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About the Institute
The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

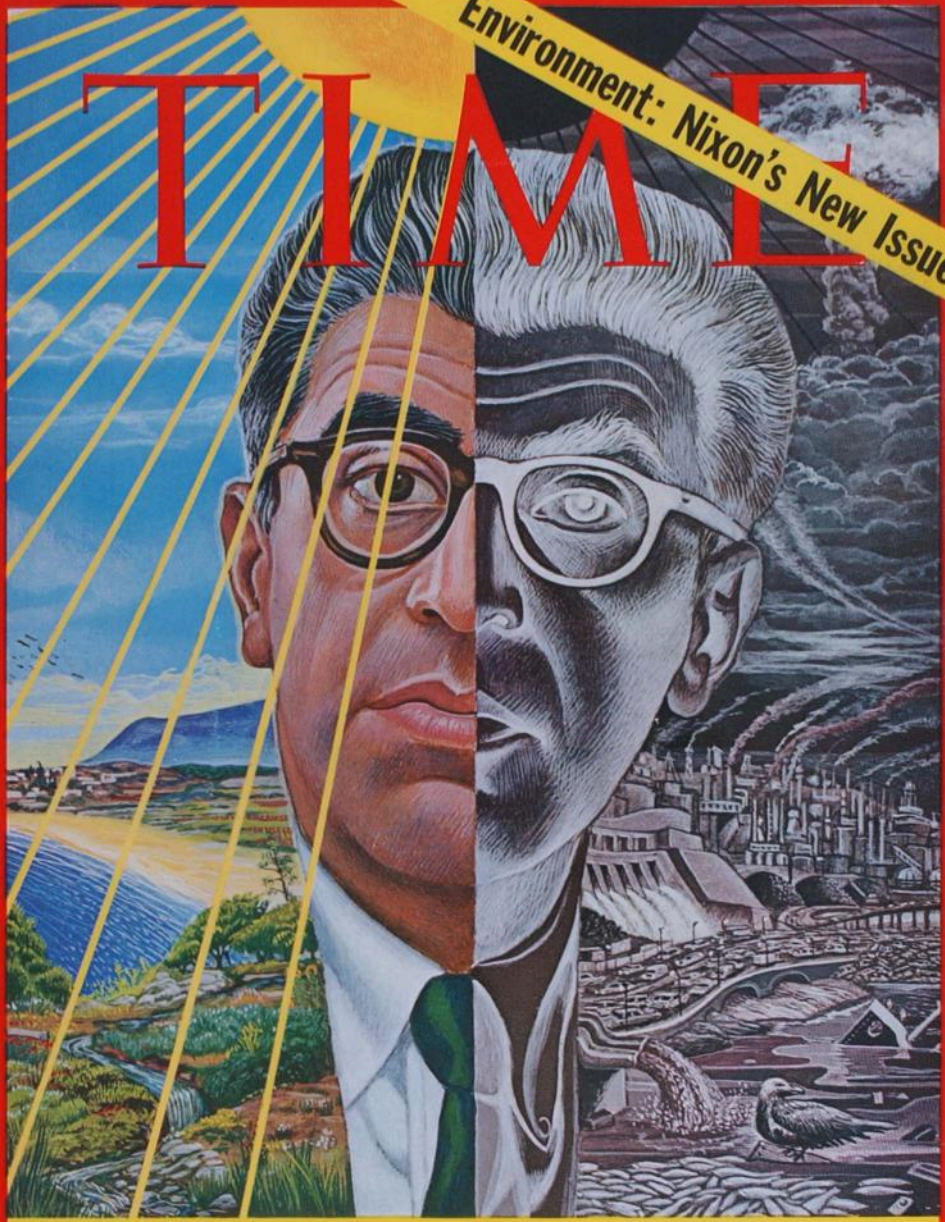
Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

FIFTY CENTS

FEBRUARY 2, 1970

TIME

Environment: Nixon's New Issue



ECOLOGIST BARRY COMMONER

The Emerging Science of Survival

make the earth disappear!

it will breed itself out of existence. Unquestionably, Ehrlich's warnings about overpopulation must be listened to and acted upon.

But you can quarrel with Ehrlich's basic attitude. He irritates by always assuming the worst. His method is to take existing trends and extrapolate them into disaster. But extrapolating existing trends leads to such absurdities as the huge tramcars with stubby wings that the Victorians pictured as the flying machines of the future. There is always the unexpected—but for Ehrlich, only the adverse unexpected events of the future are real; optimistic developments are shrugged away.

