

PRAIRIE REVERY

WHAT is the prairie? A sea of grass. A view without a vista. The central plains of North America—the United States and Canada—have prairies that stretch for a thousand miles, unending monotony for the traveler by train who wanders into the observation dome. Yet there are those who are inevitably drawn to the observation car by this unscenic spectacle "Don't know why," a conductor said—"there's nothing to see."

A Canadian ecologist, Neil Evernden, writing in the third 1983 issue of *Landscape* (Vol. 27), decided that most people, looking out of a car window on a trip across the continent, hope to see "things" of interest—things that have describable shape to remember. But the prairie is without them.

Nothing is there, no things to measure or enjoy. There is nothing to *possess* esthetic interest, so how could the scene be beautiful? Perhaps even more important, there is nothing to possess.

A few years ago, under pressures from the environmentalists, the government of the United States felt obliged to agree that the beauty of the landscape is a value that ought to be preserved, and since value is commonly represented in dollars in our society it became important to rate the scenery of the country in comparative money terms so that legislators could have practical guidance in deciding what was most important to preserve. It wasn't easy. You can estimate the value of stands of timber or mineral deposits, but how do you quantify appreciation of a mountain lake? Yet experts appeared ready to attempt it. Mr. Evernden says:

When the U.S. National Environmental Policy Act of 1969 compelled planners to do so, they developed comparisons that were often quite ingenious. Yet what the new evaluations boiled down to was transforming an intangible value into something quantifiable. The resource managers had to demonstrate that some geographical features

possessed hitherto unmeasured resource value. They had to show that some landscapes had the property of beauty, that is, that the landscapes were visual resources of high caliber. Hence, what was formerly regarded as a human response was translated into a thing responded to. Rather than dwell on the response, we sought to determine the shape of the stimulus. Once pinned down and measured, it could join our coterie of valued things, which we call resources. Developing the means to discern an esthetic resource was an exercise in reification. It turned an experience into a thing. As William Leiss observes: "Politics has become little else but management (or mismanagement) of production and consumption. The modes of our sensuous apprehension of the natural environment are simply one of the last major domains, formerly remaining outside the rational calculus of consumer preference and resource allocation, to be integrated therein. Nature is now for us a commodity in both its principal aspects, as source of matter for industrial processing and as source of aesthetic experience."

Not only is the beauty of the prairie indiscernible to most eyes, but it also will not translate into a commodity. It cannot, then, be added to our catalog of assets, no more than you can put a price on motherly affection or a child's fondness for his home neighborhood. But if you are given the job of placing the prairie on the scale of the nation's esthetic resources, you make a stab at it anyway. If you use enough learned terms the word-screen will hide your failure.

Mr. Evernden muses:

Given the conditions of our society and our institutionally limited means of dealing with the world, for a natural phenomenon to be included in the managerial calculus it must somehow be transformed into a thing—a commodity. This should not surprise us, even though we may wince at the absurdity of having to conceal a human experience within the shell of an object of utility simply to justify preserving the conditions necessary for that experience. To preserve something that doesn't officially exist—subjective esthetic experience—we must create the subterfuge of a thing that is assumed to *cause* the

experience. But what is curious, in the light of those forlorn figures in the observation dome who are enchanted by the prairie, is that the characteristics required for inclusion in the managerial universe seem absent from the prairie landscape. As the conductor said, there is nothing there. How can we argue for the preservation of nothing? How can we weigh nothing against the obvious utility of prairie topsoil or its potash foundations? The prairie cannot be a visual resource. It fails the thing test.

Yet after a thousand miles of it you know the prairie is there, so, if not a thing, it must be *something*. Whatever it is, even its beauty, if you can see it, is a passing thing. The prairie at dawn is not the prairie in midday with the hot sun blazing down. The true nature of the prairie, the spectator may decide, is a dull expanse behind the changes, and who wants to look at that? As Evernden says:

. . . if you are charged with determining which *sites* are beautiful, not which *ways* each site may be beautiful or interesting, then the only features you can assess are those that are permanent. You can only measure things. Things are our obsession, yet as Berger points out, "To an obsessive his obsession always seems to be of the nature of things and so is not recognized for what it is." Our obsession with things seems so natural that we find it nearly impossible to imagine thinking about experience instead. The bias becomes obvious to us only when a personal preference proves immiscible with a societal preference, as when we find ourselves in a dome car on the prairie. There cannot be very much beauty in the prairie, because it has no scenery. Yet some of us *know* that a profound esthetic experience may occur in an encounter with the prairie. Perhaps we could say that the prairie is subversive. It puts us out of register with societal biases and makes us question our definitions of beauty, esthetic experience, and even nature.

