Its density per arable acre is one tenth that of Japan. The arable land is fertile and three quarters of the Iranian labor force works the land. But the oil wells along the Persian Gulf provide a quarter of the world's petroleum and the winds of change are blowing.



Agra — A Moghul Mosque



Teheran — The Royal Palace



India — Sightseeing Bus: One Elephant Power

ITINERARY Here is a skeleton outline. Some changes in air schedules are to be expected with corresponding adjustments on the ground, but the final itinerary issued shortly before the trip begins will be essentially as shown here.

September
Sat. 25 San Francisco/ Group assembles in San Francisco
 1:00 PM lv. San Francisco, Pan American Flt. #837

HAWAII
Sun. 26 Honolulu/ 4:15 PM ar. Honolulu **The Waikikian**
 Honolulu/ 1:30 PM lv. Honolulu, Pan American Flt. #001
 ... CROSS INTERNATIONAL DATE LINE ...

JAPAN
Mon. 27 Tokyo 5:00 PM ar. Tokyo **Palace Hotel**
Tue. 28 Tokyo
Wed. 29 Tokyo
Thu. 30 Tokyo All day excursion to Nikko

October
Fri. 1 Tokyo/Hakone Drive via Yokohama and Kamakura to Fuji-Hakone-Izu National Park **Fujiya Hotel**

Sat. 2 Hakone
Sun. 3 Hakone
Mon. 4 Hakone/Kyoto Drive to Mishima. Bullet train to Kyoto **Miyako Hotel**

Tue. 5 Kyoto
Wed. 6 Kyoto Day trip to Nara
Thu. 7 Kyoto
Fri. 8 Kyoto/ 10:50 AM lv. Osaka, Thai Airways Flt. #601

HONG KONG
Sat. 9 Hong Kong 2:45 PM ar. Hong Kong **Peninsula Hotel**
Sun. 10 Hong Kong
Mon. 11 Hong Kong
Tue. 12 Hong Kong/ 1:25 PM lv. Hong Kong, Japan Airlines Flt. #711

THAILAND
Wed. 13 Bangkok 3:00 PM ar. Bangkok **Oriental Hotel**
Thu. 14 Bangkok/ Drive to Khao Yai National Park
Fri. 15 Khao Yai
Sat. 16 Khao Yai/ Return to Bangkok
Sun. 17 Bangkok/ 6:40 PM lv. Bangkok, Japan Airlines Flt. #451

INDIA
Mon. 18 Calcutta 7:30 PM ar. Calcutta **Oberoi Grand Hotel**
Tue. 19 Calcutta/ 9:30 AM lv. Calcutta, Royal Nepal Flt. #204

NEPAL
Wed. 20 Kathmandu 11:35 AM ar. Kathmandu **Soaltee Oberoi Hotel**
Thu. 21 Kathmandu Afternoon excursion to Patan
Fri. 22 Kathmandu All day excursion to Simbhanjyang Pass
 Afternoon excursion to Bhadgaon

Sat. 23 Kathmandu/ 11:55 AM lv. Kathmandu, Indian Airlines Flt. #251

INDIA
Sun. 24 Banaras 1:05 PM ar. Banaras **Clark's Hotel**
 Banaras/ 10:40 AM lv. Banaras, Indian Airlines Flt. #408
 Agra/ 1:25 PM ar. Agra **Clark's Shiraz Hotel**
Mon. 25 Agra/ 7:35 PM lv. Agra, Indian Airlines Flt. #482
 New Delhi/ 8:25 PM ar. New Delhi **Oberoi Intercontinental Hotel**

Tue. 26 New Delhi
Wed. 27 New Delhi
Thu. 28 New Delhi/ Drive to Corbett National Park
Fri. 29 Corbett
 National Park
Sat. 30 Corbett
 National Park/ Return to Delhi
Sun. 31 New Delhi/ 9:00 AM lv. New Delhi, Indian Airlines Flt. #403
 Mysore 12:55 PM ar. Bangalore. Drive to Mysore **Krishnarajasagar Hotel**

November
Mon. 1 Mysore
Tue. 2 Mysore Excursion to Belur and Halebid
Wed. 3 Mysore/ 1:20 PM lv. Bangalore, Indian Airlines Flt. #156
Thu. 4 Bombay 5:05 PM ar. Bombay **Taj Mahal Hotel**
 Bombay/ 7:15 AM lv. Bombay, Indian Airlines Flt. #121
 Aurangabad 8:15 AM ar. Aurangabad. Visit Ellora Caves **Station Hotel**

Fri. 5 Aurangabad Visit Ajanta Caves
Sat. 6 Aurangabad/ 8:45 AM lv. Aurangabad, Indian Airlines Flt. #122
Sun. 7 Bombay/ 9:45 AM ar. Bombay **Taj Mahal Hotel**
 Bombay/ 8:30 AM lv. Bombay, Air India Flt. #129

IRAN
Mon. 8 Teheran 11:30 AM ar. Teheran **The King's Hotel**
Tue. 9 Teheran/ 6:00 AM lv. Teheran, Iran National Flt. #623
 Isfahan/ 7:05 AM ar. Isfahan **Shah Abbas Hotel**
Wed. 10 Isfahan/ 7:30 AM lv. Isfahan, Iran National Flt. #625
 Shiraz 8:35 AM ar. Shiraz **Shiraz Inn**
Thu. 11 Shiraz/ 9:15 AM lv. Shiraz, Iran National Flt. #622
 Teheran 11:45 AM ar. Teheran **The King's Hotel**
Fri. 12 Teheran/ 7:30 AM lv. Teheran, Pan American Flt. #119

ITALY
Sat. 13 Rome 1:20 PM ar. Rome **Hotel Hassler**
 Rome/ 10:55 AM lv. Rome, Pan American Flt. #111

U.S.A.
New York 2:00 PM ar. Kennedy International Airport

(Please cut along dotted line)

WORLD TOUR 1971

TO: Travel Department
 National Parks and Conservation Association
 1701 Eighteenth Street, N.W., Washington, D.C. 20009

1. As a member of NPCA, and in behalf of myself and members of my family listed below (spouse or children residing in member's household), I herewith reserve for the Round-the-World Tour, departing from New York on September 25, 1971. I accept all the conditions on the reverse side of this form.

Signed: _____ Date: _____

2. I enclose a deposit payment of \$250 per person (make check payable to CLUB TOURS, INC.) totaling \$_____.

3. Please reserve a single room for me at the supplementary charge of \$220. Yes No .

4. I wish to be ticketed:

from _____ to San Francisco on _____

(Town) (State)

(Date)

and from New York to _____

(Town) (State)

on _____

(Date)

5. Returning from New York I wish the following stopovers (list cities and number of days in each):

6. I prefer to be addressed at my residence business address .

FROM: _____
 (Please Print Name)

Job Affiliation, Title, etc.: _____

Residence Address _____

Zip Code _____ Telephone: Area Code _____ # _____

Business Address _____

Zip Code _____ Telephone: Area Code _____ # _____

ACCOMPANYING RELATIVES

Name Relationship Citizenship Age (children)

Do not write below this line

Reservation confirmed and deposit payment acknowledged:

CLUB TOURS, INC.

Date: _____

By: _____

(OVER)

FEE AND SERVICES

The tour fee is \$2,950.00 per person

The fee provides:

TRANSPORTATION: Around-the-World from New York back to New York by air, economy class. Surface transportation by private motorcoach; and first class rail.

ACCOMMODATIONS: Twin-bed rooms with private bath at deluxe and first class hotels.

MEALS: Breakfast and dinner daily with lunch included at Calcutta, Kathmandu, Banaras, Agra, Corbett National Park, Bangalore, Mysore and Aurangabad as well as on full day excursions throughout the tour.

PROGRAM: Transportation to meeting places where location requires and all other costs.

SIGHTSEEING: By private motorcoach with English-speaking guides.

COURIER/INTERPRETER: The services of full-time interpreters in every country, except Hawaii and Italy.

TRANSFERS Of passengers and baggage between airports, railway stations and hotels.

BAGGAGE: Free transportation of 44 pounds per person.

TAXES & SERVICE CHARGES On the foregoing services.

The fee does not cover:

Passport, visas and their procurement (\$20.00); supplementary charge for single room (\$220.00); excess baggage charges, if any; airport taxes, except United States; tips to airport porters, bus drivers and guides; beverages not served with table d'hote meals; accident and baggage insurance; personal services at hotels and elsewhere.

AIR FARES FROM WHEREVER YOU ARE

The tour starts and ends in New York. But persons outside the New York area should generally join the group at San Francisco. Air tickets can be written from any point in the United States with return to the same point. There are special domestic fares available in conjunction with international tickets. Club Tours will advise and assist in each instance.

LEADERSHIP

ROBERT C. COOK is consultant on population and genetics to the National Parks & Conservation Association. He was Director and President of the Population Reference Bureau from 1952 to 1968. Prior to that he was Managing Editor of the *Journal of Heredity* from 1922 to 1952 and Editor from 1952 to 1962. For many years Mr. Cook was professorial lecturer in genetics at George Washington University. He has participated in many scientific conferences in Europe, Asia and Latin America. He is a Fellow of the American Association for the Advancement of Science and of the Washington Academy of Science. The author of *Human Fertility: The Modern Dilemma* (1951), Mr. Cook is a frequent contributor to technical journals and popular magazines. He received the Albert and Mary Lasker Foundation Award in Planned Parenthood in 1956.

ANNABELLE DESMOND COOK is a journalist. 1941 to 1943 Mrs. Cook directed the nutrition program of Kips Bay Yorkville's District Health Committee in New York City 1943 to 1947, she was in Washington in charge of the Nutrition Education program of the Federal Government's Industrial Feeding Program designed to make food available to workers on the job in industrial plants, shipyards, aircraft factories, etc. After the war, she conducted her own public relations business. 1952 to 1955, she helped Mr. Cook build the Population Reference Bureau into a unique educational force, serving as chief writer and associate editor.

REDUCED GROUP FARE

The reasonable cost of the tour is due in part to the fact that it takes advantage of the affinity group fare which is available to groups of at least 15 full-fare passengers. To be eligible for the reduced fare, members of the group must all be members of The National Parks & Conservation Association, or spouse or dependent children of the member residing in the same household and accompanying the member. The group must travel together on each leg of air travel, beginning with departure from San Francisco September 25 and ending at New York, November 13.

ADMINISTRATION

This field trip is sponsored by the National Parks and Conservation Association. Travel and business arrangements are being handled entirely by Club Tours, Inc., 18 East 41st Street, New York, New York 10017.

As soon as you register for the tour you will receive instructions regarding passport and inoculations with the official forms. This will be followed by detailed suggestions regarding clothing and equipment, health precautions, etc.; a reading list; insurance information; and mail, cable addresses and telephone numbers to leave with your associates.

