

Awake!

EARTH'S FUTURE



**—GARBAGE DUMP
or
GARDEN HOME?**

APRIL 22, 1971

THE REASON FOR THIS MAGAZINE

News sources that are able to keep you awake to the vital issues of our times must be unfettered by censorship and selfish interests. "Awake!" has no fetters. It recognizes facts, faces facts, is free to publish facts. It is not bound by political ties; it is unhampered by traditional creeds. This magazine keeps itself free, that it may speak freely to you. But it does not abuse its freedom. It maintains integrity to truth.

The viewpoint of "Awake!" is not narrow, but is international. "Awake!" has its own correspondents in scores of nations. Its articles are read in many lands, in many languages, by millions of persons.

In every issue "Awake!" presents vital topics on which you should be informed. It features penetrating articles on social conditions and offers sound counsel for meeting the problems of everyday life. Current news from every continent passes in quick review. Attention is focused on activities in the fields of government and commerce about which you should know. Straightforward discussions of religious issues alert you to matters of vital concern. Customs and people in many lands, the marvels of creation, practical sciences and points of human interest are all embraced in its coverage. "Awake!" provides wholesome, instructive reading for every member of the family.

"Awake!" pledges itself to righteous principles, to exposing hidden foes and subtle dangers, to championing freedom for all, to comforting mourners and strengthening those disheartened by the failures of a delinquent world, reflecting sure hope for the establishment of God's righteous new order in this generation.

Get acquainted with "Awake!" Keep awake by reading "Awake!"

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Awake!

"It is already the hour for you to awake."

—Romans 13:11

Volume LII

Brooklyn, N.Y., April 22, 1971

Number 8

WHAT DO YOU PREFER?

GIVEN your choice, where would you prefer to live—on a garbage heap or in a gardenlike area?

We agree, the answer seems obvious. It would be hard to find a person who would say he preferred the garbage heap.

Yet many men today fear that human society is actually making that very choice!

"We get richer and richer in filthier and filthier communities, until we reach a final state of affluent misery—[rich king] Croesus on a garbage heap," is the way former Secretary of Health, Education and Welfare John W. Gardner expressed it.

Not only in the United States, but around the world the cry is going up that—like a bird that has fouled its own nest—man is fouling the only home he has, the earth. Prominent ecologist Barry Commoner stated: "We have the time—perhaps a generation—in which to save the environment from the final effects of the violence we have done to it."

Is There Really a Choice?

Certain other scientists would allow even less time. Some hold that the "point of no return" may already have been reached.

Can it be true that the majority today are actually choosing the garbage heap over the garden? This issue of *Awake!* shows that, whether they realize it or not, this is the case. But it shows *how you can make a different choice and why that choice is still possible*. There are sound reasons for having confidence that this earth will become—not a global garbage dump—but an earth-wide park of refreshing beauty. You can live to see it.

Does that sound unrealistic? Is it optimism based on just a few cases where the ruining of the environment has been reversed? No, it is based on evidence that is more fundamental and more enduring than those temporary successes.

We need to understand clearly the real source of the problem. What is it? Most point the accusing finger at industry, technology or the population explosion. In this issue, you will see that the real cause goes much deeper and covers a far broader range.

But first, just how bad is the situation? Is it as grave as many scientists say? Can you, for example, personally solve the problem for yourself and your family by moving from a crowded city to an isolated rural area or some faraway isle?

DOES THE PROBLEM AFFECT YOU?

DOES the pollution problem really affect you? Well, do you breathe air, drink water and eat food? Do you care about the *quality* of your life?

Then it is already affecting you whether you realize it or not. This is so no matter where you live. True, the situation in the cities is worse than in rural areas. But the problem is now so widespread that all areas are affected to some degree.

What makes pollution such a worldwide problem is that it respects no national boundaries; it easily crosses frontiers. The air we breathe today may have been in use in another country a week or a month ago. Water flows from rivers and lakes into oceans where it is circulated to far-flung areas.

The American Medi-

cal Association says there is "overwhelming evidence that man-made water, air and noise pollution as well as maldistribution of solid wastes, insecticides, preservatives and other toxic materials are rapidly approaching the point where human and many other forms of life are threatened."

Ecologist Dr. Barry Commoner echoes these words by saying: "We have come to a turning point in the human habitation of the earth. . . . I believe that continued pollution of the earth, if unchecked, will eventually destroy the fitness of this planet as a place for human life."

How Soon?

Are such persons referring to something that may take place centuries from now? How many years are they talking about?

The Canadian Magazine of April 4, 1970, says: "Beautiful Canada will be dead in 10 years. Unless we start to save it today."

England's *Guardian* declares: "Within the next two decades, life on our planet will be showing the first signs of succumb-

ing to industrial pollution. The atmosphere will become unbreathable for men and animals; all life will cease in rivers and lakes; plants will wither from poisoning." And former U.S. presidential adviser Dan-



UN Secretary-General U Thant has said that the polluting of our environment is now so serious that, unless immediate steps are taken to correct this, "the very capacity of the planet itself to sustain human life will be in doubt"

iel Moynihan estimates that man may have less than a fifty-fifty chance of surviving until 1980.

Are these people 'calamity howlers'? Not at all. Many of them were optimistic years ago. In fact, as recently as 1962 much of the press and scientific community ridiculed Rachel Carson when she wrote her book *Silent Spring*, in which she predicted dire consequences from man's constant pollution.

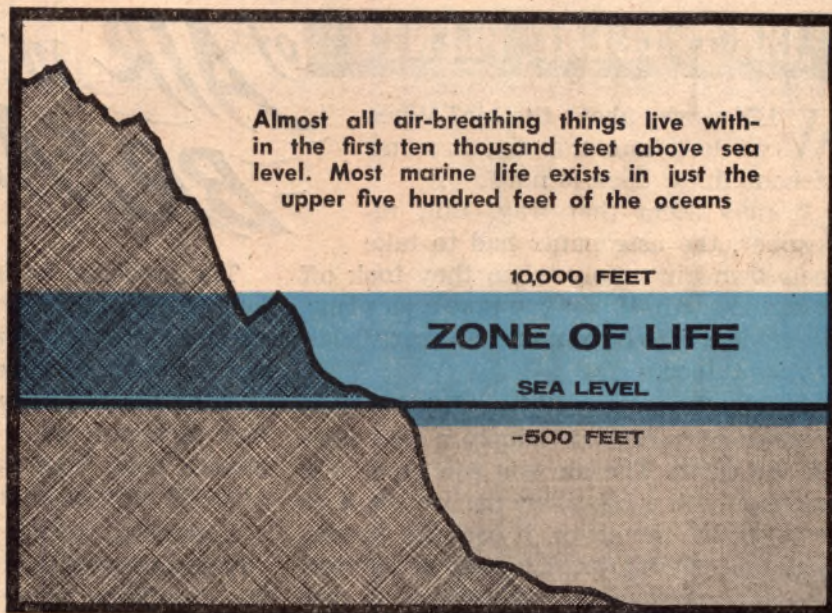
They no longer ridicule. Most of her predictions have come true. The cold, hard facts have forced scientists and the press to recognize the truth about what is happening. Man is indeed taking a course that could lead to his extinction.

The Thin Layer of Life

The earth still seems pretty big to most people. It measures some 25,000 miles at its circumference and its atmosphere stretches out some 600 miles into space. In the opposite direction, the immense oceans have trenches that go as deep as seven miles.

True. But actually we and the other living creatures and plants all live in what may be described as a very thin "envelope" girdling the earth. That thin "envelope" is called the "biosphere" because within it is found all earthly life known.

Calling it "very thin" is no exaggeration. Aside from a few floating spores and



bacteria, life exists only within the first five miles of earth's six-hundred-mile atmosphere. Actually, the far greater number of air-breathing things—humans, animals, birds and plant life—live within *just the first ten thousand feet* above sea level.

So, too, some life is found seven miles down on the ocean floors. But the vast majority of marine life exists in *just the upper five hundred feet* of the oceans. More than that, it is mainly concentrated along the "continental shelves," the shallower waters bordering the continents, as well as similar waters around islands.

The biosphere, then, is a twelve-mile life zone around the globe. Thin, indeed. But in reality, fully 95 percent of all life on earth is found in a far thinner layer *less than two miles thick*. Within that remarkably thin "envelope" circulate air and water that are used over and over again by earth's living things. Now consider what's happening to that air and water, as well as the land on which we live.

ISN'T THERE PLENTY

of AIR to BREATHE?

WHY worry about the air? When we look into the sky, it seems without limit, does it not?

It may seem that way. But, remember, the astronauts had to take their own air supply when they took off from the earth. When you take a jet plane, the cabin has to have its air level artificially maintained.

This tells us something. What? That there is no useful air supply a few miles off the earth. The air you can breathe is found only in a relatively narrow band directly above the earth. It contains the oxygen that is vital for all human and animal life. That narrow band of usable air is now in serious danger.

The Air's Self-cleaning Process

True, our earth's atmosphere has a wonderful self-cleaning system built into it. The air is like an ocean with tides and currents in the form of winds and shifting air masses. The smoke from a few wood fires, for example, is quickly dispersed and dissipated. Floating solid particles from the smoke in time are washed out of the air by rain and snow. What about the gases?

Our planet's air itself is, of course, a mixture of gases. Nitrogen forms about 78 percent and oxygen about 21 percent, the rest being minute quantities of argon, carbon dioxide, helium, and so forth. Remarkable processes work to keep that mixture free from change.

As *Time* magazine says: "With uncanny precision, the mixture [is] maintained by plants, animals and bacteria," which use and return the gases at equal rates. "The result is a closed system, a balanced cycle in which nothing is wasted and everything counts."