Getting "out of register with societal biases" is how the educational process begins, but the social institutions—the schools, the press, the law, and the government—are determined to keep us in line, keep us from questioning any of their definitions. Is "society," then, our enemy? No. Society is no more than an aggregate of what we are. Yet it stands in the way of what we ought to become. The arrangement is something less than

what we desire as social beings. Couldn't an easier way have been found for our development? Is it that without difficulty, perhaps even rebellion, there can be no growth?

At the end of his article Mr. Evernden adopts the solution of the artist:

The prairie is never really a thing or even a group of things. This absence leaves us with nothing to stand against nothing to be subject toward. We cannot play the role of detached evaluator. We can only accept the gentle onslaught of prairie, the sterilizing light and the desiccation of hubris. Exposed on the prairie, we lose any sense of mastery, for what is there to master? The sun on the head bleaches the ego, and we experience the flattening and self-extension that is the essence of the prairie. Self is not concentrated in a pinnacle of subjectivity, but diffused throughout a haze of being. The prairie is an experience, not an object—a sensation, not a view. The prairie is a way of being and not a thing at all.

The question the writer is getting at here—whether beauty is in the site, or in the sight—is old if not ancient. While Mr. Evernden is concerned with exposing the folly and futility of attempting to "rate" the American landscape according to the dollar value of its parts, reducing to zero the self who looks and giving the "items" looked at the qualities found in them, the judgment that emerges is a finding of cultural bankruptcy: "official" America is externalizing all the excellences and ideals of human life. The prairie is used to refute this conclusion because, although the prairie has nothing to externalize, and is therefore held to be valueless, the beauty of the prairie is nonetheless real, because its inhabitants and lovers make it so. The humble prairie demonstrates the nature of man.

The first book on nature by John Burroughs, *Wake-Robin*, written while he was employed as a clerk in the Currency Bureau in Washington, D.C., published in 1871, finds beauty to be entirely subjective.

The poetic interpretation of nature, which has come to be a convenient phrase, and about which the Oxford professor of poetry has written a book, is, of

course, a myth, or is to be read the other way. It is the soul the poet interprets not nature. There is nothing in nature but what the beholder supplies. Does the sculptor interpret the marble or his own ideal? Is the music the instrument or in the soul of the performer? Nature is a dead clod until you have breathed upon it with your genius. You commune with your own soul, not with woods or waters; they furnish the conditions, and are what you make them. Did Shelley interpret the song of the skylark, or Keats that of the nightingale? They interpreted their own wild, yearning hearts. The trick of the poet is always to idealize nature—to see it subjectively. You cannot find what the poets find in the woods until you take the poet's heart to the woods. He sees Nature through a colored glass, sees it truthfully, but with an undescribable charm added, the aureole of the spirit. A tree, a cloud, a bird, a sunset, have no hidden meaning that the art of the poet is to unlock for us. Every poet shall interpret them differently, and interpret them rightly, because the soul is infinite. Milton's nightingale is not Coleridge's; Burn's daisy is not Wordsworth's; Emerson's humble-bee is not Lowell's, nor does Turner see in nature what Tintoretto does, nor Veronese what Correggio does. Nature is all things to all men. "We carry within us," says Sir Thomas Browne, "the wonders we find without." . . .

That light that never was on sea or land is what the poet gives us, and is what we mean by the poetic interpretation of nature. The Oxford professor struggles against this view. "It is not true," he says, "that nature is a blank, or an unintelligible scroll with no meaning of its own but what we put into it from the light of our own transient feelings." Not a blank, certainly, to the scientist, but full of definite meanings and laws, and a storehouse of powers and economies; but to the poet the meaning is what he pleases to make it, what it provokes in his own soul.

Yet what pleases the poet and provokes his soul can be no light and transient thing, unless he is only a jongleur, and not a real poet at all. Here Burroughs seems to anticipate critically the wrong-headed intentions of the Environmental Policy Act of 1969, which insists that poets become economists and measure salable resources for psychic stimulation. Consumers, after all, are not defined as having souls, and we are, so far as government and industry are concerned, consumers.

A long passage in one of Burroughs' "Autobiographical Sketches," included in *Our Friend John Burroughs* (1914), by Clara Barrus, describes what can only be called a "peak experience."

I remember the "Life of Washington," and I am quite certain that it was a passage in this book that made a lasting impression upon me when I was not more than six or seven years old. I remember the impression, though I do not recall the substance of the passage. . . . The incident occurred one Sunday in summer From time to time I would stop and read this passage aloud, and I can remember, as if it were but yesterday, that I was so moved by it, so swept away by its eloquence, that, for a moment, I was utterly oblivious to everything around me. I was lifted out of myself, caught up in a cloud of feeling, and wafted I know not whither.

