

What Does the World's Pollution Mean to You?

If all the people of the earth possess the fight that Keith Miller displayed last Saturday night at the Northwest Regional Wrestling Tournament, the human race might have a chance of surviving into the 21st century.

Miller, performing what looked to be the improbable, neatly reversed his opponent who had been leading throughout the match and dropped him on his back. He came back from behind to survive for the state tournament.

All of us, the earth's people are currently wrestling in a match similar to Keith's. We are all

Around Globe Cities' Population

Harmed by Smog

London, New York, Chicago, and Donora, Pennsylvania, all have something in common. These cities have all witnessed a tragedy--deaths from smog.

Donora's tragedy came in 1948 when a poisonous smog settled over it's valley. After four days it cleared, leaving 20 people dead.

Four years later a heavy smog settled over London, staying five days, and killing about 4,000 people (many already had lung diseases). A similar incident happened again in 1962, killing 340 people.

These are just a few of the cities that have had deaths related to pollution. Also, all over the world, cases of lung diseases have increased.

Unsympathetic Citizens Sit Back, Watch As Young Lake Erie Dies an Early Death

Lake Erie, the smallest of the Great Lakes, died today at a young age. Specialists attribute this catastrophe to human carelessness and apathy. It has been prophesized that the other lakes will soon follow suit.

Though this may sound strange and highly impossible, Lake Erie is dying, and someday this obituary just might appear in the newspaper.

A lake has a natural life cycle. It starts out with a cold, clean body of water. Plant and animal life begins to appear and flourish. As life increases, the amount of organic matter accumu-

grappling for survival, a very important match to say the least. Currently, we are losing decisively. The dirt and chemicals of pollution seem just too much for us to handle.

Who feeds this terrible opponent? Who gives it all of its energy and capability? Who can we blame? Who should we blame?

These are questions which are easily answered. As much as we would like to point our fingers at industry and say, "Stop!

Quit killing us," we can't and feel justified. True, industry plays a part in pollution. But there is a bigger monster that is causing most of the problem. The average, middle of the road, silent majority, run of the mill citizen is, in reality, the biggest polluter.

Individually, we ask ourselves, "How can I be a polluter?" But after a small amount of thought, it is easy to understand. We all drive cars which

give off exhaust, the most dangerous of all pollutants. We dispose of tons of garbage annually. We demand that industry produce for us. We are turning the wheels of industry, which in turn, pollutes our surroundings.

Recently, we the people of America, have realized the size and the scope of the opponent that we face. "Let's do something about it," we demand. We look toward our leaders, federal, state and

local, to guide us through the smokey air and the oily waters to a cleaner environment. But they aren't acting. In the Shenango Valley, an area far from being pollution free there hasn't even been a study of the problem.

The Hickory Leaf is going to make a meager attempt to describe our

enemy to our readers. We will focus on local pollution but will include the problems that all the world's people are facing for survival.

Human Beings Will Determine Earth's Future

In recent years there has been a revival of interest in such things as Astrology and the Occult. People seem to be interested in what the future holds in store for them.

But one does not need to resort to charts and crystal balls to see the future. A look at today's world gives an ominous view of the world of tomorrow.

Mountains of trash, blanketed by layers of smog and washed by open sewers (once called rivers), will be Mankind's monument to Himself, the species having exterminated itself in the process of building it.

You scoff? Science Fiction you say? Is science fiction that kills 10 to 20 people a day in New York City in 1970? Is it a myth that destroys fish and other wildlife? Was it imagination that polluted all the air in the United States, the last hit of clean air having disappeared in Arizona a few years ago?

Facts are facts, and they will be facts even if no one cares to believe them. So if this is the present, will the future be any better?