The precision is, indeed, amazing. Carbon dioxide, for example, forms only about one part in every *three thousand* parts of air by volume. When men and animals breathe air they use the oxygen and exhale carbon dioxide. But plants do the opposite. They take in carbon dioxide and give off oxygen, maintaining the balance.

Lightning shoots through the air and causes nitrogen to form a compound that the raindrops carry down to the earth. There plants use it to grow. The plants, in turn, are eaten by animals or they die and decay. Bacteria acting on decaying plants and animal manure release nitrogen back into the air. The cycle is complete.

Some gases released naturally can be dangerous in sufficient quantity—like the ozone you smell after a thunderstorm. But the air's self-cleaning system takes care of them, often within a few hours or days. They are flushed out through rain and snow, by their being extracted from the air by vegetation, or simply by settling slowly to the earth.

Well, then, what is there to worry about? Plenty!

How the Situation Has Changed

The evidence is that man is seriously tampering with this marvelous balance. It used to be that the atmosphere's self-cleaning processes could cope with pollution and keep the air pure.

But the situation now is that the input of pollution is moving ahead of the output of purified air. The "airsheds" over the

AWAKE!

United States, Japan, Germany and other countries are steadily filling up with gases and particles that cause overloading. The natural cycles are being pressured beyond what they can handle.

Today, all the air in the United States is considered polluted to some degree. Notice the findings of scientists as reported in the *New Haven Register*: "The last vestige of clean air the center noted in the United States was near Flagstaff, Arizona, but it disappeared six years ago when . . . air pollution from the California coast reached the northern Arizona city."

Biophysicist William Curby says that steady polluting has produced a huge cloud of floating filth hanging permanently over the entire East Coast of the United States. He says: "The loading rate of dirt particles over the East Coast is now ahead of the unloading rate."

And the fouling is earth wide.

Germany's *Der Spiegel* reports concerning that country's average: "The air pollution in the Federal Republic [West Germany] is already seven times as bad as in the U.S.A."

In Japan, Tokyo traffic police now spend only a few hours at a time on duty. Then they go to centers to breathe oxygen.

Cafés and arcades in Tokyo have coin machines that dispense oxygen for shoppers.

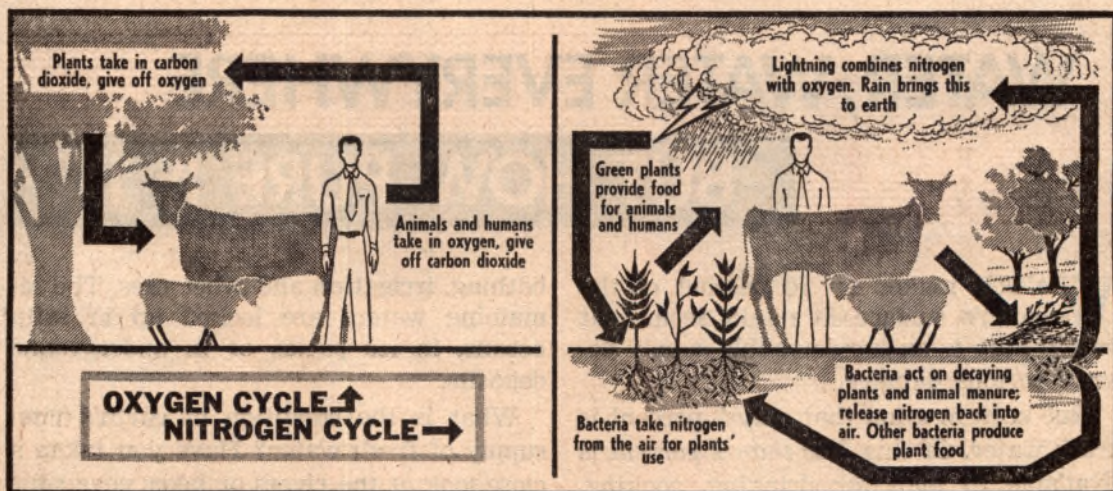
The situation is so serious that scientists at an atmospheric research center in the United States predict that, *at the present rate*, "in 10 to 15 years from now every man, woman and child in the hemisphere will have to wear a breathing helmet to survive outdoors. Streets, for the most part, will be deserted. Most animals and much plant life will be killed off."

"I Can't See Any"

Much air pollution is in particle form—soot and dust. The housewife wiping her windowsill can tell you about that. So can the man who cleans his car.

However, perhaps you live in an area where the skies are often blue. Little or no soot collects on your windowsills and car. You may feel that air pollution does not affect you.

Keep in mind, though, that most air pollution is *invisible*. You cannot see it. And much of the time you cannot smell it either. But make no mistake—it is likely there in the form of invisible gases, some of which are deadly poisons when absorbed in sufficient quantity. And regular-



ly breathing these even in small quantities will surely not help your health.

One of the invisible pollutants is carbon monoxide. It is colorless, odorless, tasteless—and deadly. If you were to run your car in a closed garage, the carbon monoxide would enter your lungs and bloodstream and suppress the ability of your red blood cells to carry oxygen. You would die of oxygen starvation.

Today millions of people in many cities are already suffering from oxygen 'malnutrition,' due mainly to the spiraling number of automobiles. According to one source, in just ten city areas of the United States, some 25 million tons of invisible carbon monoxide from automobiles are spewed into the air each year.

The atmosphere normally contains some sulfur due to ocean spray and volcanic gases. But scientists estimate that man's automobiles, power plants and home furnaces are now shooting some 73 million tons of sulfur oxides into the atmosphere every year. When the air is moist, these convert into droplets of sulfuric acid, and corrode metal, eat away at stone and marble, increase acidity in lakes and rivers, and damage people's lungs.

Scientific American magazine says that, under the influence of sunlight and the catalytic action of nitrogen oxides in the air, smog forms and hydrocarbons (normally inoffensive) that pour out from cars and factories are partly oxidized to form "peroxides" and "ozonides." The magazine adds: "These compounds are the most toxic air pollutants known. They will cause damage to plants in concentrations of one part in 10 million parts of air."

No wonder that bronchitis, asthma and all sorts of respiratory ailments are increasing rapidly. Emphysema is the fastest-growing cause of death in the United States, up 500 percent in the last ten years in New York city.

What can you do? Move to sunny, blue-skied Hawaii? But Hawaii now reports a doubling of respiratory diseases in the last few years. Why? Air pollution.

Surely there must be some remedy. The air was maintained pure for thousands of years with, as men say, "uncanny precision." Who saw to that? Might not he be the One to solve the problem?

But along with air, we must have water to survive. What situation do we find there?

WATER, WATER EVERYWHERE

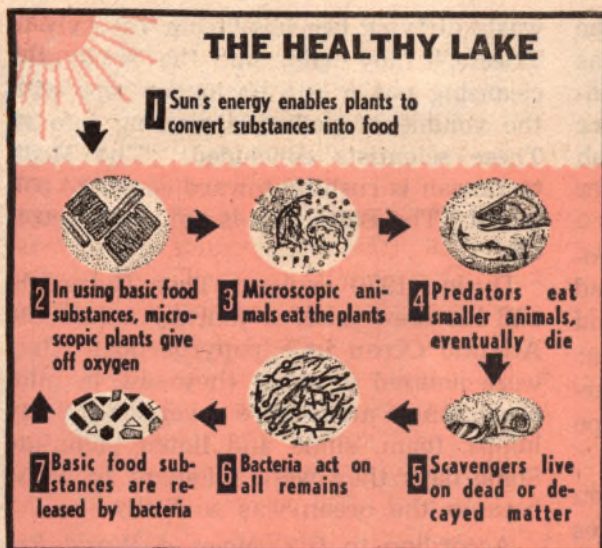
-BUT HOW PURE IS IT?

WATER makes up 70 percent of the earth's surface. It might seem that surely here is an inexhaustible supply beyond serious damage.

But keep in mind that only 3 percent is fresh water. Of this, *less than 1 percent* is available to man for drinking, cooking,

bathing, irrigation and other uses. The remaining waters are locked up in salty oceans, in ice packs, or in underground deposits.

What is the condition of earth's vital supply of fresh water? Have you taken a close look at the rivers or lakes near your



home lately? What you see may shock you.

What Is Happening to the Supply?

Estimates are that each day about 175,000,000,000 gallons of sewage and waste pour into the waterways of the United States. More than 50 percent receives only "primary" treatment, which does not remove most pollutants.

Dr. Jack Gregman of the Department of the Interior says: "Just about every stream in this country is polluted to some degree. Some now are beyond their capacity to handle waste." In July 1969, Ohio's Cuyahoga River became so loaded with oil and debris that it actually caught fire, damaging two bridges!

Rivers in other industrial countries are in a condition similar to those in America. Perhaps you have a picture in your mind from travel posters of the beautiful Rhine River in Europe. Today, along much of its length, the Rhine is acknowledged to be not much better than an open sewer. *Der Spiegel* says of the pollutants being poured into it: "If all of these substances were to be transported by rail then you would

need more than 3,000 boxcars"—each day!

Remarkable Ability to Purify

Man's use of streams as a sort of sink into which to pour waste is not new. Until fairly recently this created no great problem. Flowing water has amazing ability to purify itself.

When organic waste matter is dumped into a river, the motion of the water breaks up and dilutes much of the sewage. Then the river 'digests' the remaining particles by oxidation and by water bacteria that consume organic wastes, changing them into harmless, odorless compounds. Even the waters of a creek that show

strong pollution near a small town may be completely clean by the time they get just a few miles downstream.