Such experiences returned.

I recall one such, one summer morning when I was walking on top of a stone wall that ran across the summit of one of those broad-backed hills which you yourself know. I had in my hand a bit of a root of a tree that was shaped much like a pistol. As I walked among the topping stones, I flourished this, and called and shouted and exulted and let my enthusiasm have free swing. It was a moment of supreme happiness. I was literally intoxicated; with what I do not know. I only remember that life seemed amazingly beautiful—I was on the crest of some curious wave of emotion, and my soul sparkled and flashed in the sunlight. I have haunted that old stone wall many times since that day, but I have never been able again to experience that thrill of joy and triumph. The cup of life does not spontaneously bead and sparkle in this way except in youth, and probably with many people it does not even then.

Was this "transient" transport of no importance because it would not come again? Was it only a mirage over a prairie expanse, or a rainbow of promise which appears when the kaleidoscope of inner being has just the right turn? Some of the "environment" is just there, arranged by the hand of Nature, but most of it is self-generated. The attempt to make "things" out of it all is dehumanization of the citizenry, deliberate and calculating. It is true enough that we do not know how such visions work what brings them

on; some calculus of infinity is doubtless involved, and precisely for this reason the State should not impose its rationalizing procedures. Our most precious possessions are our mysteries.

Mysteries should be framed with reverence. We began our history with separation of state and religion; now there are those who with good reason are calling for separation of state and education; next we should consider the necessity of separation of state and wonder. There are enough things for the federal bookkeepers to count without invading our inner lives. Even Burroughs could not explain himself to himself.

. . . I have not yet solved my equation—what sent me to nature? What made me take an intellectual interest in outdoor things? The precise value of the x is hard to find. My reading, no doubt, had much to do with it. This intellectual and emotional interest in nature is in the air in our time, and has been more or less for the past fifty years. I early read Wordsworth, and Emerson and Tennyson and Whitman, and Saint-Pierre's "Studies of Nature" . . . But the previous question is, why the nature poets and nature books appealed to me. One cannot corner this unknown quality. I suppose I was simply made that way—the love of nature was born in me. I suppose Emerson influenced me most, beginning when I was about nineteen; I had read Pope and Thomson and Young and parts of Shakespeare before that, but they did not kindle this love of nature in me. Emerson did. Though he did not directly treat of outdoor themes, yet his spirit seemed to blend with Nature, and to reveal the ideal and spiritual values in her works. I think it was this, or something like it, that stimulated me and made bird and tree and sky and flower full of new interest. It is not nature for its own sake that has mainly drawn me; had it been so, I should have turned out a strict man of science; but nature for the soul's sake—the inward world of ideals and emotions. It is this that allies me to the poets; while it is my interest in the mere fact that allies me to the men of science.

There was health in John Burroughs—health and the capacity to make distinctions. Have we, in the century since his time, lost that capacity? Have we also withdrawn our being from the earth, lost our touch with both the mountain and the prairie and now exist without any diffusion

throughout nature? Charles Morgan, a novelist of the first half of this century, thought the change was taking place in his time. In *The Constant Things* (1946), he had one of his characters say:

"The sea, the sky . . . not only the sky and the sea are in question. The songs of birds, firelight and sunlight, the woods, the turn of the seasons, the earth itself and the smell of it, the whole natural magic going on behind our little journey from the cradle to the grave. Well," he said. "you have to choose. What are they? Are they still what they have always been: the perspective of our mortality and, for some of us, an emblem or at least an analogy of our immortality? Or have they become, as it were, infected by our impermanence? Are they little more than a stage-setting to our personal and social drama? It's a question of relationship and of our view of that relationship. Are we related to them at all, as mankind has always supposed? Is the earth that we touch a part of ourselves, or has it become just a thing we walk on, like a pavement? Are we becoming, in our consciousness, separated from the stars—as indifferent to them as we are to the electric chandelier in the lounge of a hotel? Are we being driven, or driving ourselves, into exile from the unity of nature? It is a simple question."

We can now, we are told, recover the untouched realms of nature if we smoke Marlboro cigarettes. The poets who work in advertising agencies—and that, one suspects, is where nearly all of them are—tell us so. As another writer Christopher Salter, in *Landscape* explains:

In 1973 Marlboro cigarettes became the most popular cigarette in the world. . . . Few advertisements in Madison Avenue history have created such a remarkable sense of place and such a distinct profile of a cultural stereotype as the photos of this quiet cowboy in western surroundings. . . . Not only does the character usually appear alone—whether on horseback or on foot—but the scenes around him seldom offer any evidence of human settlement. Roads, fences, power lines and pylons, even towns do not intrude. Finally, the scale of the setting is distinctive. It is most often monumental, as suggested by high, jagged mountains, open, snowswept plains, and also powerful animals being tended. Here, then, the lone individual is nested not only in untouched nature, but majestic, even stunning, nature. The setting is powerful. . . . People

seem incidental to this man's solitary encounter with nature.