VISAS

These are procured by Club Tours, who will supply each member with the necessary forms and will process them with the governments concerned. There is a flat charge of \$20 per person (not included in the tour fee) to cover visa charges and the expense of procurement.

JOINING

Members of NPCA and their families are eligible for participation. Reservations have been made for 30. Applications will be acted on in the order of receipt.

The inclusive tour fee of \$2,950.00 is payable as follows: \$250.00 refundable deposit to assure a reservation; \$750.00 by May 15; the balance not later than July 15.

For reservation forms address:

Travel Department
NATIONAL PARKS AND CONSERVATION ASSOCIATION
1701 Eighteenth Street, N.W.
Washington, D. C. 20009

IT1PA1RTWT
February 1971

TERMS AND CONDITIONS OF MEMBERSHIP

The World Tour 1971

RESPONSIBILITIES

The National Parks and Conservation Association is sponsoring this Seminar as a service to its members. The National Parks and Conservation Association is not involved in the business management, which is solely the responsibility of Club Tours, Inc.

CLUB TOURS, INC. undertakes to execute the tour as outlined in the prospectus, subject to exercise of discretion in the interests of the members or in meeting conditions beyond its control.

PRICE AND PAYMENT

The announced tour fee of \$2,950 per person is based on the round-the-world group air fare, land costs, and rates of monetary exchange in effect in February 1971. It is understood that any changes in these price factors may involve an adjustment in the price of the tour. Payment shall be due and payable as follows:

\$250.00 per person with this reservation
\$500.00 additional per person not later than May 15, 1971
Balance on or before July 15, 1971

CANCELLATION AND REFUND

Because the pricing is based on group arrangements, it is necessary to maintain the integrity of the group once it has been formed. The following refund schedule is designed to protect the price against cancellations when it is too late to replace cancellees.

If a member withdraws from the tour prior to July 15, 1971, he shall receive full refund of all monies paid by him. If a member cancels between July 15 and the commencement of the tour the management shall have the right to retain up to 15% of the published tour fee. Refund cannot be made for unused services during the tour. But in hardship cases (death of a member or in his immediate family, or

illness of a member which obliges him to leave the tour) he shall receive refund of the full value of unused air tickets and whatever can be recovered on the unused services and expenses.

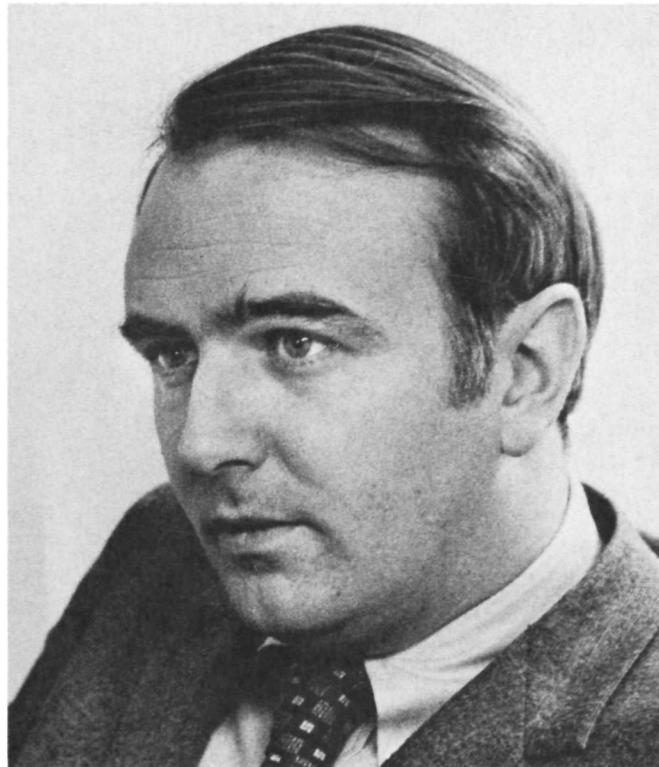
LIABILITY

In sponsoring the tour the National Parks and Conservation Association is acting solely for the benefit of its members, and therefore the National Parks and Conservation Association shall not be held liable financially or otherwise for non-performance or defectiveness of services, or for injury to persons, or for loss of property or damage thereto.

Club Tours, Inc. give notice that they and their associate organizations assume no responsibility for loss, damage or injury to person or property by reason of civil commotions, riot, strikes, acts of any government, force majeure or of the acts or omissions of any other persons including but not limited to the owners and contractors who furnish accommodations and services of any nature or transportation of any kind. All receipts, coupons, tickets and orders for accommodations, services or transportation and all itineraries are subject to the terms and conditions imposed by the owners and contractors who furnish them. By accepting from the tour operator the receipt, coupon, ticket or order, the holder thereof agrees to be bound by the above recited terms and conditions. The airlines concerned are not to be held responsible for any act, omission or event during the time the passengers are not on board their planes or conveyance. The passage contract in use by the airlines shall constitute the sole contract between the airlines and the purchaser of this tour and/or passenger. Services of any IATA carrier may be used in conjunction with this tour. However, because the tour is based on an affinity fare, all passengers must travel together as a group from San Francisco back to New York.

PIPELINE REPORTS SUPPRESSED

Rep. Les Aspin



Rep. Aspin

THE FEDERAL GOVERNMENT so far has failed to confront and resolve the ecological and human consequences of the proposed trans-Alaska pipeline. One especially disturbing aspect of this failure are the recent attempts to suppress two vitally important documents that were critical both of the pipeline itself and of the Interior Department's draft of its environmental impact statement.

The first document, a 38-page report authored by Harold Jorgenson (then of the Bureau of Land Management), details many of the omissions and unfounded assumptions in the impact statement. Mr. Jorgenson concludes that the impact statement's summary "seems too much to assume that 'what's good for the oil industry is good for the country.'"

Although dated January 8, 1971, the Jorgenson Report still was not public at the time of the Interior Department's pipeline hearings in Washington on February 16th. Not until I placed a copy of the report in both the pipeline-hearings record and the *Congressional Record* did the Department agree to make the Jorgenson Report available to the public.

The second critical document that was kept away from the public's reach was a 21-page report on the impact statement written by the Alaskan office of the Army Corps of Engineers. This report is both revealing in what it says

about the pipe and surprising. It is surprising because the Corps frequently has been criticized for failing adequately to consider the ecological consequences of many of their own projects. But in this report the Alaskan Corps office demonstrates a real concern for the environment. Its report asserts that the conclusions of the impact statement "appear to be unsupported opinions which, in fact, in many instances they indeed are."

The Corps of Engineers' report criticizes the Interior Department impact statement for:

- Failing to "fully comply with the letter and spirit of the Environmental Policy Act," which requires a full report of the expected ecological consequences arising from a proposed project.
- Assuming without sufficient data that immediate development of the Alaskan oil deposits is necessary for national security.
- Agreeing to stipulations that "are too general to support the positive assurances given throughout the report that adverse ecological changes and pollution potential will be eliminated or minimized by these stipulations."

Unfortunately, though dated February 5, 1971, the existence of the Corps' report was not publicly known during the pipeline hearings held in Washington and Alaska. In fact, it was still bottled up in the Pentagon on March 5

when I released the report to the press and subsequently placed it in the *Congressional Record*.

What are the implications of these attempts to keep the two reports quiet? The first and most disturbing implication is that these are attempts to undermine and violate the clear intent of the Environmental Policy Act of 1970. The intent of that Act was to require a thorough and objective study of the likely ecological consequences of a proposed project *before* that project could be approved. The purposeful thwarting of the act, if allowed to continue, bodes ill for the integrity and efficacy of future environmental impact statements.

A series of inescapable implications of the attempts to keep these reports secret is that the impact statement is inadequate; that the two dissenting reports effectively hit upon many of its shortcomings; and that many of the top officials involved with the pipeline proposal know, in light of such criticism, that the impact statement will be hard to defend. Secretary Morton's encouraging statements (see page 40), made a couple of days after the Washington pipeline hearings, represented the first public glimmer of recognition on the part of Interior that all is not well with the pipeline.

AFTER SCORES OF WITNESSES have testified against the pipeline in both Alaska and Washington, after the two dissenting reports have come to light, after new statements on the pipeline have been made by Secretary Morton, and in the light of the intense public attention that is now focused on the pipeline issue, Interior's draft impact statement is not very persuasive. Briefly and selectively, I would like to touch upon a few of the more salient questions that the draft impact statement fails most clearly to answer adequately. These areas relate to what should have been the

impact statement's overriding concerns: the risks that construction of the pipeline would pose to the Alaskan environment and to the Alaskan natives depending on that environment.

If approved, the Alaskan pipeline would be the largest ever constructed in the United States. Each day, it would carry millions of gallons of oil across 780 miles of the most rugged, pristine terrain in the country. Climatic conditions in Alaska are the most severe in the United States. No one can predict accurately the consequences of this vast and unprecedented project or assure that it can be safely built and operated. Many of the technical problems of building a huge pipeline through the frozen Arctic environment have not yet been solved. In fact, the week before the Washington pipeline hearings, Alyeska Pipeline Co. (the subsidiary of seven oil companies that was formed to build the pipeline) stated that the pipeline has not yet been designed, and that it will be designed "as we go along" (*Journal of Commerce*, February 5). It is difficult, indeed, to see how the Interior Department could discharge its primary obligation to the public and, at the same time, approve this pipeline sight unseen.

The risk of pipeline fracture resulting from an earthquake was inadequately considered and grossly understated by the impact statement. As the statement points out, "the southern two-thirds of the proposed pipeline route is subject to the occurrence of large earthquakes, magnitude 7 or greater." In fact, the segment of the pipeline route from Valdez (the southernmost point) to Willow Lake is subject to earthquakes of up to 8.5 magnitude, and from Paxon to Donnelly Dome up to 8.0 magnitude. (By way of comparison, the earthquake that had such tragic consequences in Los Angeles in February had a magnitude of 6.5.) In the 70-year period between 1899 and 1969, there

the Army report says . . .

"OUR REVIEW OF THE IMPACT statement results in the general conclusions that the draft statement is deficient because it fails to fully comply with the letter and spirit of the Environmental Policy Act. . . . [The Act's] requirements clearly contemplate an active, objective inquiry into the environmental effects of proposed Federal projects, and bona fide consideration of these effects in making basic decisions at every stage of project planning. The Department of Interior's draft statement does not appear to accomplish this to the degree that we consider the law requires. The document, therefore, in our opinion is quite vulnerable to challenge.

"Although the statement presents much information on the physiography of the pipeline route and on similar non-controversial matters, it contains limited detailed analyses of the proposed construction and operation of the pipeline. . . . conclusions on environmental effects appear to be unsupported opinions which, in fact, in many instances they indeed are. It is very important that this statement include a reemphasis of the point that no construction will

be permitted until such time as design analysis, plans, and specifications are in such a stage of development as to be acceptable to the government agencies that are charged with responsibility for the protection required. . . .