Today, however, more and more of the earth's streams are suffering from 'indigestion,' becoming murky, scummy and foul-smelling. Why? They are being severely overloaded, taxed beyond their normal ability to purify themselves.

Appearances Can Be Deceiving

As with the air, you cannot always judge the purity of a body of water just by how it looks. That river or lake near you may look fairly clear, even blue. Yet it may be 'dying.' How so?

This is because of what is known as "eutrophication." This simply means being "overburdened with nutrients." Here is what happens.

Farmers today use tons of chemical fertilizers, rich in nitrates. Much of these eventually drains off into streams. Housewives use modern detergents, strong in phosphates. These, too, wind up in rivers and lakes. Then what?

This overdose of nutrients feeds an explosive growth of algae and other small

water plants. When the algae multiply, the sunlight does not penetrate the water as well. Deeper-lying algae die off. The abundant decaying matter now uses up more and more of the oxygen in the water. Fish sicken and die. In time the lake or river becomes virtually lifeless.

Lake Erie is an example of this suffocation. Worthwhile fish, swimming and clean water have all but disappeared. And the Providence *Sunday Journal* states: "This process of 'eutrophication' has overtaken at least 40 [major] lakes in Europe and the United States."

"Well, there's always Switzerland," you may say, "where one can still find lakes in beauty and health, untouched by man's carelessness." True, the lakes there still look blue and beautiful to most people. But the Swiss are seeing them change, slowly losing their crystalline purity. Lovely Lakes Zurich, Geneva and Neuchâtel are joining the ranks of earth's 'sick' bodies of water, seriously affected by "eutrophication." And a report from Germany says that Lake Constance "must be listed with the American Lake Erie, the Lago Maggiore [between Italy and Switzerland] and the Norwegian Oslo-Fjord as dying."

Mankind's Ultimate Garbage Dump

Most rivers and lakes eventually empty out into seas and oceans. One might feel that here, finally, is a water supply too vast to be in any real danger. In reality, earth's oceans and seas are also being polluted rapidly, the ultimate garbage dump for mankind.

Last December, the United Nations Food and Agriculture Organization invited four hundred scientists from forty maritime nations to discuss this problem. Scientists there expressed alarm about the Mediterranean Sea. Not only is human

waste dirtying beaches "from Tel Aviv to Trieste," they said, but the sea's self-cleansing power can no longer cope with the volume of pollution pouring into it. These scientists concluded: "The Mediterranean is rushing toward complete pollution." The Baltic Sea is not much better off.

During 1970 explorer Thor Heyerdahl and his crew made a journey across the Atlantic Ocean in a papyrus boat. They were amazed at what they saw in mid-ocean. Huge areas were covered with oily lumps, foam, slime and liquid pollution. Some days they were reluctant to bathe because the ocean was so filthy.

According to *U.S. News & World Report*, some environmentalists therefore warn that "unless governments move faster to curb pollution the oceans of the world will be as dead as Lake Erie by 1980."

Effect on Living Things

Fish 'kills' in rivers, lakes and oceans are so numerous now that many are hardly noted in the press anymore.

In the oceans, about 90 percent of the fish live in coastal areas. That is precisely where man is polluting the worst, through the discharge from poisoned rivers (some containing mercury wastes) and by oil spills or the deliberate flushing out of oil from ships. Dr. Max Blumer of Woods Hole Oceanographic Institution says that "man puts at least three million tons of oil a year into the oceans. The yearly total may run as high as ten million tons."

In one small area off Pensacola, Florida, more than thirty fish 'kills' involving millions of fish took place in a three-month period of 1970. In the North Sea recently a vast layer of dead fish was discovered. Several yards thick, it stretched out about 80 land miles (130 kilometers). The fish had been killed by pollution pouring into the sea from Europe's streams.

Pesticides, such as DDT and others, carried by the wind or washed off the land into rivers, end up in lakes and oceans. Many of these pesticides take years to lose their potency. Small marine organisms take in the pesticides. Larger fish eat small fish that eat contaminated organisms. Finally birds eat the fish. At each stage up the 'food chain' the insoluble pesticides concentrate. As a result many species, especially birds, are dying out.

One example is found on California's Anacapa Islands. There, of 500 mating pairs of brown pelicans, only one young was produced last summer due to pesticides interfering with their reproductive systems.

And keep in mind that pesticides have been found from pole to pole, in Arctic seals and Antarctic penguins!

Oxygen Supply in Danger?

Poisoning the oceans jeopardizes plant life as well. It is said that such plant life, particularly the plankton called diatoms, produce much of the earth's supply of oxygen—some say as much as 70 percent. Added to the beating being taken by plant life on land areas, man's oxygen supply from the seas could be threatened.

The problem is colossal. Yet there are also colossal forces operating to man's good. The sun draws up nearly 15,000,000 tons of sweet water from the salty oceans and other sources *every second*, and rain clouds pour out about the same amount on earth. Obviously a Source of power far greater than these put such forces and cycles into operation. We are wise if we look in that direction for relief.

WHAT IS HAPPENING TO THE LAND *That Grows Your Food?*

WHEN you walk through a field or forest, how many dead animals do you notice? Animal life abounds in such areas, and animals regularly die. Yet it is rare to see dead animals in fields or forests. Why? Because scavengers—insects, birds and animals—work to keep the earth clean. Microscopic organisms finish the job, decomposing all dead matter, turning it into plant food.

Given its opportunity, the natural creation will keep, not only the air and the water, but also the land clean for man to enjoy. But this is so only if man conducts his affairs in harmony with natural cycles

and laws. That is not being done at present.

Despoiling the Land

One way in which the land is being fouled is by the avalanche of garbage being dumped on it, particularly around cities.

The refuse pile for 1969 in the United States totaled about 250,000,000 tons, more than a ton for each person. Of this, about 60 million tons were not even collected. It was added to the nation's highways, streets, recreational areas and fields as filth.

Consider this partial list of what was thrown away in just one recent year in this one country:

7,000,000 automobiles
20,000,000 tons of paper
26,000,000,000 bottles and jars
48,000,000,000 cans

The problem is complicated by the fact that so much of the trash is not the kind that decays easily. Of the containers of glass, tin, aluminum, plastic and paper, only the paper and tin disintegrate fairly readily. The rest, especially the plastics, are largely "nonbiodegradable." That is, they are not easily assimilated into the earth's natural cycles that restore materials to their basic elements by decay or corrosion. So, they remain, making man's environment look like a garbage dump.

Is the problem unique to the United States? By no means. The German paper *Schwarzwald Bote* says: "The German Republic is slowly suffocating in junk, garbage and exhaust." The Toronto *Daily Star* reports: "Canadians will soon be wallowing in their own garbage unless 'dramatic and drastic' changes occur." Such is the condition in nearly every highly industrialized country.

Chemical Poisoning

The German magazine *Stern* says that "in the last 25 years about one and a half million tons of DDT have been sprayed onto the surface of the earth. That is about 75,000 freight train carloads of poison. . . . DDT dissolves very slowly. Of the 75,000 carloads, 50,000 are still highly active. These 50,000 carloads have . . . formed a poisonous veil that covers the entire earth."

Cows and animals used for meat eat vegetation containing DDT and other chemicals. So much of these chemicals has gotten into food and drink that many mothers who nurse their babies produce milk that contains more DDT than the law allows in

dairy cow's milk. A British scientist reports that British breast-fed babies consume at least ten times the recommended maximum of the pesticide dieldrin alone, and West Australians even more.

Today, instead of using manure and crop rotation to keep soil fertile, farmers use chemical fertilizers. But, as *Time* magazine notes: "Just as people get hooked on drugs, so the soil seems to become addicted to chemical additives and loses its ability to fix its own nitrogen. As a result more and more fertilizer has to be used." Crops are big, but the soil is steadily being robbed of its natural fertility.

The damaging effects of some chemical sprays are not easily traceable. In Germany, studies were made of the effects on potato and tomato plants by the most widely used chemical weed killer. The plants appeared to grow unaffected, their fruitage looked normal. Animals fed on their products grew normally. *But the offspring they produced did not.* As the writer in *Bild der Wissenschaft* states: "I wish to repeat. In the treated plants there were no visible damages. No visible damages were found in the experimental animals, but in their offspring there were." The plants had invisibly undergone molecular changes and produced changes in the animals that ate them.

The question now raised is, How do these chemicals affect humans?

Added to all the above, man has devastated the land by deforestation, strip-mining and overcultivation. Scientists calculate that it takes some five hundred years of vegetable and animal decay to produce just *one inch* of fertile topsoil. Yet man's carelessness has caused millions of tons of topsoil to be stripped off and blown away or washed into rivers and seas. Should we not instead show appreciation for this priceless heritage—and respect for the One who provided it?

THE TOTAL EFFECT

THE earth, and the human body, are marvels of construction. They can take quite a beating and survive. But there is a limit.

Perhaps no single factor of the many things mentioned above may be fatal in the immediate future. But when we consider the total effect of what the earth and life on it are being subjected to, the trend is crystal clear.

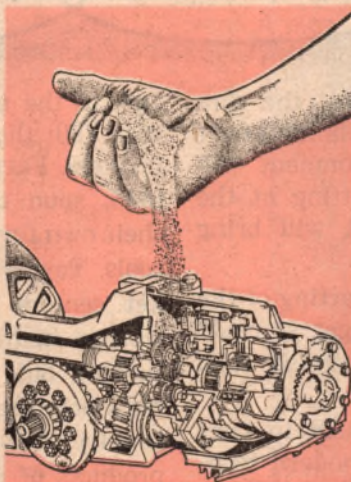
Damage to Human Body

If you had a delicate piece of machinery, throwing a grain of sand into it might not cripple it. But what if you threw a steady stream of sand, and gravel, into that machine? It would only be a matter of time before it broke down and ground to a halt.