We already seem to have an instance of the unexpected saving us from disaster. In *Seeds of Change*, Lester R. Brown described without emotion how the development of new high-yield species of rice and wheat plants have staved off disaster in the undeveloped world. This is the "green revolution," and it has turned previous importers of grain into exporters.

Brown's attitude is the most valuable contribution in the book. He isn't saying that the world has been saved. He shows how the special needs of the green revolution are pulling peasants into the twentieth century, fostering new industries and forcing improvements in transportation in India and elsewhere. But he sees the other side of the coin. The world's markets are unready to cope with the new grain-exporting countries. The young people in those countries can now be fed, but finding them work is an even greater challenge. And [illegible]

and technology until now must be changed. The first principle of the scientist has been a disinterested hunt for truth (or facts), with no regard for what his findings might be used for. That was all right when science was a small, private enterprise, Dubos says. Now that science affects the entire world, the scientist must think carefully about the consequences of his research. He must work for the best interests of humanity, not just to satisfy his curiosity. In short, the rules of the game must be changed.

It is imperative for Dubos's proposal to be adopted. It is even more imperative for the same ideas to be applied to technology, the offspring of science. For, to come to the root of the matter, all our problems are caused by science and technology run wild. Forget for a moment the problems of nature—the vanishing wilderness, the species killed by DDT, the poisoned rivers. Consider the cities, which should be the flower of technological civilization. What has technology created?

The cities cannot dispose of their garbage and sewage. They cannot transport people in comfort or guarantee safety on the streets. They cannot educate a large number of their children properly. The health care system is inefficient and costs too much to run. Even the suburbs, the last refuge of the frightened middle class, are feeling the pressure of technology's failure.

Technology has failed us because we let it run wild. Instead of following human logic, we have followed technological logic. If something could be done, we have done it without considering the human consequences. We need a basic change of attitude. The engineers must start thinking about the human uses of technology—giving the greatest benefit to the greatest number, not creating the biggest machine for its own sake.

The rest of us need an equally basic change of attitude, toward the objects of everyday life. Here is one example of what must be done:

In the past few years, most middle-class Americans have become accustomed to air conditioning, at home and at work, now even in automobiles. Air conditioning is an avid consumer of electric power, and all power pollutes, either by adding to air pollution or by disrupting a wild area or by adding too much heat to water.

The people who protest today about pollution do so

It is useless to double our consumption of electric power every ten years and demand less pollution. The only real solution is to use less of everything—really, *everything*. And that, of course, is an economic disaster.

We are now going through a period when people use less of everything, unwillingly. It is called a recession, and it bothers the president of the United States, the heads of our corporations, and businessmen everywhere. Our government, having gingerly reduced consumption temporarily for its own purposes, now promises that economic growth will resume soon. At the same time, the government calls for a war on pollution.

The only real war on pollution is a permanent recession. By every standard of present economic thinking, that is an inconceivable situation. So the economists and the businessmen have to change their attitudes, too. The inconceivable must become conceivable.

It isn't possible. When we think about recession, we think of people who suffer—the poor, the unemployed. Actually, for those who are still making money, a recession can be enjoyable. People with jobs during the Great Depression found that prices were stable, accommodations were easy to find, help was polite and—perhaps most important—a feeling of community was created. Anyone seeing the movies of the 1930s must be struck by the way people stuck together.

It may have been a myth, but it is preferable to the present national attitude, compounded of equal quantities of greed and fear. Everyone wants more of these useless items that advertising has foisted on us, and everyone is afraid of losing something to a minority group. The United States has an unpleasant character right now. In comparison, a permanent recession doesn't look too bad.

When we have curbed our desires for gadgets, one final, vital adjustment of attitudes has to be made. We must stop regarding the earth as an object to be used. We must settle back into our original status, from which we were shocked by technology: a part of nature, vulnerable, with all the other parts, to undue upsets.

That means giving up short-term profits, some of them surprisingly essential. For example, one reason for the growth in agricultural output has been a trend away from smaller farms raising a variety of crops to huge

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Ehrlich's book has one great value: Like other angry books, it proposes completely absurd solutions for our problems—such as involuntary birth control. Both *Ecotactics* and *The Environmental Handbook* urge everyone to give up automobiles, no-return bottles and electricity, when possible; *Vanishing Air* calls for the disestablishment of most major American corporations.