"The statement's consideration of alternatives is also unconvincing. Some subjects which appear least practicable are discussed in detail, while others which warrant equal or greater considerations are summarily dismissed. . . . The statement of alternative to the proposed construction may not be legally sufficient to meet the requirements of the National Environmental Policy Act (NEPA), Section 102(2)(C)(iii). Read in the context of the Act, this requirement will probably be interpreted to impose a duty of very comprehensive consideration of alternatives. Of the range of alternatives considered, one should be deferral of construction or nondevelopment. . . .

"We understand that the subject draft statement is intended to cover the pipeline project as a whole, including terminal construction. If this is correct, the terminal should receive far more detailed treatment than it has. . . . Either

were 23 earthquakes with Richter magnitudes greater than 6 within 62 miles of one or more of the proposed pumping stations.

The previous Secretary of the Interior, Walter Hickel, admitted to the chairman of the Senate Interior Committee that "we cannot provide assurance that large earthquakes will not rupture the pipeline." He went on to state that the effects of such a break would be minimized by installing a series of cutoff valves. The draft impact statement concedes that "there is a probability that some oil spills will occur even under the most stringent enforcement." Dames and Moore, Alyeska's seismic consultants, have stated: "We believe the most effective provision for protection against the adverse effects of fault displacement earthquakes would be appropriate spacing of shut-off valves"—thereby tacitly admitting that the pipeline cannot be guaranteed against fracture, and that the most that can be done is to attempt to cut down on the amount of oil that will be spilled.

Alyeska's present plans call for automatic shutoff valves at approximately 60-mile intervals. This may sound like a reasonable solution to the problem, until one realizes that 1 mile of the pipeline will contain 500,000 gallons of oil! This is almost twice as much oil as was released during the Santa Barbara oil blowout in 1969. The prospect we appear to be facing, therefore, is that up to 100 times as much oil as was spilled at Santa Barbara could be loosed over the Arctic landscape. But the impact statement barely glances over the almost certain eventuality of a spill and the potentially disastrous effects a large spill could have on both the environment and the way of life of the native Alaskans.

This leads up to another major defect of the impact statement, its almost total failure to consider the impact

of the pipeline on the people who live on or near the pipeline route, most of whom make their living from the land. An oil spillage would be a tragedy for the entire nation. But it would be more than this for the native Alaskans who live in the path of the pipeline. Their already tenuous existence depends entirely on maintaining the delicate balance of their ecosystem.

Alaskan Indians and Eskimos have for thousands of years lived and hunted on the land and fished on the waters to be traversed by the pipeline. Recent archaeological surveys have uncovered prehistoric hunting and fishing campsites (up to 13,000 years old) on the path that the pipeline is to take. Many of the present-day inhabitants depend on the land in a way that has changed little for centuries. Hunting and fishing are not sports for them, but essential means of survival in a harsh environment. For example, the 150-odd Indian inhabitants of the native Village of Allakaket, which is about 50 miles from the pipeline route, harvested the following items in 1967: 230 caribou, 48 moose, 12 black and brown bear, 110 beaver, 100 muskrat, 10 red fox, 15 lynx, 15 porcupine, 10 land otter, 30 martin, 20 mink, 10 weasel, 5 wolf, 30 rabbit, 12,000 salmon, 7,800 whitefish, 1,000 grayling, 100 char-pike, 200 grouse, ptarmigan, and spruce hen, 1,000 duck, 10 geese, and 550 pounds of wild berries. This harvest was valued at approximately \$97,000. As these figures show, fish represent a particularly important item. It has been estimated that the native Alaskans who live along the Yukon River catch about 450,000 fish a year for sustenance.

It is thus very easy to imagine the impact an oil spill would have on these people. But it is unnecessary to rely on imagination. The following statements, all by officials of the Interior Department and the Alaska State Depart-

(excerpts)

the environmental statement for the pipeline project should cover the terminal in depth, or the Corps should prepare a separate environmental impact statement on it.

"The Corps of Engineers cannot and will not abandon its regulatory responsibilities under the Rivers and Harbors Act. Data in the Department of Interior's draft impact statement is totally inadequate for use by the Corps in determining the environmental impact of proposed activities under permit in navigable waters. In the present absence of detailed design data, there can be no assurance to the Department of the Interior or the Alyeska Pipeline [Co.] that the Corps will issue permits for this work.

"Issuance of a pipeline permit by the Department of the Interior does not guarantee issuance of permits by the Corps under sections 10 and 13 of the Rivers and Harbors Act. This should be made clear to the Interior Department, Alyeska Pipeline, and the public to avoid a possible impasse for which the Corps could be severely criticized.

"The technical and environmental stipulations presently contained in the statement are too general to support the

positive assurances given throughout the report that adverse ecological changes and pollution potential will be eliminated or minimized by these stipulations. We do not find that the stipulations in themselves can guarantee adequate protection of environmental matters. While the stipulations do establish guidelines for the purposes of this statement and for design, construction, and operating considerations, we believe that it will be absolutely necessary for the government to insist upon specific construction features and operating characteristics which are based upon the actual design details. . . .

"The impact statement alludes to the fact that secondary effects are likely, but that they should each be examined individually at such times as they occur. . . . We believe this impact statement must analyze secondary effects . . . in much greater depth. Without such a searching analysis, quantifying where possible, this project could establish conditions which produce pressures that seriously curtail the ability to reduce effectively the impact of future significant ecological changes or pollution potential. . . ." ■

ment of Fish and Game, make plain what will happen in the event of a pipeline break:

"There is no place on the pipeline site where an important watershed would not be threatened by a major spill. A spill along the small tributary of Koyukuk could infect the entire Yukon River drainage. Some areas, such as tributaries to the Minto Flats, are particularly sensitive, and a spill there would threaten one of Alaska's most productive waterfowl breeding habitats."

"A major resource disaster could result from a major pipeline break in these particular areas of the Yukon River and its tributaries."

"With miles between shutoff valves, any rupture would be catastrophic, no matter where it occurred."

"A pipeline break at the wrong place at the wrong time could be devastating to a broad spectrum of the life of a significant area, affecting native food supplies."

"Pipeline breaks or leaks could cause pollution of lands and waters that would be indescribable."

"Public concern for the aquatic resources in the Tanana and Yukon drainages is high. A major [pipeline] break could pollute the water in almost all of Central Alaska and the estuaries."

"Oil leaks occurring in the drainage of the Sagavanirktok, Koyukuk, Tanana, and Copper Rivers and Minto Flats pose serious threats to important waterfowl habitat."

Yet, none of these statements were included in the impact statement! The people who live along the pipeline route, and depend on the land for their very livelihood, face the prospect of a catastrophic disruption of their way of life. The impact statement made no reference to this fact whatever. Nor did the Interior Department include in its proposed stipulations governing the project any protection against catastrophe for the natives. Incredibly, flying in the face of the statements of some of the Department's own officials, the draft impact statement concluded that "the proposed pipeline system would not result in any significant adverse environmental effects that can be related to present or future cultural features of most Alaskans." The assumption that the mere stating of such an unsupported conclusion can erase the evidence of hard facts is little short of remarkable.

Not only did the impact statement underestimate the potential effect the pipeline could have on the natives' way of life, but it failed to provide for adequate compensation to the natives for any economic loss that they incur as a result of the pipeline. One of the draft stipulations provides for the indemnification of the U.S. government for the costs of cleaning up an oil spill. But the actual inhabitants—whose very way of life could be destroyed by an oil spill—are not even protected for *economic* loss they suffer as the result of a spill, let alone the greater loss due to destruction of their way of life. Moreover, the draft stipulation on native training and employment by Alyeska is extremely vague and requires Alyeska to reach agreement only with the Interior Department, not with those natives in whose homelands the pipeline will travel. In short, the impact statement blithely assumes that neither

the construction of the pipeline nor any possible oil spill poses a significant threat to the natives.

Some of the other basic questions which the impact statement failed to answer include the following:

- Are there alternate pipeline routes, such as a Canadian route, which would be safer than the Prudhoe Bay-Valdez route?

- Will that part of the pipeline that is underground eventually break due to the melting of the permafrost by the oil's 160°F-heat?

- How will the aboveground portion of the pipeline affect migratory patterns of the caribou and other Alaskan species?

- Are there alternate methods of transporting the oil that involve less risk to the environment than a pipeline, wherever routed?

I believe the trans-Alaska pipeline issue will receive a growing amount of public attention over the next several months. The final decision, unless Congress intervenes, will be made by the Interior Department. That decision could take as long as two years, according to Secretary Morton. The longer the better, I think, for we have not yet had either the time or the resources to begin effectively to refute one of the impact statement's most basic unsupported assumptions—that the immediate construction of the pipeline is essential to national security.

There is growing evidence that many of the "facts" on which the national security argument is based are either distorted or simply incorrect. It appears that the estimate of lower-48 oil reserves is understated, while the estimate of future domestic demand for oil is overstated. The possibility of the development and use of other sources of fuel (such as coal or electricity) was not even considered in determining long-range demands for oil. The necessity of the oil import quota system to the maintenance of national security was left unchallenged. The vulnerability of a 780-mile pipeline to sabotage went unmentioned. The net balance-of-payments benefits from producing North Slope oil instead of importing oil were grossly exaggerated.

So far, the draft impact statement has been released and two pipeline hearings have been held by Interior. Out of this has emerged a growing awareness that the impact statement failed to consider many basic ecological problems associated with the proposed pipeline. The one thing that can be predicted with some assurance, however, is that in the coming months there will be new questions and new data on the pipeline (especially, I think, on the national security issue). The eventual outcome is unsure. But a report such as the Interior Department's draft impact statement leaves room for a great many questions. ■

Les Aspin is a freshman Congressman from Wisconsin. Only 32, he is the fourth youngest member of Congress. He is a scholar, holding a doctorate in economics from MIT. Congressman Aspin sits on the powerful House Armed Services Committee—a rare appointment for a first-term Congressman.