Cancer researcher Dr. William E. Smith said that the intake of all the various poisons into the human organism "is not unlike throwing a collection of nuts and bolts into the most delicate machinery known."

The huge increase in chronic ailments shows that people all over the world are being affected as never before. Dr. Stephen Ayres, a lung specialist, told a reporter firmly: "There is little doubt that living in a polluted area is like taking a few years off your life. . . . While we are

animal life from man's polluting the environment is already obvious. The New York Times reports: "At the present time, more than 800 birds and mammals are threatened with obliteration." Does that matter to you? It should. Because when animals, birds and fish cannot live in an environment any longer, *then it is a clear sign that man himself cannot live in it much longer either.*



The intake of various poisons into the human body is like pouring a steady stream of sand into a delicate machine

Loss of Enjoyment

A person may not notice the gradual loss of physical health, energy or the enjoyment of life. But nowadays so many people, perhaps you too, complain of being tired all the time, of aches and pains and pressures. It seems as though they have to push themselves most of the time. The vitality and enjoyment of living do not seem to be there anymore.

Some authorities attribute much of this directly to the pollution problem. New York city air pollution officials said: "Apart from death and the more dramatic forms of illness, pollution can produce extreme fatigue, irritability, headache, and tension." That certainly seems to be the case.

Even if our bodies, and the earth, could

talking and researching, the problem is getting worse and many people are becoming sick from emphysema, lung cancer, bronchitis, and other respiratory diseases."

stand indefinitely the beating they are taking, is it really enough just to be surviving? What of the general quality of life? Do you find it pleasant to breathe air that you know is polluted, eat food that you know has been bombarded with chemicals, and drink water that may not be completely pure?

Do you find it pleasant to walk in a smog-stricken city with its 'concrete jungles,' rush, congestion and filth? Or do you find it more enjoyable to walk along

a clean beach, in a quiet forest, or out in the fresh air and sunshine of a country area? The answers are obvious.

Yes, the total picture of increasing pollution is most certainly affecting the quality of life. Most people simply are not enjoying it as much, and the health of many is being damaged. Worse yet, pollution is endangering life on this earth altogether.

Truly, the picture is quite shocking. But just how did it get this way?

WHY DID IT GET THIS WAY?

ALL the gloomy predictions, the dire warnings and bitter complaints about the ruining of human environment will not change matters. Only getting at the true cause and remedying it will bring relief.

How and when did the converting of the planet into a garbage dump get started? Why has it been allowed to reach such disastrous proportions?

Basically two things are held to bear the brunt of the guilt: (1) modern technology, the producer of big industry and rapid transportation, and (2) the population explosion. These are the *apparent, visible* causes. But beneath them is a more basic cause.

Let us see what has happened and how deep-rooted the problem really is.

Rise of Modern Technology

Most researchers relate the growth of pollution to the so-called Industrial Revolution. It began over two hundred years

ago, in the middle of the eighteenth century. Till then four out of five men were farmers. Farming families grew their own food, spun their own cloth, often made their own furniture and even many of their tools. Towns and villages were their market centers. There craftsmen lived and worked in their homes or in small shops, turning out metalwork (hardware), perhaps printing books and papers, producing jewelry, silverware, and better quality products of cloth, leather and wood than those the average farmer might make. With such products they could buy food from the farmers, or a merchant might buy their products and ship them abroad, obtaining in exchange foreign products viewed as luxuries.

Two factors in particular changed the structure of human society in many lands: capital and scientific invention (technology). But a third force spurred these factors to unite.

As *The World Book Encyclopedia* (1970 edition, Vol. 10, page 185) says: "The force that brought science and money together was probably the growing demand for the conveniences of life." At first it may have been relatively simple things, men desiring the tools that the newly invented machines could produce, women wanting machine-woven cloth. But as the flow of products grew, their desires grew with them.

The machines—spinning machines, weaving machines, steam engines, iron-producing furnaces, converters and rollers—were expensive. Only those few men with capital could buy them. Then they had to establish factories, preparing special buildings for their machines, hiring persons to be trained and employed at operating them. Investments were heavy and the investors were, of course, determined to realize good profits. As industries spread, men were drawn from farms, from private crafts in shops and homes and became factory workers. And factories tended to group together in cities where fuel and labor were cheap. The basic outlines of the pattern of pollution now become visible.

Time brought faster, more complex, more automatic machines that made earlier ones seem primitive. But they also required more power, larger quantities of fuel. More and more products that had been handcrafted were added to the list of machine products. Individual artisans steadily diminished in numbers. Smaller shops and industries had to keep up with the march

of technology or be ruined by competitors with faster mass production.

The invention of the steam locomotive and, later, the internal-combustion engine using gasoline added to the growth of industry. With faster and cheaper transportation, factories could expand their markets, send their products farther and farther afield, as well as bring raw materials and fuel from more distant points. Eventually huge industries developed, smaller ones often being squeezed out or absorbed.

All this growth was hailed as "progress." But such progress carried a very high price. It seriously affected the quality of human life.

Effect on Man's Environment

In the mushrooming industrial towns, factories often settled on choice locations, as by a stream or waterfront. Their waste products were flushed into the streams or dumped nearby. (The discharge of one factory may equal that of an entire town of 100,000 or more persons.) Mines producing the vital metal ore and coal gouged deeper and deeper holes in the earth or, by "strip-mining," leveled hills and scooped out large craters, leaving behind devastated areas that covered many square miles. Oil wells were later to have an even greater share in the polluting process. Train lines scarred hillsides and locomotives

puffed into the very heart of the cities, bringing smoke, grit and noise. People then generally found all these things initially exciting. Even when they ceased to be so, the people had



The Industrial Revolution drew millions from farms to work in factories



by then become accustomed, conditioned, to them.

The development of the use of fossil fuels—coal and, later, petroleum products (gasoline and kerosine)—played a major part in industrial progress. These fossil fuels were more easily transported, had greater power potential than earlier fuels (wood and vegetable oils). But, since they did not burn as completely, they released into the atmosphere greater concentrations of various gases—carbon monoxide, sulfur oxides, hydrocarbons, nitrogen oxides—as well as some solid particles. Belching forth from a few smokestacks or from home chimneys, they produced no notable damage. Only when their number multiplied many times over did the real danger begin to make itself clearly felt.

Thus, in such places as the Meuse Valley, Belgium, in 1930, in Donora, Pennsylvania, in 1948, and in London in 1952, periods of stagnant air or fog caused the insidious poisons of these gases to produce disastrous effects. By the third day of the smog in Donora, 5,910 persons were ill—almost half the town's population. During the week of the intense fog in London and the week following, the mortality rate ran higher by 4,000 deaths. Today, in major cities around the world the eyes of millions of persons smart, their lungs are irritated and cases of emphysema, bronchitis and lung cancer are on the in-

crease. They may not suddenly die. But their life-span is certainly being shortened.

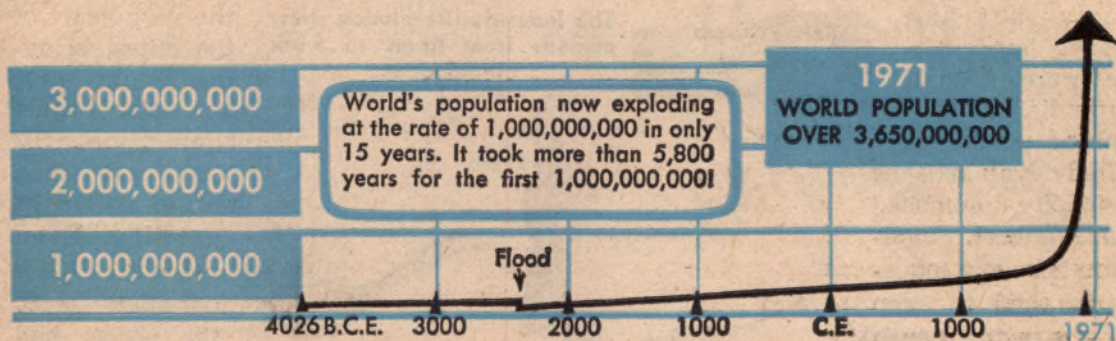
To all this must be added the extension of scientific technology into two other fields: agriculture and war. Farms, faced with dwindling manpower, have become mechanized and have used chemical fertilizers and pesticides. This has made crop yields high. But pollution has been just as high. The scientific development of war equipment, particularly that of nuclear bombs, has introduced the new danger of radioactive pollutants. From the end of World War II to 1963 over four hundred nuclear explosions were set off. Since the 1963 test-ban treaty some three hundred more have been set off underground. Defoliants today devastate vast forest areas in Southeast Asia.

Population Growth

Brings Pollution Growth

It took thousands of years for earth's population to reach one billion (one thousand million) in 1850. By 1930 it reached two billion. Today it stands at 3.6 billion and the estimate is that it will double within the next thirty years. The cities have received the bulk of this population growth. In 1740, England as a whole had only a little over 6,000,000 people. Today metropolitan London alone has more people than that.

This "population explosion" has aided



the Industrial Revolution in its striving for ever greater production, more gigantic operations. With more people, the demand for more power—in industries, homes and transportation—has grown. Burgeoning cities steadily took over more and more of the surrounding farmland. And the land bordering the new limits frequently suffered, either due to pollution or due to being farmed till it lost its fertility. Food had to be trucked in from greater and greater distances.