These are absurd because they establish all our pet notions, and it is precisely our pet notions, our most accepted beliefs, that have gotten us into trouble. The best book on what must be done to get us out of trouble isn't really about the environment at all. It is *Reason Awake* by René Dubos, of Rockefeller University, and it is about science and technology.

Dubos says the principles that have governed science technological logic. If something could be done, we have done it without considering the human consequences. We need a basic change of attitude. The engineers must start thinking about the human uses of technology—giving the greatest benefit to the greatest number, not creating the biggest machine for its own sake.

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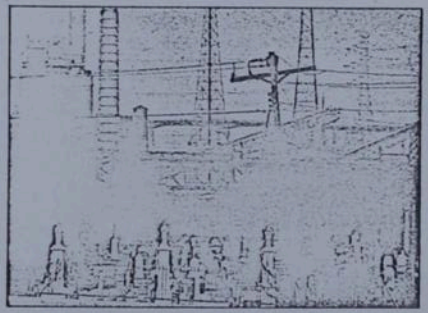
The people who protest today about pollution do so in air-conditioned comfort. They shave with electric razors and use electric can openers. They buy eight-cylinder cars and insist on power steering. With every gesture, they make more pollution necessary. Then they sign petitions to make the problem go away.



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That means giving up short-term profits, some of them surprisingly essential. For example, one reason for the growth in agricultural output has been a trend away from smaller farms raising a variety of crops to huge "monoculture" factories of the land. Instead of roaming free, cattle are raised in feed lots, where they gain weight quickly and predictably. Instead of raising a dozen crops inefficiently, a farm now raises one crop only, with high productivity.

But when cattle roam, their dung is valuable fertilizer. Penned in feed lots, their dung is a phosphate-rich pollutant, flushed into rivers that begin to die from excess growth of algae. When a farm raises a single crop, it is highly vulnerable to insects—which means a heavy emphasis on pesticides and a large risk of losing much of the crop to a single pest.

That kind of thing must stop—not immediately, because revolutions don't happen immediately, but in the near future. Unless we accept this kind of revolution willingly, we will have another, more unpleasant sort of revolution: nature in revolt against our excesses. In the short run, revolution doesn't pay. In the long run, it is the only thing that can save the human race. We had better begin soon.

de Bell. Ballantine. 365 pp. $.95.

POLITICS AND ENVIRONMENT. Edited by Walt Anderson. Goodyear. 362 pp. $7.95.

SINCE SILENT SPRING. By Frank Graham Jr. Houghton Mifflin. 333 pp. $6.95.

A DIFFERENT KIND OF COUNTRY. By Raymond F. Dasmann. Collier. 276 pp. $1.95.

THE ENVIRONMENTAL REVOLUTION: A Guide for the New Masters of the World. By Max Nicholson. Illustrated. McGraw-Hill. 366 pp. $10.

CONSERVATION: Now or Never. By Nicholas Roosevelt. Dodd, Mead. 238 pp. $5.95.

POPULATION, RESOURCES, ENVIRONMENT: Issues in Human Ecology. By Paul R. Ehrlich and Anne H. Ehrlich. Freeman. 383 pp. $8.95.

SEEDS OF CHANGE: The Green Revolution and Development in the 1970's. By Lester R. Brown. Praeger. 205 pp. $6.95; paperbound, $2.50.

REASON AWAKE: Science for Man. By René Dubos. Columbia University Press. 280 pp. $6.95; paperbound, $2.95.

Chicago Tribune Book World Ag 16, 1970

Man the magician: watch us

By Edward Edelson

Despite Earth Day, the television specials, the magazine articles and all the books, most Americans still have not begun to understand what the ecological crisis is all about. Most of them never will. On the surface, it appears to be just the latest of a long string of crusades dominated by the recent young: equal rights for blacks, end the war in Vietnam, unionize the farm workers, clean the air, ban DDT, rid the rivers of pollution.

But the ecological crisis is more than just another crusade. It is the ultimate challenge to the Western technological civilization that has conquered the world in little more than a century. Something has gone seriously wrong with that civilization and its technology. Stripping away its excrescences, the ecology movement is an effort to define what has gone wrong and what must be done to make the world livable.