Thus are we restored. A cigarette will bring back what we have lost. Marlboro and the Sierra Club are saving the wilderness for us, so that we can sample it from time to time, making sure it is still there. Nature is indeed "now for us a commodity in both its principal aspects, as source of matter for industrial processing and as a source of aesthetic experience."

For conclusion we take the closing lines from Burroughs' "Nature and the Poets" (in *Wake-Robin*), as suggesting a way back, perhaps the least painful way:

Says the Soothsayer in *Antony and Cleopatra*—

"In nature's infinite book of secrecy a little do I read."

This is science bowed and reverent, and speaking through a great poet. The poet himself does not so much read in Nature's book—though he does this, too—as write his own thoughts there: Nature reads him, she is the page and he the type, and she takes the impression he gives. Of course the poet uses the truths of nature also, and he establishes his right to them by bringing them home to us with a new and peculiar force—a quickening or kindling force. What science gives is melted in the fervent heat of the poet's passion, and comes back to us supplemented by his quality and genius. He gives more than he takes, always.

The true secret of our recovery is in the last sentence, the reversal of what we have practiced since we lost our way.

REVIEW

ANOTHER SCHELL BOOK

A TWO-PART article in the *New Yorker* for Jan. 2 and 9 by Jonathan Schell, author of *The Fate of the Earth* (which also first appeared as articles in the *New Yorker*), provides musings on our present relation to the possibility of nuclear war. His title is "Reflection," which means his thinking about the moral reality of our situation, whether or not we are aware of it. His purpose is to make us more aware.

What have the proponents—a nicely unemotional word—of nuclear war to look forward to? Extinction, Mr. Schell says. He can't prove that, and let us be glad of it, since nowadays one proves only by experiment. But there is something worse than extinction—the loss of the meaning in our lives before we become extinct. He seems to believe that there isn't any meaning to account for or lose after we are dead—a point that some might argue. The following is characteristic of Schell's dialectic:

Sometimes it is suggested that it is ignoble to give the highest priority to our effort to save mankind from destruction, because in doing so we supposedly place our animal wish to stay alive, above our higher, more specifically human obligation to live a morally decent life. But just the opposite is the case. It is precisely all those things *for which* people have throughout history been willing to sacrifice their lives that we have, indecently, now placed, in their entirety, at risk. And it is our desire to save those things—not merely the desire to save our own necks—which moves us to choose to save our species.

Well, one hopes that is the reason—as it surely is for Mr. Schell and some others. He goes on:

It is also sometimes suggested that fear will inspire us to combat the nuclear peril, but that reasonable-sounding idea seems to me equally mistaken. Fear, a more or less reflexive response that we share with other species, drives each of us as an individual, to save himself in the face of danger. Fear cannot distinguish between a fire in one's own house and a nuclear holocaust—between one's own death and the death of the world—and is therefore useless

even to begin to suggest the meaning of the nuclear peril. Its meaning can be grasped only to the extent that we feel the precise opposite of fear, which is a sense of responsibility, or devotion, or love, for other people, including those who have not yet been born. . . . Fear isolates. Love connects. Only insofar as the latter is strong in us are we likely to find the resolve to prevent our extinction.

This, we may think, is a law of nature wholly neglected by some of the determined advocates of peace—or at least of nuclear peace—which can never be more than a state of suspended animation between peace and war. That, indeed, Mr. Schell suggests, is our present condition. That is the culture in which we live and jerk spasmodically about. He also suggests a cure:

We must repent the crime before we commit it, and in that repentance find the will not to commit it. This displacement of repentance from the aftermath of the crime to the time preceding it would be, to paraphrase William James, the moral equivalent of deterrence. The only difference between it and the strategic sort is that whereas in strategic deterrence we are deterred by what the enemy may do to us, in moral deterrence we are deterred by what we may do to him—and to countless innocents, including all potential future generations of human beings.

That, indeed, is our only defense against nuclear war—our unwillingness, if we have it, to be a part of it. Meanwhile, we are thinking about this choice—if, that is, we are: we are becoming quite used to not deciding much of anything, which may have the effect of making our condition far worse.