Suburbs developed as people sought relief from city deterioration. But this eventually added to pollution by increased use of private motorcars. Vast networks of highways developed, steadily spreading more and wider strips of concrete or asphalt over what was once green countryside. *Time* magazine says: "Each year the U.S. alone paves over 1,000,000 acres of oxygen-producing trees." Today, in São Paulo, Brazil, there is only about a half square yard of green area per person. As air travel grew, airports did their share in smothering over extensive sections of land, as well as adding to large-scale polluting of the air.

True, for a time some success was had in improving certain environmental conditions in industrial cities. Few cities today are like Manchester, England, back in 1843-1844, when, in one section, there was only one toilet to every 212 persons! Yet now we see a situation where, not just certain sections known as city slums, but the earth as a whole—land, water and air—is being made filthy.

"Consumer Society" Developed

Large-scale industry needs a constant market for its products. During the early stages of the Industrial Revolution depressions were frequent, for the new mass-production machines often caused supply to outpace demand. The big factories were not flexible and able to adjust to current demand like the earlier private craftsmen, who often knew two or three trades and

even did occasional agricultural work.

The "population explosion" only partially offset this problem. It has not been enough to satisfy the industries' ambition for constant "growth." So, manufacturers have sought to stimulate and foster demand. Advertising, also the periodic production of new styles or minor improvements that made older models seem less desirable, encouraged buying. The aim was not to supply what people needed as much as what they could be made to *want*. Articles were often designed to have a limited lifetime, thereby bringing more consistent demand over the years. Due to this "planned obsolescence," cheapness was often rated more important than quality and durability.

All of this has produced what is often called a "throw-away" society, one that uses products for a while and then discards them. To change this wastefulness would drastically affect the economy of many nations.

You can see, then, how an extremely complex, deeply rooted, problem has built up. It has come gradually, spread out over the life of many generations. Yet it all has one basic source. What is that?

- ***The Gulf Between the People and the Churches.***
- ***Will Home Sewing Help to Solve Your Problem?***
- ***Giants of the Northwest.***

—In the next issue.

Uncovering

the Basic Source

THE escalation of mass waste and mass pollution has continued right till the present day. But what is the *basic* source?

Is it human inventiveness? Not of itself, for men have invented things throughout human history. In fact, the Bible book of Genesis tells of men before the global flood like Jubal who "proved to be the founder of all those who handle the harp and the pipe" and "Tubal-cain, the forger of every sort of tool of copper and iron." (Gen. 4:21, 22) It is not man's inventive ability but the *misuse* of it that creates problems.

Similarly, the problem does not all lie with industry, for industry can come in all sizes. It is the *concentration* of industry and the *methods* of industry that have brought damage. But industry produces for people. So, basically, pollution comes from *people* and their wants. Do you live and work in an industrial city, or drive an automobile, or heat your home with coal or a petroleum oil, or use chemical fertilizers and pesticides, or use products with "disposable" containers—jars, cans, bottles? Then you contribute to the pollution problem.

The True Source

The true source of massive pollution actually lies in the *set of values* that men in general have accepted, the *way of life* and the *system* that has developed. *Mental* pollution has led to physical pollution.

Bigness has been viewed as a virtue. Speed, mass production and quick profit

have become the yardstick of success, glorified as the benefactors of mankind. As an Australian Senate committee reporting on pollution said: "Growth is still the national religion and development is its prophet."

Sunlight, fresh air, pure water, grass, trees, wildlife—well, all these may have to be sacrificed. But "progress" must go on!

Happiness has been sought in the possession of manufactured products, bringing a steady deterioration in human relationships and spiritual values.

True, many persons today are, as it were, "in a bind." They find themselves locked into a system that was not of their making. They feel helpless to change matters in their brief lifetime.

But what if the way were opened up to make such a change? How many would make it? Do you personally deplore the selfish materialism that has fomented the misuse of earth's natural elements? Most persons today inwardly prefer a materialistic way of life, only wishing that somehow the unpleasant consequences could be avoided. They may not have originated the pattern of pollution, but they prefer its perpetuation because of the so-called "benefits" that pattern produces.

Danger from the "Developing" Nations

We see that a society quite different from that prior to 1750 has developed in many lands. And those lands that have not developed along such lines have found themselves at an ever greater economic

disadvantage in their relationships with the "progressive" nations. Their national currency is worth comparatively little on the international market.

Now the "underdeveloped" nations are striving anxiously to join the ranks of the "progressive" nations. The people in such nations crave the products that others have. This can only compound the problem for the earth. Why?

Because the average person in an industrial society creates many times more pollution than persons in an agricultural society. According to Dr. Paul Ehrlich: "Each American child is 50 times more of a burden on the environment than each Indian child."

Why So Little Concern Till Now?

Why has the situation been allowed to reach crisis proportions? The Australian Senate Select Committee on Water Pollution isolated two basic factors, saying: "Behind most pollution problems lie the twin factors of ignorance and inertia." Or we might say, ignorance and *apathy*.

The early technological scientists did not foresee the massive effect their labor-saving, mass-producing inventions would have on human living conditions. The early industrialists may not have realized the degree of poisoning that would result from their large-scale use of fossil fuels nor the limited capacity of rivers, lakes and even oceans to absorb the waste dumped into them. The people who coveted the early laborsaving devices and helpful equipment originally were seeking to lighten somewhat the load they bore. They did not deliberately set out to destroy their environment. But neither were they particularly concerned when the damage became more evident.

Author Lewis Mumford says of the calous viewpoint the industrial society de-

veloped: "To pay attention to such matters as dirt, noise, vibration, was accounted an effeminate delicacy." He relates that when Scottish inventor James Watt wanted to improve his design of the steam engine so as to reduce its loud noise, the manufacturers of England prevented Watt from doing so. Why? They liked the audible evidence of *power* the noise gave! A modern industrialist in Germany showed that the attitude has changed little. As reported in *Der Spiegel* of September 14, 1970, when interviewed about the polluting of the Rhine, he expressed some concern over the death of fish, but said, "Bathing, fishing and romance—a bunch of baloney!" To sacrifice these things was simply the "price of progress."

Getting at the root of the problem, ecologist Barry Commoner states: "The earlier depredations on our resources were usually made with a fair knowledge of the harmful consequences, for it is difficult to escape the fact that erosion quickly follows the deforestation of a hillside. [And it takes only common sense to realize that if you load a stream with garbage it will affect people downstream.] The difficulty lay not in scientific ignorance but in willful greed."

There is still ignorance, of course. Scientists admit they still do not know the full effects of many of the chemical combinations being spread into air, land and water. This ignorance is dangerous. But apathy to that danger, an apathy rooted in human selfishness, "willful greed," has prevented any real halt or even a slowdown in technological development of new devices and chemical products.

What hope or remedy is there then? What of the success had in some areas in rolling back the poisoning of the environment? Can it lead to full relief?

CAN MAN SOLVE THE PROBLEM?

IT IS one thing to know what the problem is and how it got here. Solving it is something else.

Can it be done? Well, a healthy human body can heal a wound if given decent care. So too the earth can heal its wounds if given the right kind of care.

But man *must* work in harmony with the natural laws already set up for this earth. Those laws will not change. Man has to. There is no other choice at all.

What, then, are the prospects that man will bring himself back into harmony with the earth?

The Prospects

A few streams, a lake here and there, the air over a few cities—that is the extent of success man has had in trying to reverse the disastrous trend. What of the overall situation?

Facing the overall situation realistically, there is little ground for optimism. For example, look what happened in New York city. Back in 1955 its air pollution commissioner predicted: "In 10 years, our city will be a good place to inhale in." A researcher also predicted: "By 1965 the air breathed by a man crossing 42nd St. will be as fresh as the air in a Swiss mountain pass."

Persons living in New York city today would call those predictions ridiculous. New York air is so heavily polluted now that much of the time it is rated either 'unsatisfactory' or 'unhealthy.' Those optimistic predictions were not based on reality.

James Skehan, an official of Boston College, gave this realistic appraisal: "Getting the earth back to an acceptable level of pollution is going to be about as difficult as stopping all the wars that ever were or ever will be." Has man stopped war? No. In 1969 the Norwegian Academy of Sciences calculated that since 3600 B.C.E. the world has had only 292 years of peace, but 14,531 wars that killed hundreds of millions of people. And our century has seen the worst ever.

Can Laws Do It?

Can new laws, or better enforcement of laws, stem the tide? Without doubt, they can help. But late in 1970 *U.S. News & World Report* noted that air and water pollution in the United States was increasing "in spite of stricter regulations and substantial expenditures by government and industry."

A much-publicized new law in the United States affects automobiles. After January 1, 1975, carbon monoxide and hydrocarbons in exhausts from new cars must be reduced by at least 90 percent compared to 1970 models. After January 1, 1976, nitrogen oxides must be reduced at least 90 percent also.

While that is encouraging, note what Russell Train, presidential adviser on environment, says: "We do project that pollution from automobile exhaust will be on a downward curve until about 1985. After that, even with the most pollution-free internal-combustion engine that we can now foresee, the sheer growth in numbers of

cars will start the curve going up again."

Recycling Material?

A sensible suggestion to cut down on land pollution is to recycle, that is, to re-use material instead of throwing it away.

At present in the United States less than 10 percent of textiles, rubber and glass are reused. Only 20 percent of paper and zinc, 30 percent of aluminum, and about half of copper, lead and iron are reused. The increasing production of all those things, then, comes primarily from new sources, such as new cotton, wood and ore.

Why is not more material recycled? One reason is illustrated by a company that separates garbage and sells the materials. *The Wall Street Journal* comments about the owner: "He's losing \$2 a ton on each ton of garbage he handles because he can't sell most of the materials he salvages." An example: of 1,200 tons of paper he reprocessed, he could sell only 200 tons. Nobody wanted the rest.