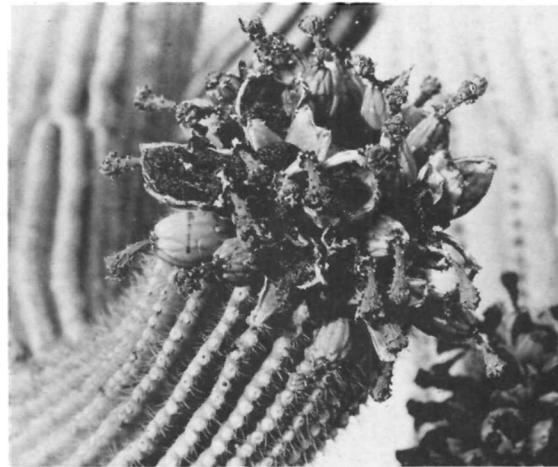
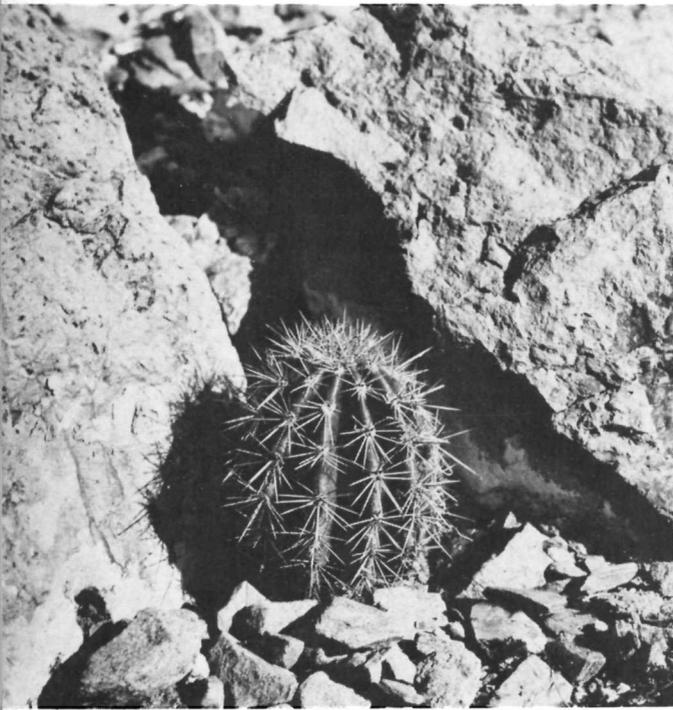
SAGUARO

The "Forest of Unreality"

ALL PHOTOGRAPHS COURTESY NATIONAL PARK SERVICE

LESLIE PAYNE

SAGUARO NATIONAL MONUMENT is the desert's answer to the giant redwood forests of California. Located in Pima County, just outside of Tucson, Arizona, this stand of the rare saguaro (pronounced sa-wa' ro) cactus is one of the wonders of the desert. The Monument was created in 1933 to preserve approximately 99 square miles. Actually, the park is in two separate sections; the larger, original section being 15 miles east of Tucson in the Rincon and Tanque Verde Mountains. The other section is 17 miles west of the city in the scenic Tucson Mountains and contains the most luxuriant growth of saguaro and a striking stand of ironwood.



Left, baby saguaro nestles in the protection of rocks. This "baby" may be 5 years old; at 30 it will be only a few feet tall, and will not put out its first branch until it is 75 years old and 15 or 20 feet tall. Flowers and fruits make the saguaro the larder of the desert.

Right, Papago Indians harvest saguaro fruit on their ancient gathering grounds in the monument under a special agreement.

The flowers' nectar attracts white-winged doves by day, longnose bats by night. Javelina may occasionally be seen in the monument.

Bottom left, Gila woodpeckers and others of their tribe drill holes that elf owls, center, later use for nesting. The Papagos used to cut the hardened pockets out of the saguaros and use them for drinking vessels. The hub of all this activity finally dies, usually of disease or injury, leaving its woody skeleton to bleach.

These giant cacti are most unusual. They may grow to a height of 50 feet and live to be well over 100 years old. Nature designed the saguaro to be an efficient water storage tank, its holding ability second only to the barrel cactus. It has no leaves to lose moisture. The green-grey accordion-pleated trunk is covered with vertical lines of spines. A root system close to the surface and spreading as far as 50 feet in all directions sucks every available drop of water into the trunk, which expands as it fills. In very dry years, the plant may be only a narrow, fluted column. Even branch growth is controlled by rainfall. In times of sufficient water, the branches may range from a small knob to 20 feet in length.

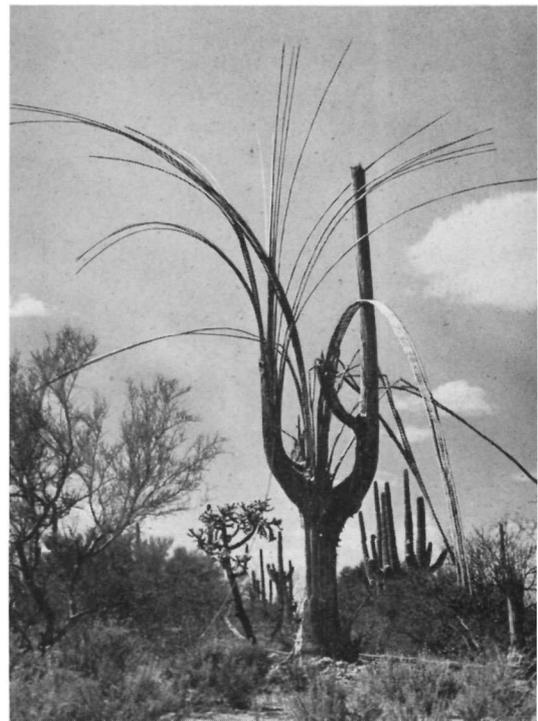
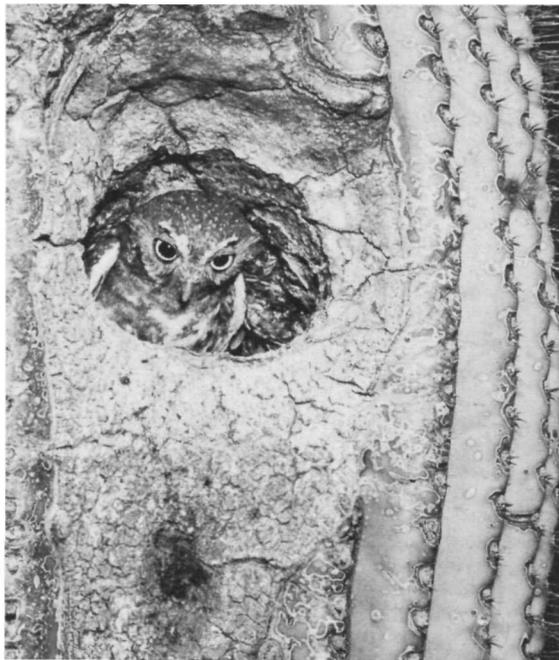
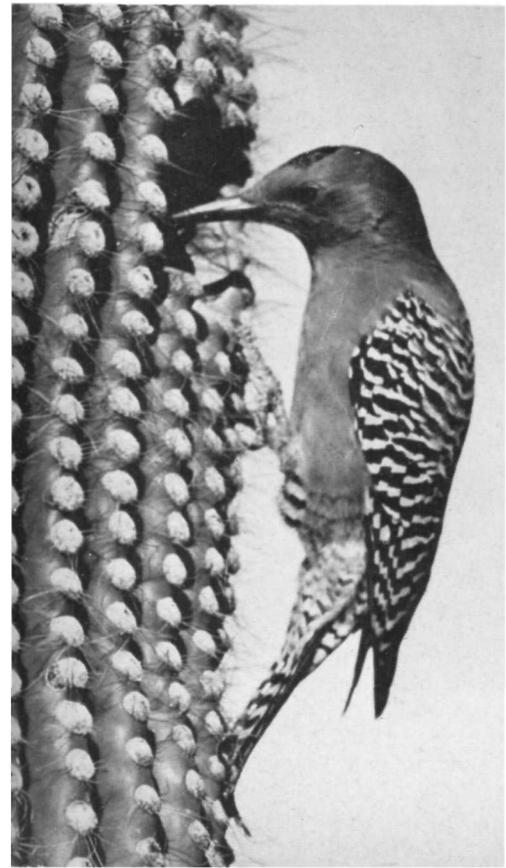
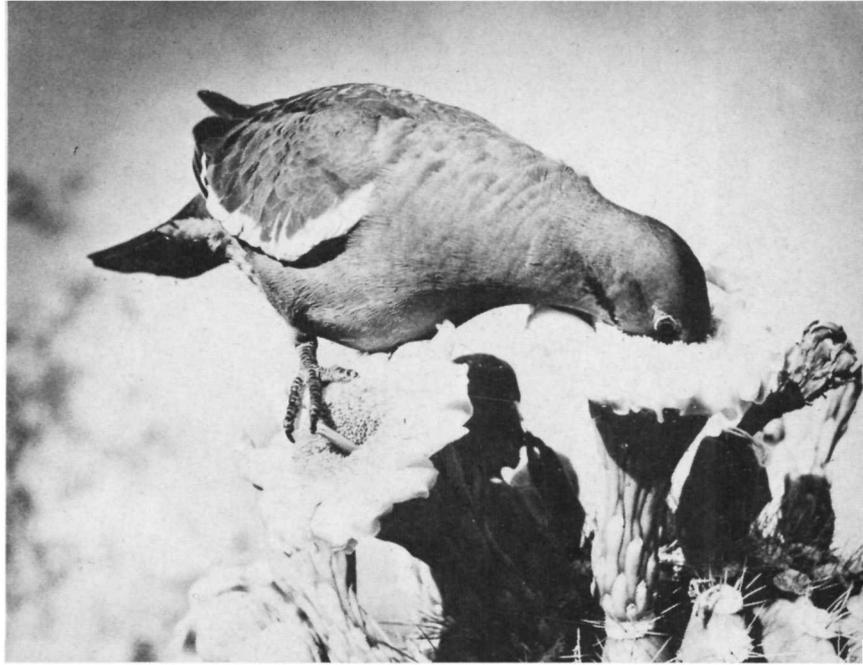
The waxy-white saguaro blossom is the state flower of Arizona. It blooms on the tips of the branches, appearing in May and ripening into fruit in June. The Papago Indians celebrate their harvest feast and new year at the time of the ripening. The juicy watermelon-red pulp of the fruit is delicious fresh as well as sun-dried. The juice is boiled into a syrup that is allowed to ferment into a potent brew. Saguaro preserves are sold in some of the local shops. The Indians make a kind of butter from the seeds or grind them into chicken feed. They use the fiber of the saguaro for building. Woodpeckers bore holes into the trunks in their search for insects and water. When these holes dry and harden, the Papago remove them for drinking vessels.

Desert animals also make use of this versatile plant. Other birds appropriate woodpecker holes for their homes. A small desert owl may peer sleepily out as you pass by. The graceful whitewing dove feeds on the seeds during the fruiting season.

Having visited Saguaro National Monument in all seasons, I recommend early spring to coincide with the time when the entire desert bursts into life with a violence of color. The sandy desert floor wears a carpet of wildflowers—scarlet, yellow, pink, and magenta. Butterflies flit from blossom to blossom while honey bees busily hum off the drowsiness of winter. The majesty of surrounding mountains frames a picture that is not easily forgotten. The air is pure and clear and sweet with the smell of new life. If you are lucky, you may catch a glimpse of a javelina (wild pig) family hurrying into the distance. I have had curious little coyotes peep at me from a safe vantage, perhaps wondering what this strange two-legged animal was doing in their domain.