But too many of the books now flooding the market fail to strip away the excrescences. It is too easy to write about the surface facts and leave the root of the problem untouched. And that causes a paradox in any assessment of the new books about ecology.

Those books can be conveniently classified in two groups, angry and calm. The angry books usually are written by, and aimed at, the young. The calm books are written by people who have long experience in the field and are intended for reflective elders. The angry books tend to be full of factual errors and misinterpretations of fact, and usually are dominated by a messianic outlook that sometimes borders on paranoia. The calm books are factually reliable and reasonable in tone. Nevertheless, in spite of their faults, the angry books are as valuable as the calm books. That is because the calm books have faults that are less obvious but equally critical.

Take, for example, two books on the same general subject—politics and pollution. *Vanishing Air*, produced by a Ralph Nader study group headed by John C. Esposito, is an angry book. *The Politics of Pollution* by J. Clarence Davies III, a Princeton professor and former government official, is a calm book. Both conclude that our pollution laws and their enforcement are utterly inadequate. *Vanishing Air* is petulant, critical of character and motive, impatient of excuses and acidly sarcastic. *The Politics of Pollution* gives a balanced, reasonable picture of the conflicting economic pressures and political personalities that have shaped our pollution laws. The Esposito book, despite its flaws, is unques-

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The outstanding example of the books' differing attitudes is their treatment of Senator Edmund S. Muskie. In the Davies book, he emerges as something of a hero—in fact, Muskie wrote the introduction. In the Esposito book, he is as weak-willed and spineless as any of the villains who have allowed our air to be polluted—and this is a book populated almost entirely by villains.

Or take some ecology anthologies. At least seven have been published—five calm, two angry. Each of the five calm anthologies is worth reading; the two best are

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VANISHING AIR: Ralph Nader's Study Group Report on Air Pollution. By John C. Esposito. Grossman. 326 pp. $7.95; paperbound, $.95.

THE POLITICS OF POLLUTION. By J. Clarence Davies III. Pegasus. 231 pp. $6.

AMERICA'S CHANGING ENVIRONMENT. Edited by Roger Revelle and Hans H. Landsberg. Illustrated. Houghton Mifflin. 314 pp. $6.95.

THE ENVIRONMENTAL CRISIS: Man's Struggle to Live with Himself. Edited by Harold W. Helfrich Jr. Yale University Press. 187 pp. $7.50; paperbound, $1.95.

CHALLENGE FOR SURVIVAL: Land, Air and Water for Man in Megalopolis. Edited by Pierre Dansereau with the assistance of Virginia A. Wendock. Columbia University Press. 235 pp. $7.95.

THIS LITTLE PLANET. Edited by Michael Hamilton. Scribners. 192 pp. $5.95.

ECOTACTICS. Edited by John G. Mitchell. Pocket Books. 288 pp. $.95.

THE ENVIRONMENTAL HANDBOOK. Edited by Garrett

GUIDELINES FOR CITIZEN ACTION ON ENVIRONMENTAL PROBLEMS

ENACT

Environmental Action for Survival
146F Nat. Res. U of M
Ann Arbor, Michigan 48104

Chicago Tribune Book World Aug 16, 1970

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Anyone interested in the wilderness would do well to read two other books on conservation: Max Nicholson's *The Environmental Revolution* and Nicholas Roosevelt's *Conservation: Now or Never*. Both authors have grown old in the service of conservation. Nicholson, who played a key role in founding Britain's Nature Conservancy, offers a view from across the Atlantic. His book has several charming features: an imaginary flight around the world in eight girdling spirals that survey most of the planet; a surprisingly admiring history of America's conservation movement; and a good account of the history of the world-wide conservation movement.

Roosevelt has apparently been involved in most of the significant conservation battles in this country, and he tells how and why they were won or lost. Again, he has been there, and he knows.

A writer who is more difficult to deal with is Paul R. Ehrlich, the professor of biology at Stanford University who has become one of the leading spokesmen of despair about population. His basic premise, repeated in *Population, Resources, Environment*, is unchallengeable: If the human race goes on reproducing at its present rate,

VANISHING AIR: Ralph Nader's Study Group Report on Air Pollution. By John C. Esposito. Grossman. 326 pp. $7.95; paperbound, $.95.

THE POLITICS OF POLLUTION. By J. Clarence Davies III. Pegasus. 231 pp. $6.