Will the People Do It?

Whatever the remedies proposed, they all boil down to one fundamental fact: for success, the overwhelming majority of people must apply them. Is that likely?

Audubon magazine reported that a soft-drink company marketed 600,000 cases of returnable bottles in the New York city area. Each bottle returned would bring a cash payment. But in six months the bottles were all thrown away. The people of New York had forfeited \$720,000 in deposits! They did not want to bother returning bottles.

To avoid air pollution in cities from too many automobiles, it is proposed that cities build rapid-transit systems—such as fast trains taking commuters to work and eliminating their cars. But of this, Mitchell Gordon says in his book *Sick Cities*: "A

recent survey of Chicago commuters revealed that only 18 percent of them would forsake their automobiles even if the transit rides were free." He also said: "Half of them still would not make the trip in a public conveyance if they were paid 35 cents every time they stepped aboard."

Will people at least cooperate by not littering, that is, throwing rubbish where they should not? Ted Keatley, a New York State Fish and Game Association official, wearily said: "I can't think of anything to stop the litterbug. The last resort is appealing to his self-respect, but I haven't much hope in that area, either."

Obviously a great change in attitude is required on the part of people. Yet, in *The Unheavenly City*, author Edward Banfield comments: "How is such a change to be brought about? Until the means are specified, this 'solution' must be dismissed as utopian. . . . The fact is, however, that no one knows how to change the culture of any part of the population."

To illustrate the difficulty, there is the case of the television reporter in Florida who exposed the heavy polluting by a certain company. Soon, he received phone calls from employees of the company threatening him bodily harm if he did not 'lay off.' They were afraid they would lose their jobs if the company closed down.

So while many people may talk about stopping pollution, the vast majority are more intent on their own selfish pursuits, not wanting to give up any of their advantages for the sake of others.

Thus, while much talk goes on, the problem worsens, as industrialization increases and earth's population 'explodes.' And those in a position to know admit they do not have the answers! For instance, specialists at Hawaii's Department of Health say: "There are no easy answers in sight. . . . at present, no acceptable alternatives exist."

What Would It Really Take?

In reality, man's solving the problem would call for dismantling the modern industrial way of life to a great extent. It would mean permanently reversing the trend toward further industrialization.

Is that likely to happen? Will people all cooperate to give up a goodly portion of the conveniences, products, money and pleasures now enjoyed in an industrial society, exchanging these for clean air, water and land? Well, have they ever cooperated together to rid the earth of war, prejudice, crime, poverty, hunger? Has everyone stopped smoking cigarettes, selling them, or producing tobacco for them because they are proven killers? Have people given up fornication because venereal disease increases?

So do you really think that government, industry and the common man will have a sudden change of heart on a mass scale and reverse the direction of the industrial way of life? Dr. Rene Dubos, a pollution authority, says: "In my opinion, there is no chance of solving the problem of pollution—or the other threats to human life—if we accept the idea that technology is to rule our future."

The experts are truly at their wits' end. What, then, is really needed? The publication *Let's Live*, of March 1970, suggests: "It would appear that the genius of a Solomon is required to solve all the pollution problems of our time."

Is such genius available? Just what is the solution?

HOW WILL OUR EARTH BECOME

I F PLANET
Earth is to become a garden home for mankind, how will it come about and who will make it possible?

What do those who have intensively studied the environmental problem feel would do the most to correct it? Listen to what they say:

"Basic to all solutions is the need for a new way of thinking." "The biggest need may be a change in values." (*Time* magazine) "We need new attitudes . . . those of a mature responsible society."—Russell E. Train, presidential adviser on environment.

Again and again the theme stands out: there is a need for a change in people's thinking, their attitudes, their set of val-

A Garden Home?

ues. But another theme runs along with this—the need for global supervision, guidance and control. Listen:

"We need a policy and plan that covers our entire planet and extends to the utmost of human capability into space and time." (Charles A. Lindbergh) 'A whole new system of world controls must be devised' was the conclusion reached by many well-known scientists in convention at Aspen, Colorado.—*New York Times*.

The Solution Foretold in the Scriptures

'A human society with a new set of values and changed thinking, governed by

a new system of world controls'—do you realize that that is exactly what the Bible long ago promised and foretold? Yes, with this major difference: these things will come, not by man's power and ability but *by God's power and direction*.

Surely if over the years and centuries men have demonstrated themselves unable to solve their problems (of which pollution is only one of the more recent), is it not being realistic and practical to look elsewhere? If they cannot solve their problems on a small scale—in their own countries, states or even cities—why keep on blindly hoping that somehow, someday, they will solve them on a global scale?

The earth itself, with its marvelous ecological systems, bears convincing testimony to the existence of an all-wise, all-powerful, loving Creator. Certainly he can provide the needed guidance and direction to straighten out matters here on this deteriorating planet. He gives his solemn promise to do just that. By what means?

In the Bible we find God's promise of a 'new heavens and a new earth in which righteousness is to dwell.' (2 Pet. 3:13) "New heavens" and "new earth" are used figuratively in the Bible to describe a new heavenly, spiritual rule and a new earthly, human society. This is really what persons pray for when they repeat Jesus' words: "Let your kingdom come. Let your will take place, as in heaven, also upon earth." (Matt. 6:10) The Bible shows that God's kingdom by his Son will, indeed, bring in a 'new system of world controls' that will meet all mankind's needs.

Thus, the inspired apostle wrote that

With all their studies and research, scientists still do not understand fully how earth's "ecosystems" (the biological relationships on which life depends) work. "Time" magazine says of these ecosystems: "Even the simplest is so complicated the largest computer cannot fully unravel it."—February 2, 1970, p. 62.

God has purposed "an administration at the full limit of the appointed times, namely, to gather all things together again in

the Christ, the things in the heavens and the things on the earth." (Eph. 1:9, 10) Ever since man's rebellion in Eden there has been a disharmony between man and his Creator that has been at the root of all human prob-

lems. God's kingdom will eliminate this disharmony.

Why Drastic Measures Are Necessary

Will all persons voluntarily submit to the rule of God's kingdom and the carrying out of God's will for this planet Earth? The Bible realistically shows that not all will.

Christ Jesus warned that, "just as the days of Noah were, so the presence of the Son of man will be." Bible history shows that in Noah's time "the earth came to be ruined in the sight of the true God and the earth became filled with violence . . . because all flesh had ruined its way on the earth." Back then, men were ruining the earth by their moral corruption and violence, making the earth unclean and repugnant in God's sight. Yet the majority of them preferred to risk the violence and put up with worsening conditions because they preferred the existing way of life, preferred it to submitting to the righteous will of their Creator. The global flood wiped out the God-defying generation of that time. But the earth, though completely submerged in water for a time, survived, as did a small remnant of mankind and animal life.—Matt. 24:37-39; Gen. 6:11-21.

Today, men are ruining the earth, not only in a moral sense, but also in a physical sense by their wanton polluting of its basic systems and by their callous disregard for the damage done to earth's plant, animal, fish and bird life. Will the Creator let this continue?

The prophecy recorded at Revelation 11:18 gives the answer. It foretells the coming of God's appointed time to execute judgment on opposers and *"to bring to ruin those ruining the earth."* We are now face to face with the fulfillment of that prophecy. Certainly we see the predicted 'ruining of the earth.' And just as certainly we will shortly see God's action to "bring to ruin" those responsible for the damage.

A Righteous Solution

Does this sound too severe? But what judgment would you say a person merits who willfully and for selfish gain introduces small amounts of poison into his neighbor's food and drink until finally the neighbor sickens and dies? Though the process might take years, would it not still be murder?

That is what pollution is doing to millions today.

The German magazine *Der Spiegel* (October 5, 1970) recognized this parallel, saying: "For the most part the dangers are invisible, unnotice-

able, insidious—like murdering one's husband with a daily dose of arsenic in his morning coffee."

A physician in Frankfurt, Germany, comparing his city with Vietnam, said: "There they shoot the lead into people's ribs, here they have to inhale it. The difference, if you get right down to it, is just the manner of administering it."

And remember—in the face of all the mounting evidence people can no longer plead ignorance of the deadly effects of this process.

Those who prefer to see the present system and way of life continue show neither love of God, the Creator, nor love of man, their fellow creature. By gradually converting the earth into a huge garbage dump, men are showing gross disrespect for earth's Maker.

So, too, God's Son stated: "Do not two sparrows sell for a coin of small value? Yet not one of them will fall to the ground without your Father's knowledge." (Matt. 10:29)

But today men are wiping out entire varieties of birds, as well as other land and marine creatures.

By all this they are making a mockery of God's creative works. The Bible rule applies: "Do not be misled: God is not one to be mocked. For whatever a man is sowing, this he will also reap." (Gal. 6:7) Hav-



God's kingdom will cleanse the earth of all harmful pollution, transforming it into a global Paradise



ing sown death and destruction, they deserve to reap the same. God has promised that they will.

A Cleansed Earth in Our Day

What are we saying then? Is God going to wipe out all human life on this planet, possibly burning up the whole earth in the process? Some religions present that idea. But when they teach that they contradict the Bible.

As Revelation 11:18 shows, God takes action, not to ruin the earth, but, to the exact contrary, to put a stop to its being ruined. Just as a man does not need to burn down a house to rid it of dirt and roaches, so God does not need to destroy the earth to rid it of pollution and polluters. As in Noah's time, the earth needs to be cleansed of those befouling it. An entire world system founded on selfishness must be removed.