In an *Atlantic* (February) review of Kosta Tsipis's *Arsenal: Understanding Weapons in the Nuclear Age*, Thomas Powers says:

The Reagan Administration has embarked on a major program to build new weapons, but it would be unfair to blame this new turn in the arms race wholly on Reagan. Much of his program had been proposed by Carter, who adopted programs begun under Ford and Nixon, who inherited the weaponry of Johnson and Kennedy, which had been conceived in the time of Eisenhower and of Truman, who learned about the bomb the day he took office. The curious aspect of Reagan's policy is its note of urgency. The American failures of recent years had nothing to do with the

strategic balance, likewise the successes of "the other side" in Vietnam, Angola, Ethiopia, and Nicaragua. We failed in those places—if failure it was—not because we were weak but because we were divided. Americans simply could not agree on whether American interests were involved, or whether those interests were important enough to justify war. They cannot agree now about the proper American role in Lebanon or El Salvador.

The paradox is that Reagan is apparently trying to compensate for this very real constraint on American power—one entirely intellectual and spiritual in nature—by the purchase of strategic weaponry that scares the living daylights out of everyone—allies, enemies, and ourselves alike. What has missile accuracy to do with revolution in Central America? Can laser-beam weapons bring peace between Syria and Israel? Will Russia cease to oppose us when we can pinpoint her submarines at sea? Was it lack of cruise missiles that lost the war in Vietnam? Will the Stealth bomber restore Polish freedom? The weapons builders get their dues in Kosta Tsipis's fine book. It is clear that their weapons can find, hit, and above all destroy whatever they are aimed at. They can do anything but make us safe.

Schell quotes Powers in his *New Yorker* series (Jan. 2):

In his recent book *Thinking About the Next War* he [Powers] reports that he found two convictions to be nearly universal: first, that even with the arsenals in place—in fact, *because* the arsenals are in place—nuclear weapons will *never* be used and, second, that the military men "*know* we shall never get rid of nuclear weapons": that their abolition not only is "not on the horizon" but is not even "*over* the horizon." That is also the view of the Harvard authors of *Living with Nuclear Weapons*, who ask, "Why not abolish nuclear weapons? Why not cleanse this small planet of these deadly poisons? They answer categorically, "Because we cannot," and go on to explain that the discovery of nuclear weapons "lies behind us" and "cannot be undone." In this prognosis, the hope of abolishing nuclear weapons has been extinguished, and the short-term stopgap of deterrence has completely usurped the place of full nuclear disarmament, which is frankly ruled out.

So there we are, stuck in the intermediate zone, damned if we do and damned if we don't stay there. And we stay there, the generals say,

because we *must*. But that is not so. We can leave that limbo as individuals at any time.

An air of hopelessness attends all statements of policy which require everybody to agree before it becomes effectual. No wholly human being ever assented to this view. We are still free as individuals, whatever the generals say. That a free individual may be killed along with the conformists is of course likely or inevitable, but a free man chooses freedom not because he fears death but because he cherishes his independence, living or dead.

How many hands would you need to count on your fingers the humans who take this view? Their argument, however, does not depend upon numbers. It would be false if it did. It would have no "independence." Laconically, Thoreau gave the position voice. "Of what consequence," he asked, "though our planet explode, if there is no character involved in the explosion?" And casually he added: "I would not run round a corner to see the world blow up."

But a great many people not yet capable of Thoreau's aplomb have been marshalling their energies. As Jonathan Schell puts it:

It turned out that while the nuclear-war fighters were looking at the contradictions of deterrence and worrying about a loss of credibility people on the outside were looking at those contradictions and worrying about the loss of mankind itself. Having made their conscious choice in favor of human survival, they could hardly be content with a policy that left mankind perched on the edge of doom and prescribed that in certain not altogether unlikely circumstances we jump. . . .

The world was awakening, but what it was awakening *to* was not a ready solution to the nuclear predicament but, rather, the impasse that the world had reached in the first years of the nuclear age. When the world woke up, it was therefore only to find itself manacled to the bed on which it was lying, for the "impossibility" of any real relief from the nuclear peril—and the impossibility, in particular, of the abolition of nuclear weapons—had been affirmed by decades of strategic thinking. It was perhaps not surprising, then, that many people wanted to go back to sleep—in effect, saying, "Wake us up again when

you have some answers." For trailing after the elemental human questions raised by the peace movement was a whole new set of questions, concerning what should be done.

Can the goal of a nuclear-free world actually be reached or is it in fact impossible—a "fictional utopia," as *Living with Nuclear Weapons* tells us? If the Harvard book is right, what then is the outlook? If it is wrong, and the path is open, what then is the path? . . .

In 1984, the peril, while still in a sense invisible and abstract, nevertheless surrounds and pervades our lives. It is the sky overhead and the ground underfoot. We are immersed in it and pervaded by it. In sum, we now live in a *nuclear world*, and our reactions, our thoughts and feelings, conscious and unconscious, have reference to that world. they have a flavor of experience, which the reactions of people in 1945 could not have.