AMERICA'S CHANGING ENVIRONMENT. Edited by Roger Revelle and Hans H. Landsberg. Illustrated. Houghton Mifflin. 314 pp. $6.95.

THE ENVIRONMENTAL CRISIS: Man's Struggle to Live with Himself. Edited by Harold W. Helfrich Jr. Yale University Press. 187 pp. $7.50; paperbound, $1.95.

CHALLENGE FOR SURVIVAL: Land, Air and Water for Man in Megalopolis. Edited by Pierre Dansereau with the assistance of Virginia A. Weadock. Columbia University Press. 235 pp. $7.95.

THIS LITTLE PLANET. Edited by Michael Hamilton. Scribners. 192 pp. $5.95.

ECOTACTICS. Edited by John G. Mitchell. Pocket Books. 288 pp. $.95.

THE ENVIRONMENTAL HANDBOOK. Edited by Garrett

make the earth disappear!

it will breed itself out of existence. Unquestionably, Ehrlich's warnings about overpopulation must be listened to and acted upon.

But you can quarrel with Ehrlich's basic attitude. He irritates by always assuming the worst. His method is to take existing trends and extrapolate them into disaster. But extrapolating existing trends leads to such absurdities as the huge tramcars with stubby wings that the Victorians pictured as the flying machines of the future. There is always the unexpected—but for Ehrlich, only the adverse unexpected events of the future are real; optimistic developments are shrugged away.

We already seem to have an instance of the unexpected saving us from disaster. In *Seeds of Change*, Lester R. Brown described without emotion how the development of new high-yield species of rice and wheat plants have staved off disaster in the undeveloped world. This is the "green revolution," and it has turned previous importers of grain into exporters.

Brown's attitude is the most valuable contribution in the book. He isn't saying that the world has been saved. He shows how the special needs of the green revolution are pulling peasants into the twentieth century, fostering new industries and forcing improvements in transportation in India and elsewhere. But he sees the other side of the coin. The world's markets are unready to cope with the new grain-exporting countries. The young people in those countries can now be fed, but finding them work is an even greater challenge. And finally, Brown tells us how much time the green revolution has bought us: exactly fifteen years. If population growth isn't stopped by then, Ehrlich's worst predictions—and they are nightmarish—will come true. Barring the utterly unexpected, of course.

Ehrlich's book has one great value: Like other angry books, it proposes completely absurd solutions for our problems—such as involuntary birth control. Both *Ecotactics* and *The Environmental Handbook* urge everyone to give up automobiles, no-return bottles and electricity, when possible; *Vanishing Air* calls for the disestablishment of most major American corporations.

These are absurd because they establish all our pet notions, and it is precisely our pet notions, our most accepted beliefs, that have gotten us into trouble. The best book on what must be done to get us out of trouble isn't really about the environment at all. It is *Reason Awake* by René Dubos, of Rockefeller University, and it is about science and technology.

Dubos says the principles that have governed science and technology until now must be changed. The first principle of the scientist has been a disinterested hunt for truth (or facts), with no regard for what his findings might be used for. That was all right when science was a small, private enterprise, Dubos says. Now that science affects the entire world, the scientist must think carefully about the consequences of his research. He must work for the best interests of humanity, not just to satisfy his curiosity. In short, the rules of the game must be changed.

It is imperative for Dubos's proposal to be adopted. It is even more imperative for the same ideas to be applied to technology, the offspring of science. For, to come to the root of the matter, all our problems are caused by science and technology run wild. Forget for a moment the problems of nature—the vanishing wilderness, the species killed by DDT, the poisoned rivers. Consider the cities, which should be the flower of technological civilization. What has technology created?

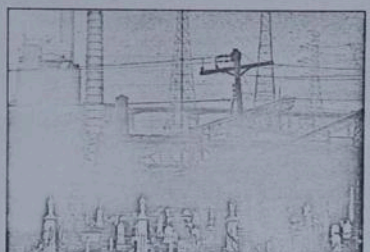
The cities cannot dispose of their garbage and sewage. They cannot transport people in comfort or guarantee safety on the streets. They cannot educate a large number of their children properly. The health care system is inefficient and costs too much to run. Even the suburbs, the last refuge of the frightened middle class, are feeling the pressure of technology's failure.

Technology has failed us because we let it run wild. Instead of following human logic, we have followed technological logic. If something could be done, we have done it without considering the human consequences. We need a basic change of attitude. The engineers must start thinking about the human uses of technology—giving the greatest benefit to the greatest number, not creating the biggest machine for its own sake.