Destruction this time will come, not by a watery deluge, but, as Jesus foretold, by a "great tribulation," paralleling the destruction that devastated ancient Jerusalem. He said the destruction would be one "such as has not occurred since the world's beginning until now, no, nor will occur again. In fact, unless those days were cut short, no flesh would be saved; but on account of the chosen ones those days will be cut short." (Matt. 24:21, 22) Among the "pangs of distress" leading up to that "great tribulation" there were prophesied to be:

"Wars and disorders . . . great earthquakes, and in one place after another pestilences and food shortages."—Matt. 24:6-8; Luke 21:9-11.

These are the very things that have been making the newspaper headlines during all this present generation, plus now the 'ruining of the earth' by global pollution. This fulfillment of prophecy gives

sound basis for hope that the time is at hand when man's disrespectful converting of the earth into a vast garbage dump will be brought to a swift and decisive end, as God brings the foretold "great tribulation." That tribulation will be climaxed by the 'war of Armageddon'—not some international battle fought with defoliants, nerve gases and hydrogen bombs with radioactive fallout that leaves the entire planet devoid of all life—but a righteous war in which God's own Son and his heavenly armies will be victorious, to the blessing and liberation of all those loving righteousness.—Rev. 16:13-16; 19:11-18.

Then God's kingdom will cause God's will to take place, "as in heaven, also upon earth." The Bible record states that, when God created the first human pair, he gave them a garden home in the region called Eden. And he gave them the mandate: "Be fruitful and become many and fill the earth and subdue it, and have in subjection the fish of the sea and the flying creatures of the heavens and every living creature that is moving upon the earth." (Gen. 1:28) This was no license for man to exploit the earth to the point of ruining it. For Genesis 2:15 states: "And Jehovah God proceeded to take the man and settle him in the garden of Eden to *cultivate* it and to *take care of* it," not to pollute and ruin it. So God's command was that the earth should be comfortably populated and brought into a parklike state earth wide. The heavenly government of his Son will oversee the earthly activity of all who survive the Armageddon war to assure that God's purpose is carried out.

A Far Richer,

Healthier Life Made Possible

This clearly does not mean that the earth is due to become one vast wilderness region. Nor does it mean that all persons

will necessarily live in log cabins, cook on stoves fueled by wood, illuminate their homes in the evening by lanterns burning vegetable oil, or use just the crudest of tools. But it does mean that whatever inventions and power sources are used, they will be used in such a way as not to bring damage—to the earth or to those living on it. Love of God and of neighbor will assure that. In fact, it will be because they have changed their thinking, attitudes and sense of values to conform to God's standards of love and righteousness that these persons will be granted survival through the Armageddon destruction.

Today man's use of power dirties up the earth. But there are many clean sources of power. The sun has always been the prime natural source of power for the whole earth, its energy making possible the chemical changes in plants that form the basic means of sustaining all life. Solar energy today is used to power satellites, and to provide heating for homes even in midwinter. A giant mirror was built in France to form a solar furnace and its rays when focused can produce temperatures up to 5,400° Fahrenheit, capable of burning a hole through a thick piece of steel.

Other clean sources of power are wind, flowing water and ocean tides. In today's mass-producing, power-hungry, speed-conscious system there has been little interest in such old-fashioned power devices as windmills, waterwheels and similar picturesque and nonpolluting equipment. Use of animals, such as the horse, the water buffalo, the elephant, are deemed suitable only for the "underdeveloped lands."

But God's Kingdom rule will not only bring liberation from the present system massively committed to methods that pollute; it will also open up the way to perfect health and everlasting life. No longer faced

with the pressure of a short life-span, persons will then be able to savor life without the frantic urgency and tension that characterize what men today call the human "rat race." With eternal life, rightly motivated and with the guidance of Jehovah God, the Supreme Scientist of the universe, who knows what the subjects of God's kingdom will then be able to develop in the way of clean sources of power for human use?

In pre-Industrial Revolution times, even when men labored together in a small shop they could converse, enjoy pleasant companionship while they worked, perhaps even exchange friendly greetings and bits of news with passersby. They generally knew and were known by the customers they served. They could rightfully feel a sense of personal satisfaction and justifiable pride in turning out high-quality, long-lasting products. The modern Machine Age has undeniably robbed men of much of these pleasures. The fast-moving machines inflexibly demand that the operator keep his eyes glued to the machine as he silently repeats the same motions thousands of times. Often the case is that the bigger the operation the more impersonal and dehumanized is the worker's position, to the point of his feeling like the familiar "cog in a wheel," serving people he seldom sees or knows.

Certainly God's government will restore the enjoyable variety of life and work that is so often lacking today. Quantity will no longer be rated above quality. With the spirit of competition replaced by the spirit of cooperation, men will cease striving to outdo each other for selfish gain. For love "does not look for its own interests" (1 Cor. 13:5), and Christians are exhorted to do "nothing out of contentiousness or out of egotism, . . . keeping an eye, not in personal interest upon just your own

matters, but also in personal interest upon those of the others." Their King, Jesus Christ, set them the example in this.—Phil. 2:3-8.

Bible prophecies once fulfilled on ancient Israel (following years of Babylonian restraint) will see even greater fulfillment during the reign of God's Son. As Isaiah 65:21, 22 states: "And they will certainly build houses and have occupancy; and they will certainly plant vineyards and eat their fruitage. . . . For like the days of a tree will the days of my people be; and the work of their own hands my chosen ones will use to the full." And Micah 4:4 says: "And they will actually sit, each one under his vine and under his fig tree, and there will be no one making them tremble; for the very mouth of Jehovah of armies has spoken it."

These prophetic pictures of peaceful life have agricultural overtones. This, of course, does not rule out completely all community living under the rule of God's Son. Yet we may be sure that, whatever size communities may then attain, they will never develop into anything like the modern monstrosities that crowd people into cramped quarters in rows upon rows of multi-storied buildings, robbing them of sunlight, fresh air and privacy, surrounding them with noise, frustrating traffic problems and other sources of irritation—all for business profit and industrial exploitation.

What a blessing to be able to walk down pleasant lanes edged with grass and ferns, shaded by the leafy arms of trees, or cross through a rolling meadow, with white and gold daisies waving in the breeze, or duck under a wooden fence and head into a nearby woods, walking in its deep, cool shade on a carpet of leaves, catching glimpses of the sun high above in an azure blue sky. How relaxing and pleasant to hear the sounds of earth's creation—the melodious call of birds, the occasional hum and buzz of insects, the chatter of a squirrel, the sound of a gurgling brook, of the wind as it whispers its way through the trees!

These things were originally to have been the inheritance of all persons. They are God's gift. Do we *really* want them? What are the changes each one of us must make if we would enjoy life in an earth-wide park for all time to come?



Why do people like to get out of the city into the open country and walk along a pleasant lane? Because the Creator placed such a desire for the natural creation in man's heart

What Should You Do?

TODAY the problem of pollution affects each one of us to some degree. In the near future God's permanent solution to the problem will affect us even more. It will have a direct bearing on the continued existence of every person on this earth, including you.

In view of this, what should you do? There are two things to consider. The first is what you can do now to reduce the problem of pollution. Then there is the far greater consideration: what you can do to survive the end of this system of things and live in the paradise that God will bring to this earth.

What Can You Do About Pollution?

There are many practical things you can do to cut down on pollution.

A chief offender is the automobile, especially as to air pollution. Even if you buy unleaded gasoline your car will still emit pollutants, particularly so if you fail to keep it tuned up. Cutting down on unnecessary trips, joining with others in a 'car pool' can greatly reduce your share in pollution.

Keeping home furnaces in proper working condition will also help. And what of the many people who complain about the air pollution but then pollute their own lungs (and those of others) by smoking cigarettes? How consistent is that?

You can help keep down water pollution by not using water unnecessarily, not wasting it. For laundering, you may be able to purchase cleaning products that are "biodegradable" and largely free from phosphates, a major pollutant.

As to the land, where do you throw your waste? You may not realize it, but

your entire thinking on the problem of pollution can be reflected by what you do with rubbish, including minor items like paper napkins or small wrappers. True, you cannot make others properly dispose of waste and keep streets and parks clean. But by what you do with waste you show whether you respect other people, their property, or even your own.

These few suggestions may seem very small compared with the vast problem that exists. This, of course, is true. Whatever you do to avoid polluting will not affect the overall picture greatly. Yet doing what your circumstances allow for is important. Why? Because it shows you have respect for the Creator and his creation. The psalmist long ago wrote: "To Jehovah belong the earth and that which fills it." —Ps. 24:1.

In God's new order, polluters will likely be called to account, since that is what happened in ancient Israel when under God's rule. The camp of Israel was to be kept clean in all respects, morally and physically. Pollution by improper disposal of sewage was not permitted. That was God's way of dealing with his people in times past, and that will likely be the way he will deal with his people in his promised new order. (Deut. 23:10-14) Surely all those living will then be required to work in harmony with his laws governing the natural creation. Will he want you in that new order?

The Greater Consideration

Commendable and desirable though they may be, your efforts at reducing pollution will never change the course this world is taking. Only action by God can do this.

His clearly stated purpose is "to bring to ruin those ruining the earth." (Rev. 11: 18) Without fail he will cleanse this earth of both mental and physical pollution and polluters.

You are therefore faced with a choice. Will you prefer and seek to find your happiness in the present system that men have developed and that—to put it bluntly—is making a mess of the earth? Or will you show that you are not in heart harmony with this selfish system, that you sincerely want to do what will bring honor and praise to earth's Grand Creator? Will you put your trust in human technology and governmental programs to solve the problem, or will you look to the all-wise Sovereign of the universe, Jehovah God, and to his kingdom by Christ Jesus?