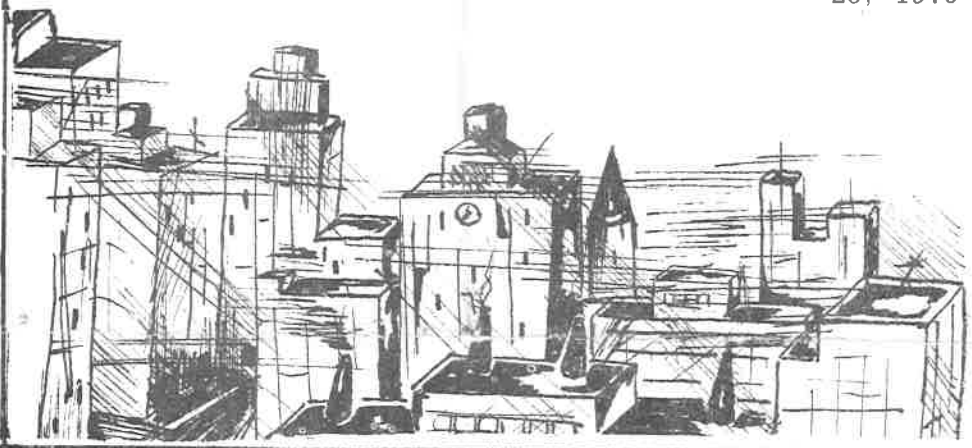
More and more people are beginning to realize the urgency of the situation. Science has found ways to combat pollution, but it will take the efforts of everyone to change the world of tomorrow into a garden of Eden. For after all, people, not crystal balls, determine the future.

Pollution of our resources is nothing new. Seneca, an ancient writer of 61 A.D., wrote about the problem in the Roman Empire. If only someone would have listened to him!

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Revolution Triggers Pollution

The Industrial Revolution, the one major start of pollution, started in the early 1800's.

Disposal of wastes be-

came a problem when populations started to concentrate in towns and cities. Many diseases spread due to poor sanitation practices.

The mills, mines, chemical industries and tanneries developed waste waters containing highly toxic or objectionable chemicals which rendered larger streams unfit for any further use.

With water pollution came air pollution. As larger industries grew, more impurities were released into the air.

The air pollution went largely unnoticed at first. When some far-sighted scientists tried to warn of air pollution, most people laughed. They argued that the natural resources used in industries could not possibly be harmful.

As the mills continued to pollute the air with vast quantities of harmful matter, the automobile also contributed to the pollution.

The problem of pollution became acute in the late 1890's. Legislation was passed to prevent further pollution. The laws have not been properly enforced and the problem of pollution continues.

there is so much pollution in Lake Erie, that if all means of pollution would stop today, it would take nature 10 years to purify it.

Two thirds of all the national wastes dumped into the water comes from industries. This may seem like a lot, but when it is realized that 70,000 gallons of water are needed to make one ton of steel and 140,000 gallons are needed for one ton of wool, this figure seems reasonable.

If the pollution continues at its present rate, it may create a national network of sewers where rivers used to be.

lating on the bottom increases. Soon the water becomes warmer and shallower, till it becomes a swamp supporting only the lowest types of marine life or none at all.

This process should take several thousand years to complete, but pollution can kill a lake in 500 years.

Lake Erie is the smallest and filthiest of the Great Lakes. Before man started using so much water for things like a daily bath, flush toilets, dishwashers and clothes washers, nature was able to purify the water that was used and put it back into the rivers and lakes. However,



This giant structure, the Shenango Dam, holds back one of the fastest growing bodies of polluted water, the Shenango "Recreational" Reservoir.

Pennsylvania's Polluted Past

Pollution of Pennsylvania waters first began during the Industrial Revolution. It came in the form of acids and other chemicals discarded in the rivers by the industries. Silt and acid drainage from coal mines were also damaging to the clean waters.

In the late 1890's, Pennsylvanians were made aware of their pollution problem by the threat of typhoid due to untreated sewage traveling down the rivers.

In 1905, the state passed the "Purity of Waters Act", prohibiting the discharge was con-

sidered a health hazard.

A Sanitary Water Board was created in 1923; and with the passage of the Clean Streams Law of 1937, industrial pollution was placed under the control of the Water Board.

Sewer Network May Form

A vast network of sewers may eventually cover the world, if the pollution of the earth's rivers does not come to an end.

Millions of tons of waste are being dumped into the world's rivers daily. Chemical wastes, detergents and human excretions are doing vast damage to once clear, clean waterways.

Some rivers have become so polluted that nothing but sludge worms can exist in their waters. Traveling down a river, it is not unusual to see large patches of soap suds being carried downstream.

Every second of every day, more than two million gallons of waste

History has proven to Pennsylvanians the expenses involved in correcting polluted waters, but still the laws are disobeyed. To insure a healthy future, pollution must be stopped - and the time is now.

pour into the rivers. Bad tastes and odors of chemicals taint drinking water, and also rob it of so much oxygen that it can support no aquatic life.