The Monument contains many interesting plants besides the giant cactus. Sprinkled liberally throughout the area are graceful palo verde trees with their green trunks and branches, cholla, prickly pear, barrel cactus, and ocotillo with its long, spiny branches.

Returning to the desert at night is well worth the drive. When the moon is bright, another facet of the desert's beauty is revealed. The scene remembered from daylight is gone; you have entered the eerie world of a haunted forest. Grotesque arms seem to reach out, clutching at your clothes. Magnified shadows flicker and disappear at the whim of the breeze. The soft call of a night bird blends with the coyote's chilling yelp. Mountain silhouettes, friendly and reassuring in daylight, now loom black and ominous. You feel yourself transported back to the dawn of time when all was primitive and unexplained. But beware. Perhaps—just perhaps—something primitive in you will respond. ■



SEA OTTERS AMBUSHED

THE STORY OF NORTH AMERICA'S sea otters generally is taken to be a nick-of-time conservation success story. Almost wiped out in a fur-hunting frenzy that raged along the Pacific Coast during the nineteenth century, the two subspecies of otter somehow held on in scattered remnants until strict protection was granted them. The northern subspecies staged a comeback around Amchitka Island in Alaska's remote Aleutians, protected by sheer distance and bad weather as well as by law. The southern sea otter, nearer civilization, fared less well in the fur hunt and less well afterwards. For a time it was feared extinct. But it too climbed slowly toward a reasonably secure population, protected everywhere by laws with stiff penalties and given special protection in a refuge. Many otter supporters began to think the worst of the battle was over.

It seems now that it is much too soon to remove the endangered species tag from this remarkable animal. The twentieth century scourge of pollution and the age-old power of profit are formidable barriers to the southern otters' survival. In a shocking demonstration of arrogance in the face of the interests of the entire nation and world, certain abalone fishermen in California in recent months have been shooting and stabbing the otters, and the population seems to have declined sharply.

The fishermen regard the otters as competitors for the prized red abalone and blame them for the declining harvest of the shellfish. Responsible scientists have pointed out that the abalone are declining into commercial extinction in several areas where there are no otters, and they suggest that overfishing, succored by a wholesale price of \$2.50 per pound for abalone meat, is the cause of the decline.

The illegal shooting goes on nevertheless. Men with rifles and binoculars have been seen in the turnoffs along a cliff-top road running beside the refuge, scanning the surf for otters. One man boasted (true or not) that he had shot 40 or 50 otters. These and scores of others killed came from a population that in May 1970 was tallied at 1,040 and estimated to total between 1,200 and 1,500 animals—the highest population in a century. In February another count turned up only about 800 otters, and it is believed that the total (always greater than the census because some animals are not counted) is now about 1,000.

The otters killed have been sacrificed to the mistaken belief that they threaten a minute fishery for a luxury food that we could well do without. The town of Morro Bay, population 8,500, is the self-styled abalone capital of California and the center of the abalone-otter dispute. Despite this prominence in the matter, only 25 families in

Morro Bay make their living fishing for abalone or processing them. With an annual otter population growth rate estimated at only 5 percent, it could take as much as a decade to replace the missing otters, even if all persecution stops immediately.

The California sea otter lives for the most part in a state refuge that includes about 50 square miles of wind-tossed surf running south against the coast from Seaside on Monterey Bay almost to Morro Bay. This is all that remains of a former range extending from the coast of Washington south to central Baja California. The refuge is bounded approximately by natural deterrents to otter movement. The animals do not like to leave the protection of the kelp beds, so they are unwilling to venture into Monterey Bay in the north or into the waters south of Cayucos on Morro Bay. Both of these areas are free of kelp and have sandy bottoms that harbor little in the way of otter food.

A general reluctance to migrate out of the kelp, however, has not prevented a few of the more venturesome from traveling. If unmolested, they probably would be able to repopulate a good part of their former range. One animal apparently struggled all the way north from the refuge, past San Francisco, to Point Reyes National Seashore, where the seamy side of human nature caught up with it. It was found shot dead.

Most of the trouble has occurred at the south end of the refuge. The kelp continues a few miles beyond the end of the refuge to Cayucos. This kelp is part of the commercial abalone fishing grounds, though otters found there still are fully protected. At one point the California Department of Fish and Game said there were 90 sea otters, chiefly young males, hunting outside the refuge in the commercial grounds.

Ironically, the abalone industry is an artificial fishery that developed in the nineteenth century as a result of the near extermination of the sea otter. Before men began to molest the otters, they were at the top of the principal food chain in the great beds of kelp off California's coast. The only creatures besides man that prey significantly on sea otters are killer whales and sharks, and they tend to stay out of the kelp forests. Two of the mainstays of the otter diet are sea urchins and abalone, urchins reportedly being the preferred food if there is a choice, although the abalone fishermen claim otherwise.

The abalone depends on the kelp-bed environment for its food but does not eat or otherwise harm the living kelp



itself. The sea urchin, on the other hand, does eat the kelp, and inefficiently at that. It chews through the giant algae's anchoring roots, thus obtaining only a few grams of food but causing the 100-foot-long fronds to wash ashore and die. In this way one urchin can do a great amount of damage in getting its food, incidentally piling up the shoreline with rotting kelp.

In the old days the otters kept the urchins' numbers down below the point at which they posed any threat to the kelp forests. Healthy kelp forests sheltered healthy populations of abalone and other sea life.

It might be thought that the otters would keep the abalone cropped back as much as they did the urchins. This was not so, it seems. Otters prefer urchins, possibly because they are easier to pick up and eat than are the tenacious abalone. Otters have been seen to dive as many as 20 times just to loosen one abalone from its rock. There is no doubt that otters eat and relish the abalone, but the mollusk's formidable defenses may tend to deflect the otters' attention to easier prey. (Sea otters are known to eat at least 26 species of marine life in California.) All told, the otters did the abalone more good than harm by keeping the kelp ecosystem stable. They did eat enough abalone that commercial abalone fishing would have been unprofitable, but sport divers could easily have found enough for a hearty snail lunch.

Man was not content, however, to fit in so amiably. First he eliminated the otters as rulers of the kelp. Uncontrolled, both abalone and urchin populations boomed. Then fishermen took the shellfish much faster than they were able to reproduce themselves. One area after another was

stripped of abalone, without a single otter present on which to blame the havoc.

Friends of the Sea Otter (FSO), based in Big Sur, was formed to try to protect otters from assassination and to fight off attempts to "manage" them for the abalone fishermen's benefit. The group points out that even if abalone exploitation had not been vastly too great before, new state regulations are making it so. The new regulations permit the commercial exportation of abalone from California to other states so it can compete with imports from Mexico and Japan.

Nobody paid much attention to the urchins, which continued to multiply. Finally, in recent years, they began to make their presence known in a painful way. Mountains of kelp started washing ashore. Investigation has shown that a plague of sea urchins is clearcutting the kelp forests, leaving wastelands behind that support neither abalone nor very much else.

The abalone thus are in a pinch between overfishing and loss of habitat. They cannot be expected to survive as much more than an oddity at the present rate of exploitation, which is not controlled by realistic regulations. Lately some divers have been trying to deal with the urchin threat by going out with hammers to smash them, hoping themselves to replace the otter as the urchins' controlling power. They are also going into the clearcut zones to replant the kelp. Luckily, kelp regenerates with little trouble, as it is among the world's fastest growing plants. Laudable though this effort is, given the extent of the kelp beds to be protected, hammering urchins to death is an uncomfortably close

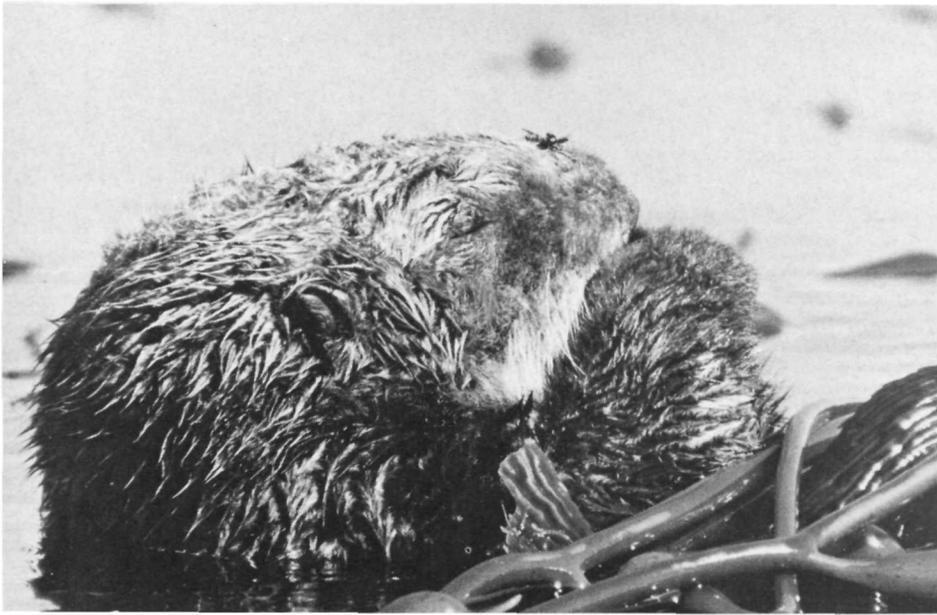
Continued on page 36



DICK SHEARLY

Top, the surf where the otters live washes a rugged shore. Center left, a stealthily wielded camera caught this otter snoozing with a fly on its nose. Center right, portrait. Bottom, otter surprised by photographer raises its forepaws in alarm and sends up a shower of water.

JAMES MATTISON, JR., M.D.



SCOTT HENNESSEY



RICHARD CONDIT

otter life

mary shearly

PERHAPS DETERMINED to avoid man, sea otters rarely nowadays set foot on land. It is said that they can smell men as far away as 5 miles and will dive at the click of a movie camera 60 feet away. Observers find the animals strangely human in many ways. "They have many of man's better attributes without his offensive traits," remarked one man.

Southern sea otters (*Enhydra lutris nereis*) are of the same family, *Mustelidae*, as weasels and skunks. They are affectionate toward one another and extraordinarily so to their offspring, which are born singly after about a 9-month gestation period. Unlike their Alaskan cousins, southern otters do not willingly come ashore, but spend their lives afloat. Courtship, mating, the birth of young, feeding, preening, and sleeping all take place at sea.

The pups may be born any time of the year. Arriving on a bed of kelp fully furred and with eyes wide open, the 20-inch, 3-to-4-pound infant resembles a bear cub. It can swim in an uncoordinated way but can neither sink nor dive, so its mother often will lay it on a kelp island to nap while she hunts. She moors it with a strand of kelp tied loosely around its middle. If the pup awakens while she is underwater, it cries for her, a whining bark that resembles a human baby's cry. Many times when she surfaces she will be in the trough of a wave out of sight of her youngster and some distance away. She will call to it and follow the sound of its cries anxiously until she reaches it.