The rest of us need an equally basic change of attitude, toward the objects of everyday life. Here is one example of what must be done:

In the past few years, most middle-class Americans have become accustomed to air conditioning, at home and at work, now even in automobiles. Air conditioning is an avid consumer of electric power, and all power pollutes, either by adding to air pollution or by disrupting a wild area or by adding too much heat to water.

The people who protest today about pollution do so in air-conditioned comfort. They shave with electric razors and use electric can openers. They buy eight-cylinder cars and insist on power steering. With every gesture, they make more pollution necessary. Then they sign petitions to make the problem go away.



It is useless to double our consumption of electric power every ten years and demand less pollution. The only real solution is to use less of everything—really, *everything*. And that, of course, is an economic disaster.

We are now going through a period when people use less of everything, unwillingly. It is called a recession, and it bothers the president of the United States, the heads of our corporations, and businessmen everywhere. Our government, having gingerly reduced consumption temporarily for its own purposes, now promises that economic growth will resume soon. At the same time, the government calls for a war on pollution.

The only real war on pollution is a permanent recession. By every standard of present economic thinking, that is an inconceivable situation. So the economists and the businessmen have to change their attitudes, too. The inconceivable must become conceivable.

It isn't possible. When we think about recession, we think of people who suffer—the poor, the unemployed. Actually, for those who are still making money, a recession can be enjoyable. People with jobs during the Great Depression found that prices were stable, accommodations were easy to find, help was polite and—perhaps most important—a feeling of community was created. Anyone seeing the movies of the 1930s must be struck by the way people stuck together.

It may have been a myth, but it is preferable to the present national attitude, compounded of equal quantities of greed and fear. Everyone wants more of these useless items that advertising has foisted on us, and everyone is afraid of losing something to a minority group. The United States has an unpleasant character right now. In comparison, a permanent recession doesn't look too bad.

When we have curbed our desires for gadgets, one final, vital adjustment of attitudes has to be made. We must stop regarding the earth as an object to be used. We must settle back into our original status, from which we were shocked by technology: a part of nature, vulnerable, with all the other parts, to undue upsets.

That means giving up short-term profits, some of them surprisingly essential. For example, one reason for the growth in agricultural output has been a trend away from smaller farms raising a variety of crops to huge "monoculture" factories of the land. Instead of roaming free, cattle are raised in feed lots, where they gain weight quickly and predictably. Instead of raising a dozen crops inefficiently, a farm now raises one crop only, with high productivity.

But when cattle roam, their dung is valuable fertilizer. Penned in feed lots, their dung is a phosphate-rich pollutant, flushed into rivers that begin to die from excess growth of algae. When a farm raises a single crop, it is highly vulnerable to insects—which means a heavy emphasis on pesticides and a large risk of losing much of the crop to a single pest.

That kind of thing must stop—not immediately, because revolutions don't happen immediately, but in the near future. Unless we accept this kind of revolution willingly, we will have another, more unpleasant sort of revolution: nature in revolt against our excesses. In the short run, revolution doesn't pay. In the long run, it is the only thing that can save the human race. We had better begin soon.

de Bell. Ballantine. 365 pp. $.95.

POLITICS AND ENVIRONMENT. Edited by Walt Anderson. Goodyear. 362 pp. $7.95.

SINCE SILENT SPRING. By Frank Graham Jr. Houghton Mifflin. 333 pp. $6.95.

A DIFFERENT KIND OF COUNTRY. By Raymond F. Dasmann. Collier. 276 pp. $1.95.

THE ENVIRONMENTAL REVOLUTION: A Guide for the New Masters of the World. By Max Nicholson. Illustrated. McGraw-Hill. 366 pp. $10.

CONSERVATION: Now or Never. By Nicholas Roosevelt. Dodd, Mead. 238 pp. $5.95.

POPULATION, RESOURCES, ENVIRONMENT: Issues in Human Ecology. By Paul R. Ehrlich and Anne H. Ehrlich. Freeman. 383 pp. $8.95.

SEEDS OF CHANGE: The Green Revolution and Development in the 1970's. By Lester R. Brown. Praeger. 205 pp. $6.95; paperbound, $2.50.

REASON AWAKE: Science for Man. By René Dubos. Columbia University Press. 280 pp. $6.95; paperbound, $2.95.