In 1964, in the United States alone, it was estimated that 18,400,000 fish were killed. If this figure was this large in 1964 and only included the U.S., the number killed by pollution in all the countries of the world must be tremendous in 1970.

Pollution isn't just a problem in the U.S. Countries all over the world are finally realizing its extent, but is it already too late?

The Shenango: Ditch of Industry

by Dawnelle Batcher

Pollution levels in the Shenango River vary greatly. The main causes of pollution are industrial wastes and inadequately treated sewage.

The Shenango, from the Shenango Valley Reservoir to the city of Sharon is of satisfactory water quality and supports abundant fish and other aquatic life.

Sharpsville and Sharon depend on this portion of the river for their water.

Unfortunately, the city of New Castle draws its water supply from the river at an area which at times suffers from poorly treated industrial wastes discharged into the river as it passes through the Sharon-Farrell industrial areas.

An average of 44 million gallons of industrial wastes including dissolved solids, suspended and settleable solids, and excessive oil are deposited into the river in this area daily. Excessive temperatures also create a problem.

Because of these industrial wastes, New Castle is forced to take

expensive steps to purify their water.

Raw or inadequately treated sewage is another source of pollution to the river. Six major sewage treatment plants discharge a total of 7.5 million gallons of treated

wastes into the river between the reservoir and the Beaver River per day.

Presently, plants discharging wastes into rivers are required to remove 85% of their biodegradable wastes and to provide adequate disinfection.

Oil Spills Spell Impending Doom

by Mickey Sinkus

"From sea to shining sea," is how the song, America the Beautiful ends. It is a known fact that America is getting less beautiful every day. At the same time, her oceans are no longer shining, but in many areas, are so filled with garbage, oil and other miscellaneous articles that even Spiro Agnew could walk on water.

The current theory of life is that the key of life, DNA, developed itself in the oceans. This means that all life originated from the sea. If man continues his polluting of the seas, the same medium that brought him life will bring him

death.

Ecologically, the oceans support all life. (Ecology is the science that clearly shows how all living things are related to each other and to the environment.) Pollutants

Edinboro's Water Polluted

"Attention all residents! You must boil your water before it will be safe to drink!" Is this a make believe newscast?

Unfortunately, the citizens and college students in the nearby town of Edinboro received this news last January.

Because of the severe pollution, the water re-

break down this ecological structure.

Take, for example, when oil is spilled in the seas. The layer blocks out the sunlight, which kills plankton, a microscopic plant that fish feed on.

required chlorination treatments twice a week in order for it to be safe for use, but was only being treated every two weeks.

Immediately after this discovery, such large amounts of chlorine had to be put into the water supply that taking a bath was like swimming in a chlorinated public pool.

The fish die off due to starvation and all of the land animals that feed on fish, man in particular, are left without a source of food.

Oil spills in some cases are so thick and so large, that all life, fish and birds in particular, are actually suffocated.

Oceanographers have been saying for many years now, that once man has over-populated and over-polluted his available land, he will have to cultivate the seas for his food. What is going to happen if even the oceans become so polluted that their cultivation is impossible? It's not a nice thought.



Pine Hollow Run, once a stream abundant with trout, has turned into a sewer, abundant with garbage.

Industry Damages Nature's Original Landscape, Causes Many Deaths

Some people say that if something isn't done pretty soon about the pollution in the world, everyone will be dead within 17 years.

This isn't really a new problem. In 1963 in New York City, it was estimated that about 400 deaths were triggered by a dense smog. Also in Britain in 1952 many people got sick and died because of all the smoke in the air.

It's not hard to believe that there is so much pollution around when we look at just the Shenango Valley and the pollution here.

In the Valley there are about five major in-

dustries that put out all kinds of pollution. The smoke put out sometimes just hangs in the air because this is a valley and it has no where to go.

Air pollution, though, isn't the only damage these companies do. By dumping their chemical wastes into the river, they add to the pollution already in the river, and kill any water-life trying to survive.