Men did not foresee the catastrophic results of their innovations and ways. God did and he foretold it in his inspired Word, the Bible. Men, *especially* scientists, are gravely concerned as to finding a way out of the global dilemma. God's Word gives the one sure hope for a happy future. How much wiser and infinitely more realistic it is for us to look to God for relief rather than to fallible, dying men!

How You Can Demonstrate Your Choice

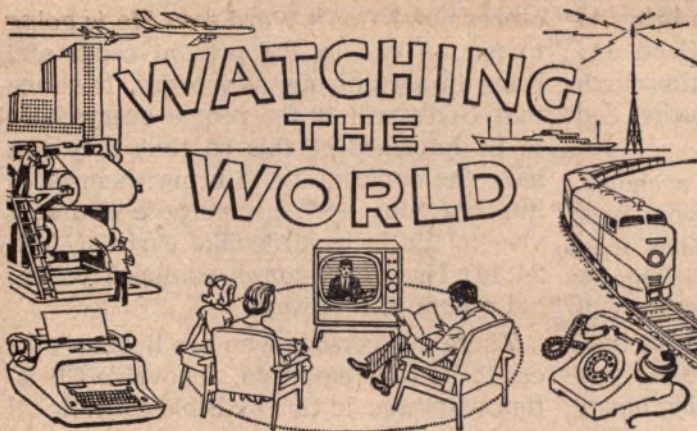
How can you show that you have put yourself in harmony with the Creator in this matter? You may say, "But I go to church." Perhaps so, but as we have seen the key to a pollution-free earth is love and consideration for others. The Bible tells us that: "He who does not love his brother, whom he has seen, cannot be loving God, whom he has not seen. And this commandment we have from him, that the one who loves God should be loving his brother also." (1 John 4:20, 21) Again, you may say, "But I do love my neighbor—I try to do good to others." Well, what is the greatest good that you can do for

others now? God's Word says He is going to put an end to the present order and bring in a righteous new order. It states that God's will is for people everywhere to be informed of this so that they can have the opportunity to bring themselves into harmony with his purpose and survive to life in a gardenlike earth. (Matt. 24:14) Has your church equipped you to aid others in this way?

There are persons who are helping others to be thus equipped. Jehovah's Christian witnesses do this by Bible educational work in the homes of the people all around the earth. Simply by writing to the publishers of this magazine, you can also receive such free Bible instruction in your own home. What will it mean for you?

Taking in knowledge of God's Word will help you to combat the mental pollution so prevalent today. People are bombarded by this world's propaganda, its appeal to materialism, immorality, its confusing theories and vain promises of imperfect men. All of this can turn a person's mind into a garbage dump. But by taking in God's thoughts, learning his ways, you can begin transforming your mind into a garden spot, in which the fruits of God's spirit flourish. (Gal. 5:22, 23) The Bible counsels in this regard: "Quit being fashioned after this system of things, but be transformed by making your mind over, that you may prove to yourselves the good and acceptable and perfect will of God."—Rom. 12:2.

Learn now God's purpose for our day and the part you can play in that purpose. Thereby get a "firm hold on the real life," eternal life in a paradise new order where never again will man threaten to turn this earth into a garbage dump. (1 Tim. 6:19) Yes, under the direction of God's kingdom, share in converting this earth into a global garden, to the delight of honest-hearted persons throughout all eternity.



"Last War"?

◆ After stating that the Vietnam war was in the process of ending, President Nixon said: "In fact, I seriously doubt if we will ever have another war. This is probably the very last one." Long ago another American President, Woodrow Wilson, said that World War I was "a war to end war."

More Madness

◆ After a bomb blasted part of the Capitol building in Washington, D.C., columnist Stewart Alsop commented: "One begins to wonder if even the end of the [Vietnam] war will end the epidemic of irrationality in this country. The mad, like the poor, we have always had with us, but there seems to be more of them today than ever before, and their madness seems to be a disease that feeds upon itself."

Technology Alienating Mankind

◆ Modern society, with its emphasis on technological progress and making money, is alienating people from one another, said Dr. Wilson Head, Canadian social science professor. He stated that in spite of affluence, people are not happy, and added: "We're directionless, rudderless and not sure where we're going."

Land Ruined

◆ The Atomic Energy Commission said that nineteen years of nuclear explosions at its Nevada test site have rendered an area of 1,350 square miles unfit for public use in the foreseeable future.

Nuclear Waste Increasing

◆ Atomic power plants generate dangerous radioactive wastes, which are stored in underground tanks. But some tanks are expected to corrode in about twenty to thirty years, though the wastes within them can remain deadly for centuries. Already tank failures and accidents have released hundreds of gallons of such waste into the ground. Arthur Tamplin of the AEC stated: "We really don't know what to do with wastes today. We haven't devised the systems. And we're starting to produce wastes at an ever-increasing rate."

Clam Beds Polluted

◆ At present, federal pollution-control laws apply within a three-mile limit along the east coast of the United States. But much sewage from large cities is taken by barge beyond that and dumped in relatively shallow water. In one area twelve miles off New Jersey, this has caused such pollution that the government forbids clams to be taken in a twelve-mile circle of ocean there.

Orbiting Trash

◆ About 2,000 man-made objects are orbiting the earth. These are artificial satellites, or pieces of them, launched mainly by the United States and the Soviet Union. One United States missile launched in 1965 exploded and shattered into 426 pieces, of which 130 have rained back into the atmosphere. One piece of a Russian Cosmos satellite that fell in Oklahoma during 1970 weighed 240 pounds.

The "Judas Medicine"

◆ A New York Times editorial in February stated: "Blood becomes a Judas medicine when it contains the hepatitis virus that can sicken or even kill the patient it is supposed to help. The menace has become greater recently with the spread of drug addiction since the use of unsterile needles by groups of drug addicts makes them particularly liable to hepatitis. . . . The commercial blood bank which buys blood from impoverished donors—among whom narcotics addicts are likely to be numerous—is the channel through which most of this Judas medicine becomes available for use in unsuspecting patients."

Penicillin Risk

◆ Hailed as a 'wonder drug' for years, penicillin is now known to be a killer also. It is estimated that in the United States about 600 persons a year die from allergic reactions to it. American Academy of Allergy researchers believe they have found a test that can predetermine who is allergic.

Smoking Kills

◆ The president of the Royal College of Physicians of London, Lord Rosenheim, stated flatly: "The stark truth is that cigarette smokers are twice as likely to die in middle age as non-smokers."

Cigarette Production Rises

◆ In 1970 the number of cigarettes produced in the United States increased by 17.4 thousand million over 1969. That brought the total produced during the year to 575 thousand million.

Heart Disease Toll

◆ Medical authorities in Toronto labeled heart disease Canada's biggest killer, taking 75,000 lives a year and disabling many times that number. It was said that persons who are overfed, who get little or no exercise, who tend toward being emotionally upset, as well as those who smoke, are more prone toward heart ailments.

Life Begins at 40?

◆ In Africa the average life expectancy is only 35 years.

In Asia, it is from 40 to 50 in several developing countries, as it is in Latin America. A United Nations report noted that in Gabon, on Africa's west coast, the life-span of males averages only 25 years.

More Marriages Breaking Up

◆ All over the world, divorce rates are going up. Ten years ago the rate in the United States was one out of every four marriages. Now it is one out of three. The last two years have seen a 25-percent increase. Thus, family breakdown gathers speed.

Runaway Wives

◆ After World War II, about four American wives ran away from home compared to 100 husbands who did the same. Today, the percentage of wives leaving home has tripled. Most

are mothers between the ages of 35 and 50, bored with marriage and housekeeping. However, about half of all runaway wives return home, showing that disappointment with their new 'freedom' is even greater.

School Vandalism Growing

◆ Authorities in Canada are alarmed at the swiftly rising tide of school vandalism. Five years ago, it cost \$10,000 to repair damage caused by vandals to Toronto's 136 schools. Last year, the cost jumped to \$200,000, an increase of almost 2,000 percent. Of the frenzied destruction caused in one case a police officer said: "It was like the set of a bombed-out building, straight out of a war movie." Most vandals were boys between the ages of 10 and 15, many from 'respectable' middle-class families.



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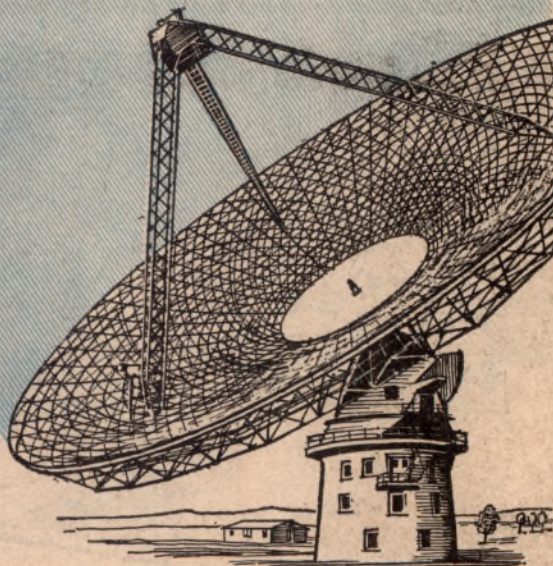
APRIL 22, 1971

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LISTENING to THE UNIVERSE

Giant radio telescopes pick up radio signals from distant stars and help man to learn about the marvels of creation. Since man learns from the things God has created, is it unreasonable to expect instruction from God himself? Can we not expect the One whose wisdom is so manifest in the universe to give us information about himself and his purposes for the earth?

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