The Morton Arboretum · Route 53 · Lisle, Illinois

Program of EDUCATIONAL ACTIVITIES - FALL, 1970

RICHARD WASON, Head of Education *Telephone WOodland 9-5682*

PLANT TREES

IMPORTANT INFORMATION REGARDING EDUCATIONAL ACTIVITIES

Advance registration is necessary to insure a place in most classes. You may hold a place temporarily by calling 969-5682, but registration is not confirmed until payment of fees (where applicable) is made. Unconfirmed reservations will not be held beyond the sixth working day preceeding the start of the course. Registration for activities described in this announcement begins 9 a.m. on August 31, 1970, and no registering will be done before that date. Checks should be made payable to the Morton Arboretum, and sent to the Registrar, The Morton Arboretum, Lisle, Illinois 60532.

Those registered for courses given at The Outpost should use the parking area northwest of the building, reached by way of the Park Boulevard entrance to the Arboretum. Those attending activities at the Arboretum Center Building will enter by way of the East Entrance (from Route 53) and park in one of the lots to the north of that building.

FALL COURSES

N1F An Introduction to Nature 10 Wednesday mornings, 9:30 a.m. to 12:00 noon, beginning September 16.
The autumn phase of our beginner's course in the natural history of Chicagoland includes an introduction to fall wildflowers, braod-leaved trees, surface geology, insects, and "lower" plants. Part of each session will be spent outside. Wear comfortable walking shoes and clothing appropriate for the weather.
Leader: Richard Wason. Fee: $10.00. Place: The Outpost.

N4 Beginning Bird Study 8 Tuesday mornings, 9:00 a.m. to 11:30 a.m., beginning September 15.
Besides learning to identify approximately 40 common birds, students in this class will be instructed in the structure, habits and conservation of native birds. Each day's work will include an outdoor observation period followed by a classroom session. Wear appropriate field clothing, and, if possible, bring binoculars and a field guide.
Leader: Alice Perkins. Fee: $8.00. Place: The Outpost.

N20 Ecology and Identification of Lower Cryptogams 8 Tuesday mornings, 9:30 a.m. to 12:00 noon, beginning September 15, plus two all-day field trips on October 20 and November 10.
This course will include work in the laboratory and in the field, acquainting the student with the ecology and diversity of lichens, mosses, and liverworts.
Leader: Patricia Armstrong. Fee: $10.00. Place: The Arboretum Center.

There is a world Environmental Crisis of a nature and seriousness of which it is true to say that most people have no conception; ~~However~~ it is obvious now that at least one person out of every fifty thousand or so ~~[illegible]~~ thinks he does have a clear conception of it, and is writing or lecturing about it. But this is not enough to give any concerned man or woman or youth a feeling of security that the crisis will be resolved before the catastrophe it threatens. No matter how strongly you may hold the belief ~~in the belief~~ that history has taken the turns that were dictated by the thoughts and behaviour of a few outstanding individuals — Alexander, Julius Caesar, Christ, Columbus, Luther, Napoleon, Bismarck, Churchill, — and no matter how valid the principle involved may be, the present crisis is of a different order of magnitude from any previous human state of affairs, and it

resolution ~~[illegible]~~ is going to require not only the greatest effort ever put forth by mankind in total, all the people throughout the largest number of people, for the greatest extent of the crisis (as a crisis of crises) and for the extreme urgency of immediate action toward resolution, I refer you to John Platt's What must we do (Science 166, 1115-1121. Nov. 28, 1969) If after reading this paper you can, have any truly constructive moments, again you nevertheless are infinitely dear. With regard to the vital importance of everyone's becoming fully informed to the limit of his capacity I refer you to numerous places in the works of Bertrand Russell, where he speaks with the reader that he who neglects [illegible] to learn the facts and then to use his reason to govern his actions.

As I have said, we now have reared

3

who know at least the main themes of the score. It would be presumptuous to hope they would acclaim — and a selection of them must be made to lead us — hopefully in the U.S. at least, by democratic processes. But these cannot be expected to function efficiently if the electorate among them fails to be fully informed on the pertinent issues and seriously concerned that actions to resolve the crisis be undertaken in time.