At the surface sea otters float on their backs, and a mother with a pup will carry it on her stomach, where it receives comfort and nourishment. In case of danger she will clasp the pup tightly to her chest and not let go until the threat is past. She may carry the little one in her mouth as a cat carries a kitten. Except when she croons to her pup, her voice is said to resemble a rather harsh cat "meow."

The pup nurses until it is a year old and may remain with its mother as long as 18 months, learning to fish, swim skillfully, and otherwise look after itself. Naturalist Georg W. Steller studied sea otters for months at close hand in 1741, when they were more trusting of man. He attested to the extraordinary devotion to its pup shown by the sea otter mother: "If the baby [sea otter] is lost, the female cries bitterly and in ten days or two weeks becomes a mere skeleton, never leaving the shore."

Sea otters are playful, often tobogganing down the backs of waves on their backs, the mothers with their pups across their stomachs. They may have water fights or toss balls of seaweed back and forth. Sometimes a mother tosses her pup in the air and catches it.

At 4 years of age the pup is mature. Males may be as much as 5 feet long and weigh up to 80 pounds. Females are smaller. The otter will have developed the dense, loosely fitting fur robe that brought about its ancestors' demise. It has a round head with small, flat ears almost hidden in fur, intelligent eyes, a flattish, bare nose, and fur shading from the deep brown of the top of the head to light buff at the bewhiskered muzzle. The forepaws are

stubby-fingered and equipped with semi-retractable claws. The hind feet are webbed and clawed. Sea otters have been seen with their heads raised out of the water, shading their eyes with a blocky forepaw.

Like humans, the sea otter has 32 teeth, the front ones being small compared to the chisellike canines and the powerful back "grinders" with which it can chew shell. The otter's food consists largely of mussels, sea urchins, abalone, and other invertebrates. It must eat 20 to 30 percent of its body weight daily, some 14 pounds in each of three daily meals.

The sea otter has a highly developed means of obtaining and eating its food. With powerful forepaws clasped to its chest, it dives down with tremendous thrusts of the hind feet. On the bottom of the sea, often 100 feet below the surface, it chooses its menu. The otter has a maximum of 6 minutes until it must resurface. It digs, gnaws free, smashes with a rock, or kicks loose its prey. It may also carry to the surface a flat stone. Floating on its back, the otter will use the stone as a tool to open the shell. It may lay the shell on its chest and hit it with the rock, or it may hit the rock with the shell, or it may use a sharp edge of the rock to pry the shell open. The use of rocks as tools is another habit found only in the southern otter race. One meal may necessitate several dives.

When the otter is replete, it turns over in the water to clean its stomach of shell and juice and washes its face like a cat. It preens carefully, cleaning its rich fur and stirring or blowing air into it to maintain the fur's insulating properties. This is a matter of life or death. Otters must maintain a body temperature of 101°F in water that averages 55°F, and they have no insulating blubber as many other sea mammals do. The fur owes its richness to the fact that it evolved to hold a layer of air around the otter, much as neoprene wetsuits do for humans. Oil matted in the fur cannot be preened out and prevents the trapping of air, dooming the otter. Oil slicks thus are a major threat.

A nap often follows a meal. Sea otters tie strands of kelp around themselves to keep from drifting; there is danger ashore from men and danger at sea from much-feared killer whales and sharks. The otters may form "rafts"—long lines of resting animals tied together with loops of kelp over their stomachs. More than 70 sea otters have been counted in a single raft.

Sea otters have been sighted as far as 15 miles out at sea, which is not surprising when they can easily swim at 10 miles an hour. However, they seldom venture beyond the 3-mile limit.

The slow climb of the southern sea otter from the threshold of extinction has brought back one of North America's most charming and interesting creatures. It is almost inconceivable that after the otters' one brush with oblivion, anyone should be bent on destroying them. That some people are so inclined makes one wonder if man's past mistakes can teach him anything. ■

Continued from page 33

parallel to swatting flies with a mallet. It kills them, but. . . . The otters, once on duty around the clock in large numbers, were doing a better job of it. Even the abalone fishermen have recognized this, proposing that otters be turned loose in urchin-infested areas.

The California Department of Fish and Game (DFG) has conducted preliminary studies to determine whether the transplanting of otters from one area to another might not only end the conflict between abalone fishermen and otters, but at the same time give the otters some insurance against sudden extinction from a massive oil spill. Marine biologist Ken Wilson, formerly in charge of the department's sea otter studies, believes that the California otter population also could be decimated either by an epidemic or by overcrowding and subsequent starvation if the otters are left in their present refuge. "We would like to split the California sea otter population so as to avoid a biological catastrophe," Wilson says.

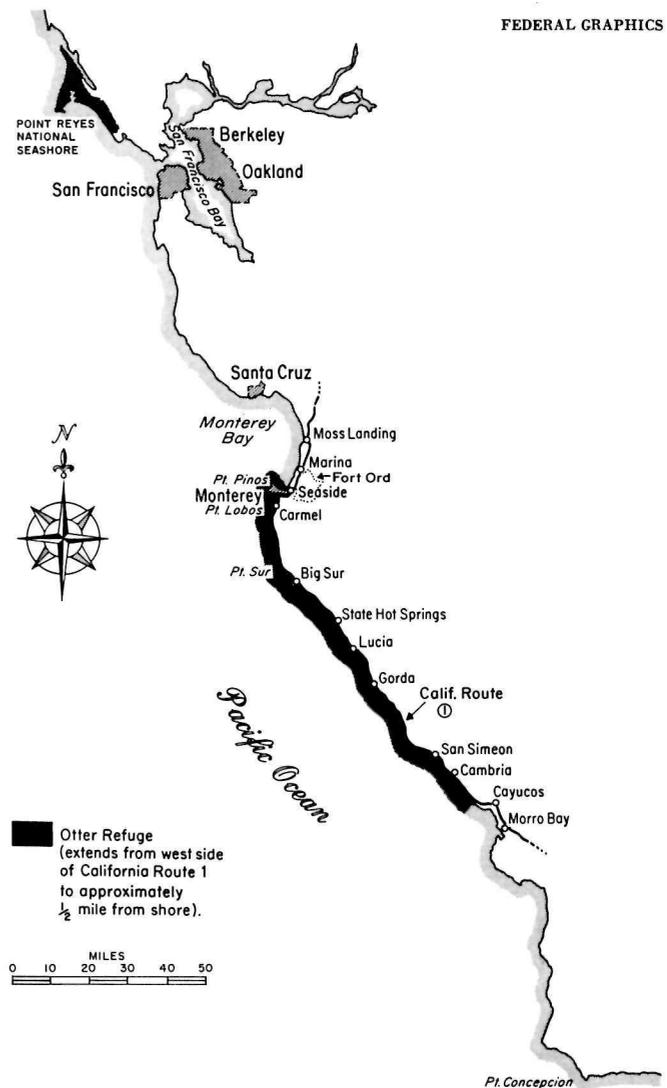
DFG claims that more than 40 otters per square mile is too many for the natural food supply of the refuge to support. They cite Alaska, where the northern otter population has reached this high a density, as an example of the need for artificial reduction of the otter population. (In Alaska, otters in high-density areas unfortunately are killed for their fur. The taking of over 500 pelts a year has led, also unfortunately, to a revival of the otter fur industry. Legal sales of otter pelts are again featured in the Seattle Fur Exchange.)

DFG's own experimental otter transplant demonstrated the hazards of trying to move the otters, the only alternative to killing them if they are to be "managed." Using techniques first tried in an Alaskan otter transplant in 1969, 23 otters were netted from the battleground at the southern end of the range. Seventeen were tagged and released at Big Creek, roughly in the middle of the refuge. Another three died during the operation. The last three were given for study to the Stanford Research Institute. Otters do not do well in captivity; these three died within a few months. Of the otters released at Big Creek, nobody knows whether any subsequently died from the effects of the netting, handling, and transportation. But within 5 months five of the 17 were found back at Cambria where they had been captured.

Says biologist Wilson, who participated in the transplant operation, "the experiment indicates that the animals have a homing instinct. If the otters are transplanted, it must be to another habitat."

The Department of Fish and Game has just completed two aerial surveys of habitat in northern California. The surveys ranged from Santa Cruz to the Oregon border. Two areas—Point Benito and Point Reyes—could prove to be suitable otter habitat. Point Reyes National Seashore, located just north of San Francisco, is believed to be the area where there would be the least likelihood of conflict with commercial fishing interests.

DFG wants to transplant otters to Point Reyes (at a cost of \$600 per head), with authority to manage the population there. Specifically, DFG wants authority to control the herd size (*à la* Alaska?) and remove a number of animals for scientific study. "We need to establish physiological baselines," says Wilson, in support of increasing scientific



investigations. "Today, if we saw otters dying we wouldn't know why."

DFG Chief of Operations E. C. Fullerton said, however, that his department does not intend to make any recommendations for the management of the otters until a 3-year study started by DFG in 1968 is complete and carefully evaluated. "The more we learn about the otter," he said in November 1970, "the more we realize that we know very little. We want to retrench and see if what we are doing so far is right. . . . We've got to go back and learn more."

Originally FSO itself favored transplanting otters to avoid the threat of an oil slick rendering the animals extinct overnight. Now the group is much more cautious, pointing to the mortality that so far has been unavoidable in transplant attempts and to the fear of biologists working in the field that the released otters would not multiply.

FSO now feels that transplantation should not be attempted without careful scientific study. The group's position is that were it not for the oil threat, the otters should be allowed to extend their range naturally. Even with the oil threat in mind, transplants should be only a last resort.

The question of whether there is any real danger of overcrowding in the California otter refuge has provoked hot debate. One University of Santa Cruz biologist, during a sea otter-abalone conference at the Moss Landing Marine

Laboratory, said that he could see "no evidence of malnutrition or stress or starvation or population pressure" in the refuge. He said data show that the California herd "could be four times the size it presently is—in its present range—before there's the necessity of . . . having to move [otters] because of depletion of range."

Friends of the Sea Otter maintains that the claim of overcrowding and subsequent movement into commercial abalone beds is based on DFG's desire to transplant and manage. Formerly FSO observers on shore worked in conjunction with DFG census takers in aircraft to count the otters. And Dr. James Mattison, a physician, otter student, and FSO executive committee member, performed the autopsies on otters found dead (it was he who autopsied otters shot by three men convicted and fined in September 1970 for the killings).

As the otter-fishermen conflict welled, however, DFG spokesmen made statements such as "the presence of large numbers of sea otters is not compatible with abalone fishing" (which latter DFG also regulates). Cooperation with FSO was terminated by the department's agents in the field. All dead otters must now be autopsied by DFG, and the number of otters per square mile is counted by DFG observers acting alone.