This seems particularly well said. These *New Yorker* articles will doubtless be turned into another book, of which good use will be made.

COMMENTARY **THE RIGHT ANSWER**

THINKING about the articles (by Jonathan Schell and Thomas Powers) which have attention in this week's review recalled the subject of Barbara Tuchman's latest book, *The March of Folly*, an account of the terrible mistakes and incredible stupidities of governments, ancient and modern. She begins with the mythical Trojan welcome to the enormous horse containing Greek warriors, who emerged as soon as their vehicle was inside Troy's walls and surprised and defeated the Trojans. The story is practically unbelievable, yet nonetheless serves well as a symbol of the stupidity which big organizations suffer from, when under the pressures of war.

Other chapters deal with the blindness and self-indulgence of the Renaissance Popes, which made the Reformation inevitable, with the similar blindness of the English kings which led to the Declaration of Independence by the American colonists. The last chapter, close to a third of the book, tells how and why the United States became involved in the war in Vietnam. The nation's leaders, she makes clear, were obsessed by a false analysis of the sociopolitical realities of Indo-China, and were unable to consider any other opinions than their own as having meaning or legitimacy. Moral issues apart, the undertaking was both futile and stupid, and while there were those who saw and knew this, their voices were ignored. Mrs. Tuchman's point is that we didn't *have* to make this mistake; we knew better, or had advisers in government who knew better; but we seem to have arrived at a place in our history where reason plays almost no part in what we decide to do.

What, then, is wrong with modern nations? Why are the rulers so immune to common sense?

The answer seems simple enough. Nations have become too big. In the early days of our republic the country was in the hands of men of independent intelligence. Policy grew out of

individual insight, with authentic consultation among the leaders. Today government cannot even hear, much less consider, individual insight. The insight exists—Mrs. Tuchman makes this plain in quotation after quotation—but the irrational structures erected to perpetuate power and authority seem almost entirely in control of decision-making, these days. Hence the title of her book—the modern behavior of the great nations is a "march of folly."

What can we do? The answers offered are legion, but only Thoreau and Gandhi and Schumacher, we think, have proposed the solution.

CHILDREN ... and Ourselves

PLACES TO GO

ACCORDING to its newsletter, *Cottonwood Notes*, the Malachite Farm School, A.S.R. 21, Gardner, Colorado 81040, is a place where "all wildlife, plant and animal," is "protected through a careful and sensitive approach to farming." Among the things done there is the making of rare wood furniture for income to support the school; they also offer for sale mountain honey produced by Malachite bees. One of the staff, Stuart Mace, asked to justify the existence of such a school, set down this reply:

Man's future is linked to the sound sustainability of his agriculture. We are wholly dependent on "green life" to convert sunlight, water, and soil into stored food (energy).

Current agriculture practices which produce exaggerated results are non-sustainable. . . . Present agribusiness decisions are made using human economics and laws. The economy and rules that ultimately govern all life are of a higher order: simple but irrefutable. All living things belong to interlocking cycles that demand return of every gift received.

Current agribusiness practice depends on unstable monocultures, abstraction-prone bigness, and the excessive use of non-renewable resources: petroleum-based fuels, fertilizers pesticides and herbicides. The results are massive mechanical soil loss, degradation of soil absorption by compaction, poisoning and destruction of the soil's living support systems, the dependence on costly non-renewable resources and the loss of human contact with the land and the rules that allow all life to be sustained.

Small-scale farming makes possible a return to sustainable agriculture by:

1. Improving stewardship in putting people back on the land and in tune with its needs. This removes deluding abstractions and blind procedures.
2. Relearning skills of balanced farming, crop rotation appropriate use of differing soil structures and climate restrictions.
3. Diversified farming using value judgments and practices based first on sustainability.
4. Researching practical, stable, genetically sound food crops such as Andean high-protein grain Quinoa for the Rocky Mountain West.

What is quinoa? It is a food grain from South America (Bolivia and Chile) that cooks like rice, but faster, and tastes sweet and nutty. They are developing three out of two hundred varieties at Malachite.

The seeds themselves contain built-in protection from many pests. Saponin, a bitter-tasting waxy resin, surrounds the seed, discouraging pests from destroying the grain. Although the seed must be thoroughly cleaned, quinoa researchers believe saponin may be used for useful products such as shampoo and soap.

Other parts of the plant may be used for human consumption or for animal fodder. The leaves make delicious salads, and the seeds themselves may be cooked like wild rice or placed in soups or desserts. . . .