It is my belief that every institution — every college & university, every school, every library, every church, every botanic garden and arboretum, every museum, every broadcasting station, every newspaper, every airline, etc., etc., must immediately lend & pass its effort to keeping the electorate fully informed and wholly concerned about the crisis which besets all that has been

part of dam, still threaten us with a tragedy [illegible]
within 2, 5, 10 or 20 years, depending
upon unforeseen factors.

Life and business are not as usual,
and probably never will be for those [illegible]
already past adolescence. I contend that the
police front of 'life as usual' presented
~~to a casual observer~~ to those who visit
the Morton Arboretum must be ~~replaced~~
~~with an honest~~ with a full scale operation
to remind everyone who enters its gates,
or even passes along Roosevelt Road (the
Tollway and Route 53) that there is an
earth crisis, that it is dangerous, and
that it is going to take action on the part of
to resolve it. I maintain that no one
in America should be permitted to forget
for as long as 24 hours the position
in which we find ourselves by his

own individual action. The Arboretum

Arboretum action

1) Signs in washrooms about paper & water & light.

2) Automatic closing faucets

3) Requests to walk instead of to drive
Rearrange traffic so that return impossible without a full circuit.

4) Several Environment Pamphl.
ALWAYS on front desk
free supply for minimum h.

5) Always some Environment paper backs for sale.

6) Always Environment movies schedule to the extent we can drag them in.

7) Car stickers for sale

8) Petitions for signing.

9) A weekly (or bi-weekly) front desk letter on upcoming & current TV & FM programs.

10) Signs - signs - signs to alert everyone who comes near or in the Arboretum that it is canceling the Env. Ed. as its #1 business

11) A roster of those who will speak on what, where & when.

12) A constant exhibit in the north corridor of Cudahy Hall, changed monthly, with a monthly ~~theme~~ environmental theme, & recommended books to be borrowed from the library (these monthly book books)

13) A constant exhibit (not cluttered) in an Env. Corner of the Lobby - topical, timely

14) School fair programs that teachers can schedule and feel free to have their pupils see without going through authority.

15) Advertise on & include Hart for coming groups wishing to discuss E.C. — and offer the services of a moderator

16) Sponsor an (at least daily) announcement over TV and/or FM about EC + MA's activities regarding it.

17) Print & distribute some more capital letter folders — that tell about: pop., ecology, workers etc., nuclear weapons, pollution generally etc, etc, etc

(18) Always a handout sheet at R + W gates informing of MBG's ~~intention of giving~~ E.C. news with a prominent notice:

(19)

How You Can Help.

1. Park at the first parking area and walk instead of riding. Then returning by the shuttle route shown below

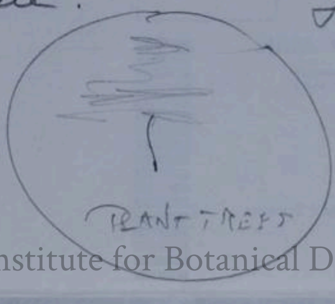
2. Don't waste our water at the drinking fountains or the washrooms.

3. Dry your hands with one paper towel instead of 2 to several as all of us have become used to. One towel will do ~~as long as~~ nicely here!

19) Pictures, pictures, pictures.
+ graphs
+ maps
+ moving models (Every school
ought to ---]
20) Shop wanting electricity.

Please save paper – usually one paper towel will dry your hands.

Half a century ago when Toby Morton founded the Arboretum he chose an oak tree as its symbol, and 'Plant Trees' as its motto. Even so long ago was it necessary to remind visitors that European man in the United States had already destroyed the tens of thousands of square miles of white pine from Maine to Minnesota and southward through Pennsylvania. Today the founder would have to go much further and use a much less euphonious phrase: 'Save every possible tree'. For ~~Today~~ Now,



No matter how many trees we plant, we cut down much faster than planting and growth can replace.

There are 200,000,000 people in the United States, all of them using woodpulp paper every day, customarily cut all [illegible] If ~~each one~~ everyone were to save, each day, only just enough paper to equal ~~to~~ the amount in a single paper towel, the total saving in one day would ~~amount~~ be ~~to~~ over 600 tons. During a year this extremely trivial saving would amount to some 20,000 acres of full grown woodland, ~~some~~ over 30 sq miles of forest.

Most of us could easily save (on the average) ten times as much ~~daily~~ as this — and if we did each year would see an additional forest of about 3125 square miles ~~of forest~~ standing in reserve — in ten years an area as large as that of the [illegible] six smallest states, or, if you like, [illegible]

Please save every possible tree!