After cooperation was withdrawn, DFG Director Ray Arnett, former public relations counsel to the Richfield Oil Co., told a group of wildlife professionals: "I also see potential problems . . . if [a state or federal employee] were to testify . . . in opposition to the established position of the agency or department he serves. . . ."

"Putting it more bluntly, should a professional employee of the Department of Fish and Game . . . assume the position as public critic of the policies of that organization? I think not. . . . Nor can I subscribe to the theory that because an employee is expected to abide by the policies of his agency in a controversial matter, he has been 'muzzled' or 'silenced.'"

Subsequently Mr. Arnett wrote that DFG "no longer consider[s] the sea otter to be an endangered species, nor are they rare." However, the most recent edition of the Red Book of rare and endangered species of the United States, put out by the U.S. Bureau of Sport Fisheries and Wildlife, declares the southern sea otter rare and a distinct subspecies.

Dr. Robert T. Orr, associate director of the California Academy of Sciences and an FSO advisor, said efforts by the state to manage the otters were aimed only at insuring that "a small group of market hunters, who are commercializing on something that belongs to all of us, can continue their exploitation to produce a gourmet item. These big sea snails are not a basic food. Their price is out of the range of the average citizen. Furthermore, the commercial hunters are not replenishing things that belong to you and me. I want my abalones to stay in the sea for otters or any other creature that won't exploit them.

"If the Department of Fish and Game has so much surplus money as well as extra personnel that it can spend its time finding ways and means of curbing the expansion of [otters] and transporting sea otters so that market hunting of abalones for gourmets can continue, we have reached a sad state. I would suggest that such money and effort be channeled to the study of abalone culture. Then perhaps abalones, like oysters . . . can be farmed and prices brought

to within the reach of all. I would suggest that in the best interests of the people of California [the state should] prohibit the commercial taking of abalones."

(DFG receives no appropriations from the state treasury. It is entirely supported by license and permit fees. Therefore its partisanship for a commercial species in conflict with a noncommercial species is hardly surprising.)

Dr. Burney LeBoeuf, a marine biologist at the University of California at Santa Cruz, answered the contention of the abalone fishermen that southern otters are no different from northern otters and therefore should be "managed" and not given the protection of the endangered species label. "The sea otter colony off the coast of California is small," Dr. LeBoeuf said. "The colony is also unique. The California otters differ in several important behaviors from their counterparts in Alaska. To tamper with a small colony of a unique and endangered species is foolhardy." To this might be added the small point that for the majority of Americans interested in seeing their sea otters playing in the surf, it is easier to get to Point Lobos than to the Aleutian Island of Amchitka, where the northern otters live.

Southern sea otters, once one of the prides of the wildlife conservation movement, obviously are not yet out of danger. Abalone fishermen, understandably distressed at the loss of their fishery, nevertheless cannot be permitted to vent their spleen on the otters. The otters are not responsible for the loss of the abalone fishery; and even if they were, the existence of a unique remnant of a formerly great population of one of the Earth's most enchanting creatures is of immeasurably greater importance than the preference of a few gourmets for a particular kind of snail. Furthermore, the state of California certainly should not abet such distorted values as would place the dollar value of abalone over the otters.

"You would think that the people in the Monterey-Morro Bay region might look at the past," wrote Neal Thomas of Huntington Beach, California, in a letter to FSO. "They had a thriving whale fishery once and ruined it, then they had a sardine fishery and ruined it, now they have an anchovy fishery and are trying to ruin it. Sea otters have never 'ravaged' any whales, sardines, or anchovies—to the best of my knowledge."

Every possible action should be taken immediately to enforce the otter's protective laws. DFG wardens have been praised at every hand for their vigorous efforts in enforcing the law, but they have a very large area to cover and need more men.

Research into abalone culture already is under way by DFG biologist Wilson and others and should be pressed as energetically as possible. In the meantime, the Department of Fish and Game should halt the taking of wild abalone everywhere in California for long enough to allow the snails to recover their population, then should promulgate sustained-yield fishing regulations. Presumably restaurants and markets in California and elsewhere would not be able to sell abalone if commercial taking were ended, but in any event they should suspend sales, and consumers should no longer purchase abalone anywhere. (They are exploited wherever they are fished.)

Finally, otters should be encouraged, not discouraged, to extend their range as they are able. For further information readers may write to Friends of the Sea Otter, Big Sur, California 93920. ■

npea at work

CEQ REVISES IMPACT STATEMENT GUIDELINES

The Council on Environmental Quality (CEQ) has recently revised its guidelines on the preparation of detailed environmental impact statements to be drawn up by federal agencies under section 102(2)(C) of the National Environmental Policy Act (NEPA).

In response to a request for comments by the CEQ, the National Parks and Conservation Association recommended that draft environmental impact statements be made available so that the public could participate earlier and more effectively in the decision-making process. The CEQ's original position had been that *only the final statements should be made available to the public*. The revised guidelines reverse this position, providing that the draft impact statements will be made available. Comments on the draft statements by other agencies also will be made available as these comments are developed in the review process.

Under the new guidelines, no administrative action subject to section 102(2)(C) is to be taken sooner than 90 days after a draft environmental statement has been circulated for comment, furnished to the CEQ, and made available to the public. In the event that the final statement together with comments has been made available to the Council and the public prior to the termination of the 90-day period, no administrative action can take place for an additional 30 days.

Agencies that hold hearings on proposed administrative actions or legislation should make the draft environmental statements available to the public 15 days prior to the time of the relevant hearings. The final text of the environmental impact statement should be available to the Congress and the public in advance of any relevant Congressional hearings on recommendations or reports of legislation to which 102(2)(C) applies.

The Council on Environmental Quality is to be commended for its careful evaluation of compliance with NEPA by federal agencies. The CEQ's reversal of its earlier position is a landmark decision.

Several problems still exist, however. Diligent public scrutiny throughout the decision-making process is the only real safeguard against the tendency of agencies to make irrelevant comments on their environmental impact statements. In addition it is to be hoped that Congress will in the future require agencies to submit environmental statements before commit-

tee action is taken that would significantly affect the environment. Again, at present the only protection against such lack of enforcement of NEPA is an aware and active public.

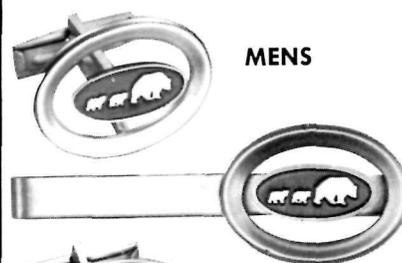
ADIRONDACK REPORT OUT: A GOOD PLAN FLAWED

For the past two years the Temporary Study Commission on the Future of the Adirondacks has been working to develop a survival plan for New York's 2.7-million-acre Adirondack Forest Preserve, largest state preserve in the nation. The plan went to Governor Nelson Rockefeller in January. Before its submission, NPCA Trustee Gilbert F. Stucker participated in a meeting with the Commission where the views of leading conservation organizations were heard. The Association supports most of the report's proposals, but with *one point* NPCA and others are in serious disagreement.

The Adirondack Forest Preserve has been protected since 1895 not by statute but by the New York Constitution's Article 14: "The lands of the state . . . constituting the forest preserve . . . shall be forever kept as wild forest lands. They shall not be leased, sold, or exchanged . . . nor shall the timber thereon be sold, removed, or destroyed." Naturally, the intervening 75 years have seen continual efforts by commercial interests to circumvent the "forever wild" clause protecting the Adirondacks and all other state forest preserves.

The Commission proposes to classify the preserve lands into the following categories: *Wilderness Areas* (a total of 969,000 acres) that would permit no "non-conforming" structures and uses and would allow no snowmobiles or other motorized vehicles, generally meeting the provisions of the federal Wilderness Act of 1964; *Primitive Areas* (100,000 acres) having wilderness quality and so administered, but lacking formal wilderness classification until nonconforming features can be removed; *Wild Forest Lands* (1 million acres approximately) that would be administered much as the Primitive Areas, but would allow existing nonconforming uses as well as new ones if a public hearing indicated "need" (snowmobile trails would be retained); and *Camping and Boating Sites* (about 27,000 acres) where preferably primitive facilities would be provided (intensive use facilities would be restricted to the preserve's periphery).

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The system would be administered by an Adirondack Park Agency of 9 members, 2 from state government and the others private citizens. (Commercial interests already are exerting pressure to get their men appointed.) The agency would have zoning power over the extensive private lands mixed in with the preserve's lands.

"It is regrettable," Mr. Stucker said, "that such an admirable effort, so much of which deserves our support, should be flawed in a way that could seriously endanger the entire program. . . . The Commission's use of the term [Wild Forest Lands] does not correspond with the use made of it in Article 14. . . ."

"I think it is important to consider the *intent* of that document . . . the framers of Article 14 had wilderness in mind—future wilderness. These men were *not* thinking of lands such as the Commission has in mind. . . . To call such lands Wild Forest Lands is to debase and undermine the term to the point of meaninglessness. It provides those who have wished to change the 'forever wild' clause with an invitation to measure *all* 'wild forest lands' [in the state] by this new definition—ultimately to vitiate the intent and purpose of Article 14."

CONSERVATION EDUCATION CENTER PROGRAM

The Conservation Education Center sponsored by NPCA will present a film entitled "Canny—the Life of a Wild Coyote" on April 16 at 8 p.m. in the Smithsonian Natural History Museum auditorium. The film was made for Defenders of Wildlife by Gerald Coward.

On May 21 CEC will present a lecture by Van Buskirk, secretary of the Underwater Society of America, entitled "Curaçao Underwater." Mr. Buskirk, a talented underwater photographer and naturalist, will illustrate his lecture with some of his prize-winning slides. Using a flash system he developed, he has photographed reef fish in their true colors.

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conservation news

CITIZEN PROTEST SAVES KILMER FOREST

Conservationists won a significant victory when the U.S. Forest Service announced that a scenic highway under construction in North Carolina and Tennessee will not go through the Joyce Kilmer Memorial Forest. In 1964, the Forest Service approved a new highway route that would cross the northern part of the Memorial Forest. The magnificent forest was set aside in 1936 as a living memorial to the young poet killed in World War I. The 3,800-acre watershed was selected as one of the finest of the then-remaining virgin stands of timber in the East.

Conservationists were shocked to learn that the Forest Service would consider approval for a road through any part of the sanctuary. At first there was no well-organized opposition. As the road construction moved forward, however, local groups—the Joseph LeConte Chapter of the Sierra Club, North Carolina Council of Trout Unlimited, ECOS (Chapel Hill), the Conservation Council of North Carolina, and the Smoky Mountains Hiking Club—united their efforts. They published a well-prepared folder, telling the story clearly and unemotionally. A good map showed the route selected and the alternate routes available. The campaign also was given strong impetus by the Save Joyce Kilmer League with Mr. Carl A. Reiche of Coral Gables, Florida, as the coordinator.