In markets outside the Indian areas of South America, quinoa is not popular as a food because of prejudice. "It has been misconsidered and looked down on because it is associated with Indian food."

Quinoa was imported by Britain during the war to strengthen the wartime diet of the British. The people at Malachite think it might "become an important alternative crop for farmers of the intermountain West."

Quinoa (pronounced *keenuwa*), higher in protein and essential amino acids than wheat, corn, or other common crops, is a high-altitude grain growing at 13,000 feet in its native Andes mountains, and does best above 6,000 feet elevation. It also adapts itself to marginal land, producing a good crop with only limited water and fertilizer.

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The New Alchemy Institute on Cape Cod, 237 Hatchville Road, East Falmouth, Mass. 02536, is a "research and educational institute dedicated to the belief that humanity can and must learn to live in gentler, more environmentally sound ways." In a recent issue of *Annals of Earth Stewardship* (Vol. II, No. 1) Nancy Todd takes from John Quinney, present director of the Institute, a key statement on its synthesizing activity:

The science of ecology and the practice of agriculture have developed in isolation from each other. Ecologists study natural ecosystems, not farms, and agricultural scientists know little about pristine wilderness. The key to a sustainable agriculture lies in designing farms that mimic natural ecosystems—forests, prairies, salt marshes, estuaries, lakes, and rivers. The

natural vegetation of an ecosystem can be used as an architectural and botanical model for designing and structuring an agro-ecosystem.

The argument for taking this approach can be simply stated. Conventional farms are inherently fragile: Productivity can be sustained only if fossil fuel subsidies, in one form or another, are employed as inputs. Natural ecosystems, on the other hand, are extremely resilient and have for thousands of years demonstrated high productivity, an impressive ability to maintain environmental quality and adaptiveness to natural disturbances. They achieve these results by using only one source of energy, the sun. Furthermore, natural ecosystems produce no life-threatening pollutants and contain high levels of spatial and genetic diversity.

A passing thought: Ancient tribes and civilizations once sang hymns to the sun. What this man says seems an appropriate form of solar worship in our time. It is an act of reverence to understand the universal beneficence of our own star. To collaborate with it is an act of devotion to the earth and its inhabitants. What better expression of pantheist religion? One advantage of pantheism is that it does not become sectarian.

Nancy Todd goes on:

In turning to the New England forest as its model, New Alchemy plans to incorporate into the design for the farm projects that will recreate many of the innate elements of ecosystem structure. These include: succession over both time and space, encompassing crops that range from vegetables and berries to fruit and nut trees to native forest; agricultural analogues for the biological resources of the forest like nitrogen-fixing and mycorrhizal plants, green manure crops, allelopathic plants, livestock manures, predatory and parasitic insects, and habitat enhancement for pest control; and the forest's use of diversity, nutrient recycling, and multiple function. As is the case with the forests, the sun will be the primary energy source for the model farm.

In pragmatic terms the elements of the ecosystem will be translated into projects which, taken together, will make up the model farm—projects like a market garden, an orchard, bioshelters, livestock, aquaculture and waste treatment. Concomitant with all phases of the project and eventually with the whole will be an economic evaluation for this form of agriculture.

Naturally, such an "economic evaluation" will include the factor of human welfare in its economic processes as well as in its fruits.

Nancy Todd concludes:

It is a paradox that those of us, like the New Alchemists, who, either out of conviction or the good fortune of being able to look beyond immediate concerns of one's own and one's family survival, to the effect of industrialized countries on the world around us and to the lives of future human beings, must often face the charge of being unrealistic in our thinking. Reality, however, is a slippery concept at the best of times. Even science can offer only a partial rendering. The reality of New Alchemy has always been a staunch belief that the fates of the human and natural worlds are inextricably connected, as are their mutual well-being and longevity. The poet Marge Piercy once wrote:

It takes a crazy despairing faith,
full of teeth as jack o'lantern
to plant pine and fir and beech
for somebody else's grandchildren
if there are any.

At New Alchemy we would add apple and pear and plum and mulberry. And keep on planting

Why plan to do post-graduate work at a university when you can go to places like New Alchemy or the Land Institute in Kansas and become an authentic autodidact on your own? All things are likely to be added to people who do this.

FRONTIERS

Various Recipes

IN *Tilth* for the Winter of 1983-84, an extract from *Land and People: Options for Okanogan* (a county in the state of Washington, bordering on Canada) suggests to the apple-growers of the region that they might kind more economic stability by diversifying their crops. "A bad year for apples may turn out to be a good year for any one of a dozen other crops suited to our climate, soil, and farm size." After several recommendations of alternate crops—lettuce, strawberries, grapes, asparagus, potatoes, and old-fashioned-apple varieties—the writer, Ron Engeland, says:

Clearly, the more our farmers and gardeners produce a variety of crops, the less our economy will suffer from over-production and national market swings. An added benefit would be an increased ability for the Okanogan to produce a greater percentage of its own food supply. Our small-scale pattern of land ownership and diversity of micro-climates provide an ideal situation.

This report is sponsored by the Partnership for Rural Development (Box 2058, Omak, Wash. 98841, \$5.00). One reason for quoting it here is a clarifying definition:

Holism is a new word not yet found in most dictionaries. It means awareness of our total surroundings and all the complex interactions, rather than narrow focusing on single activities. Holism allows us to see the total consequences of our actions, not merely the results we were hoping to attain.

Okanogan farms are really small bioregions within the larger Okanogan bioregion. They do not begin and end where suneyors have established boundary lines because we are dealing with communities of living organisms. People respect boundaries (sometimes), but plants, animals, and insects do not. Neither do streams, winds, or pesticides. For that reason, every farm operation affects other farm operations and nearby communities as well. Holism is an awareness of these effects, like watching the ripples from a stone until they have travelled through water clear to the opposite shore and back again. . . .

Holistic management works best when farmers think in terms of communities of life. It's especially valuable to see things from the plant's or insect's perspective. Food crops aren't really "grown" by farmers. Plants "grow" all by themselves. Farmers merely manage their growth by trying to provide optimum conditions. Best results usually occur when farmers help plants perform the functions plants want to perform naturally.

(The word "Holism" is probably owed to Jan Christiaan Smuts, South African statesman, who published *Holism and Evolution* in 1926, and it is in Merriam-Webster's collegiate dictionary.)

When humans begin to think holistically they become natural ecologists, and sometimes *deliberate* ecologists, as in the case of John Todd, the marine biologist who with Bill McLarney founded the New Alchemy Institute on Cape Cod. With Nancy Todd and some others, he has lately established Ocean Arks International (10 Shanks Pond Road, Falmouth, Mass. 02540) and in the paper they publish, *Annals of Earth Stewardship* (Vol. II, No. 1), he tells about an Ecological Cook Book he is compiling, supplying recipes that humans can use in the work of ecological restoration. Ponds are an important item for this purpose, and in the early days of New Alchemy he learned how to build them, starting with a glass jar and some local pond water, which led to the solar algae pond—"one of the most productive standing bodies of water anywhere."

Why build a pond? Todd answers:

To have fresh water is essential to all terrestrial life. Different parts of the earth vary dramatically in the ability to hold water on the surface. Lack of water is a basic block to development wherever soils are porous and rain water percolates downward and disappears. The most extreme examples are sandy or coral soils where the contents of a bucket of water can disappear in seconds.

After precise description of a pond he built on an atoll of the Seychelle Islands in the Indian Ocean—half an acre in size, four feet deep, lined with coconut husks glued to impermeability with wild papaya, holding fresh rainwater in isolation from salt water invading from the ocean—he says:

Now it is used for livestock watering, irrigating the gardens and orchards, and for growing fish.

The effects of the pond on the island have been many. The availability of fresh water on the surface has permitted an agricultural and ecological diversification that has the potential to change the character of the island which had been for some time primarily monocrop coconuts. The pond is now acting as a natural magnet for wildlife. We have heard reports of migratory birds, which rarely visit remote coral islands, having been spotted on the pond. Surrounded by an ocean of salt water the pond has become an "island" within an island that has stimulated new thoughts about the inhabitation of and the human role in the ecology of small coral islands. Whereas in the past the presence of people on small islands has been destructive and exploitive, it may not have to continue that way. We invite *Annals* readers who have built ponds and lakes with biological methods to tell us of your experiences. A Cook Book of Pond Making might ensue.

What would a Cook Book of *Peace Making* contain? This would depend, of course, on how far back you go in the chain of causation. Our theory is that if you don't go all the way back—to the place where John Todd and some others are working—your recipes will omit so many essentials that the puddings will collapse, the cakes turn to mush or stone, and the drinks will be both drugging and poisonous.

Both human and all the rest of life depend upon the harmony that is a balance of conflicting forces. Out of the tensions of conflict it is possible to create a dynamic equilibrium of being-on-its-way. Call it the living peace of intelligence and its forms moving in many directions all of them different, all of them right.

Our theory is that the real peace-makers are the people who have learned how to discern the reasons for differences, and how to use the differences for the common good. We call these reasons the "laws of nature," and we distinguish between visible and invisible natures. Our true nature is invisible, but we are seldom able to understand it—how to bring its operations into harmony—unless we learn the fundamentals of how visible nature works. The Todds, who are

demonstrating this, are also instructors in peace-making.