As the full implications of the road became known, letters of protest poured

in, and the responsible officials reexamined their decisions. NPCA wrote to Forest Service Chief Edward Cliff to say that the planned road was "an immoral project" and that the Forest Service should "resist . . . all and any pressures" to act against its responsibilities to the Kilmer Memorial and other primitive forests under its care.

The change of route was announced at the end of January. The report said the Forest Service would "honor commitments made when the Memorial Forest was established."

Although conservationists are glad to know that the memorial will remain as it was intended, some wonder why it was necessary to mount an all-out campaign to stop the violation in the first place. It clearly demonstrates that whatever is saved will owe its salvation to an alert, active citizenry, always on guard.

ALASKAN PIPELINE PERMIT DELAYED BY MORTON

Shortly after he took over as Interior Secretary, Rogers C. B. Morton gave a sharp setback to plans for a pipeline from Alaska's North Slope oilfields to Valdez, 800 miles south. He said he is "a long way" from granting a permit for the pipeline and suggested that even if he does approve the pipe, it will be too late for construction to begin this year.

NPCA President A. W. Smith, in his capacity as chairman of the Environmental Coalition for North America, testified earlier in hearings on an environ-

A CITIZEN'S VOICE IN GOVERNMENT

Organizations like the National Parks & Conservation Association, which enjoy special privileges of tax exemption, may not advocate or oppose legislation to any substantial extent.

Individual citizens of a democracy, however, enjoy the right and share the responsibility of participating in the legislative process. One of the ways citizens of a democracy can take part in their government at state and federal levels is by keeping in touch with their representatives in the legislature; by writing, telegraphing, or telephoning their views; by visiting and talking with their representatives in the national capital or in the home town between sessions. Every American has two senators and one congressman with whom he may keep contact in this manner.

The best source of information for such purposes is the official *Congressional Directory*, which can be bought through the Government Printing Office, Washington, D.C. 20402, at the price of \$5.50. It tells you who your senators and congressmen are and lists the membership of the various Congressional committees. It also gives full information on the personnel of the various executive bureaus of the government whom one may contact about administrative programs and policies.

mental impact statement on the pipeline. The statement, prepared by Interior, conceded that a pipeline would cause significant environmental harm but concluded that a permit should be granted because development of the oilfield is in the interests of national security. The views of the Environmental Coalition are that the issue is too broad for hearings to be held by Interior; that for Interior to hold hearings on its own impact statement creates a conflict of interest; that the impact statement itself does not deal with many vital issues; that those issues it does attempt to deal with are handled ineptly; and that development of the pipeline is not needed now and should not be undertaken without proof of environmental safety. NPCA supports these views and concurred with the Environmental Coalition's testimony.

Testifying in February before a Senate Appropriations subcommittee, Mr. Morton said he was impressed by conservationists' arguments. He said also that

he thought the State of Alaska "sold those oil leases too hastily," because it could not guarantee the lessees that they would be able to get federal approval of a pipeline. "There is a real question as to whether this was a proper thing to have done," he said.

"It's our responsibility," he added, "to relate oil reserves on the North Slope to the actual energy requirements of this nation. . . [if we need the reserves] we are still going to do everything we can to protect the environment and I'm a long way from deciding that this pipeline is the way to do it." He said decisions in the matter will not be made on the basis of any industry's profits and losses, but on the basis of "national need." He said the government should establish a national energy policy before going ahead on the North Slope.

Morton commented that Walter Hickel, his predecessor at Interior, "was under tremendous pressures" to approve the pipeline because he formerly was governor of Alaska. "I am not under those pressures," Morton said.

DEER HUNT STOPPED IN WILDLIFE SANCTUARY

A U.S. Court of Appeals has refused to overturn a restraining order that halted a public deer hunt last year. A court injunction issued on December 15, 1970, stopped a deer hunt scheduled for December 19 in the Great Swamp National Wildlife Refuge in Morris County, New Jersey. The injunction was based on the claim that the reduction of herds too large for the habitat should be accomplished by a team of experts rather than by hunters. This method would eliminate the suffering of animals maimed by inept marksmen, and it would remove the least fit from the herd rather than the biggest and the best as hunters do.

The court action marks a long step forward in establishing a channel for satisfying public opinion in decisions of this nature. It also represents an advance in the humane management of wildlife where natural predators no longer are present.

The restraining order was obtained by the Humane Society of the United States, acting upon the request of its New Jersey State Branch and a local citizens' organization formed in protest against the public hunt.

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conservation docket

Every Congress considers thousands of bills related to environmental problems. We cannot list them all; therefore, below is a selection of those so far introduced in this Congress, together with their House of Representatives (HR) or Senate (S) numbers and the committee(s) to which each has been referred. Members, as citizens, are free to write to these committees to request that they be put on a list for notification when bills come up for public hearing. When notified of hearings, they can ask to testify or they can submit statements for the record. To obtain copies of bills, write to the House Documents Room, U.S. Capitol, Washington, D.C. 20515, or to the Senate Documents Room, U.S. Capitol, Washington, D.C. 20510. When requesting bills, enclose a self-addressed label.

HR 795—To authorize the Secretary of the Interior to protect, manage, and control free-roaming horses and burros on public lands.—House Interior & Insular Affairs.

HR 736—To designate certain lands in the Cedar Keys National Wildlife Refuge in Florida as wilderness.—House Interior & Insular Affairs.

HR 2631—To amend the Fish & Wildlife Act of 1956 to provide a criminal penalty for shooting at certain birds, fish, and other animals from an aircraft.—House Merchant Marine & Fisheries.

S 78—Same bill as above.—Senate Committee on Commerce.

HR 700—To provide for comprehensive surveys with respect to the adequacy of game and other animals, game birds, fish, and habitat; and for other purposes.—House Merchant Marine & Fisheries.

HR 701—To amend the Migratory Bird Hunting Stamp Act of March 16, 1934, to authorize the Secretary of the Interior, in his discretion, to establish the stamp fee.—House Merchant Marine & Fisheries.

Public meetings on master plans for the following areas are scheduled soon; readers may write these addresses for exact dates and to express views.

Bandelier National Monument, NM, Los Alamos, NM 87544—June

Cape Hatteras National Seashore, NC, Box 457, Manteo, NC 27954—May

Mammoth Cave National Park, Ky, Mammoth Cave, Ky 42259—May

Padre Island National Seashore, Tx, Box 8560, Corpus Christi, Tx 78412—June

Point Reyes National Seashore, Ca, Point Reyes, California 94956—June

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Two books: "Old Mills in Midwest," "Covered Bridges." \$1.50 each. SWANSON'S, Box 334-N, Moline, Illinois 61265.

35MM COLOR SLIDES: 10,671 individually sold, described. Encyclopedia-Catalog 10¢. Wolfe Worldwide, Dept. 38-41, Los Angeles, California 90025.

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Continued from page 2

omy will suffer an earthquake shock; and yet a beneficial shock, for run-away production has become catastrophic destruction, and a differential economic stabilization, expanding the good, contracting the bad, is an imperative of survival.

What of a halt in the present headlong urbanization and the sprawling of uninhabitable supercities, with a restoration of natural values? This is not a question of getting a little open space, and a few parks and wilderness areas, for weekends, vacations, and junkets to distant countries. It is a question of whether men can live together again in manageable communities, set in the natural environment which determined the evolution of the species for millions of years.

What of a society in which the Machine is put in its place? The Machine has become a god; or more precisely, the men who run the machines conceive of themselves as gods; men are gods or slaves as their status decrees, or their mood changes. Can we reduce the machine, the factory, mechanization, automation, cybernation, to the status of servants again, not masters, nor yet the servants of self-appointed masters of men?

Can profit-motivation be harnessed, as one might link up a useful dynamo, to production for use, not avarice nor waste? Can the profit-societies and the bureau-societies, each responding to the imperatives of internal survival, restore human values to a priority over the mechanical and social organization of money, and power, and the Machine?

And what of a world in which the values of peace and cooperation would actually replace the norms of conflict, aggression, and warfare? Civilization is sinking beneath the burden of the expenditures which the nations are making on war and preparations for war. Even if Armageddon is deferred, the aspirations of generations toward humane living will have been defeated. Resolute steps toward arms control, taken from all sides, and the patient elaboration of world institutions for cooperation will be the measure and means of survival. The environmental movement, worldwide, could become a more effective vehicle for transformation than all the diplomacies and confrontations of the past.

THE YEAR has seen much more than the beginnings of a change of heart. It has brought many practical steps toward better social organization. A society which can halt the construction of the for-

merly proposed giant jetport in the Florida Everglades, an achievement once thought to be impossible, has begun to get a grip on itself. A society which can have sober second thoughts about the perilous oil pipeline across the Alaskan tundra may manage to get its money-men in hand before greed wrecks the planet. A world which can visualize a United Nations Conference on the Human Environment, and which is beginning to foster a fertile development of international environmental law through suitable democratic institutions in many fields, may still have a chance to save itself.

We are encouraged by the emergence of the Environmental Coalition for North America, with broad farm, labor, conservation, and citizen interest, and by the multitude of smaller coalitions which have appeared in its train. The private environmental organizations must foster the emergence of the public institutions, national and international, which are needed for the great work ahead, and government in its turn must foster the independent activity and organization of private citizens.

SPRINGTIME is freedom, hope, rejoicing. But Springtime is also seed-time. And the plowing and the planting mean hard and careful work, good work, with self-reward in the doing. And without such work there can be no harvest.

The preparation and execution of the work which has to be done will be exacting; penetrating economists, young and old, will be needed; lawyers and governmental scientists of ability, men and women, must be trained and enrolled; students of demography and anthropology, and secular missionaries to carry the word, must get busy on the population problem; biologists, ecologists, must range themselves in practical confrontation against the poisonings and extinctions which threaten the world community of plants and animals, including men.

And the work must be done within the freedom of a democratic society, for if democracy is lost, all else goes with it. Long-range plans, and not only immediate action, must now be prepared; programs for the fields, forests, wildlife, rivers, oceans, and cities. Hope is nurtured by taking thought against peril, by the preparation of intelligible plans for action, today and tomorrow. Springtime is a season for hope, but also for the dedicated thought and labor which alone can foster hope and put despair behind us.

—Anthony Wayne Smith



ED COOPER

Saguaro cactus in Saguaro National Monument, near Tucson, Arizona. These cacti sometimes reach 50 feet tall, although this particular specimen is about 30 feet. Prickly pear cactus decorate the lower foreground. An article on page 25 of this issue describes other interesting features of Saguaro National Monument.

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to protect the national parks and monuments of America.