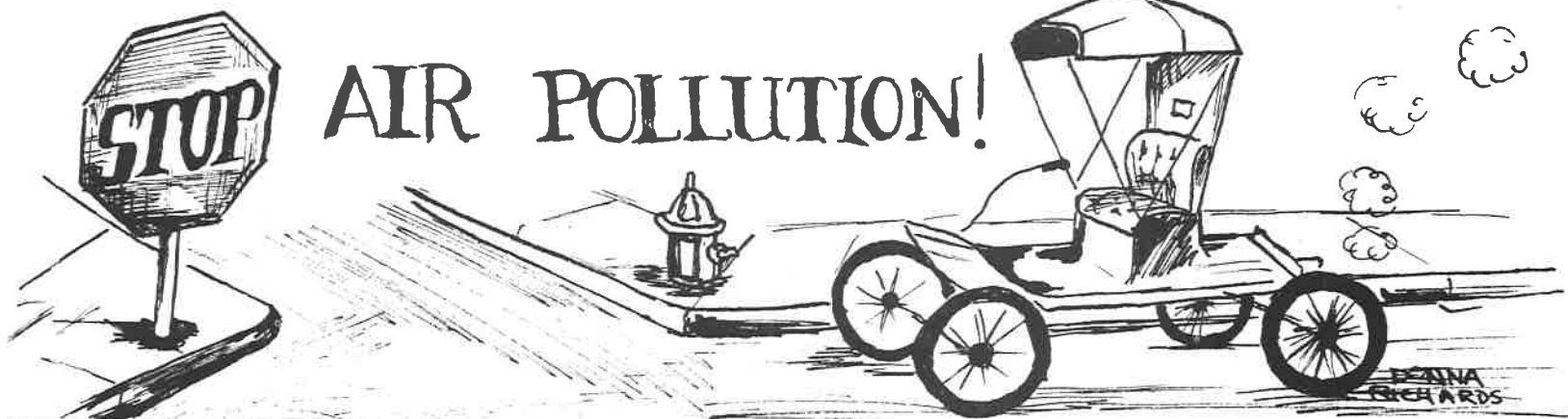
These industries also do a great deal of damage to the land around their factories and where they get their raw materials.

The scrap that can't be thrown in the river usually goes into great

piles around the factories until some is reused. These piles sometimes turn into junkyards and eyesores.

Also these companies have to get raw materials from somewhere. Much of the time these raw materials are excavated from strip mines around the country and then shipped in.

But if the industries here in the Valley and even all over the United States could get together to try to overcome pollution, they could clear the land, water, and air. They'd probably also save some lives. It might cost a little extra but can one put a price tag on a human life?



Automobile Industry Is Facing Pollution Problem

The automobile has, in its short history, produced an evolution of problems. In the early days of Henry Ford, the performance of the new "rich man's toy" was quite erratic, and the noise that it produced was only good for disturbing the reliable horses still in use.

But the auto became the biggest mode of transportation, despite these problems. This only begat more headaches. More tax dollars were needed to build and improve roads.

The biggest disadvantage has been the thousands of deaths and injuries that occur on our highways each year. But a new, and possibly even greater, problem has arisen over the past few years.

The exhaust fumes from the cars have been the number one cause of air pollution in the United States.

Improved Car Stops Pollution

Cough. Cough. Gasp... These sounds can be heard across the nation as city dwellers slowly suffocate in the smog. This condition can't be completely blamed on industry. In fact, experts claim that 60% of the air pollution problem is caused by the nation's 83 million cars.

What can be done? The automobile manufacturers are producing a new anti-pollution device which attaches to the car. But even better, a new concept of a silent, exhaust free, car is being tested.

The electric engine isn't just a blue print drawing, but a reality. In November, twelve experimental electric cars unveiled by the top manufacturers. The only obstacle is the battery, which must be recharged after a few hours of travel. But the car manufacturers are not discouraged.

Hopefully, this will be the first red light to our smog-filled air. Maybe people will be able to breathe easier now.

States. The millions of autos that travel our streets and highways, especially in our big cities, each day have made smog an every day occurrence here.

There are many possible solutions to this urgent problem. Many look to an electric car to solve the problem of this deadly waste. Others feel that the fumes could be directed back into the car to be used again to propel it. Still others want to resort back to the animal power of the horse.

All of these have obvious drawbacks. But the fact remains that we have an urgent problem that must eventually be solved.

Valley Overlooks Synthetic Cloud

by Keith Kuhn

On January 3 of this year an explosion in the gas cleaning unit on the three oxygen furnaces at the Gary Steel Works closed that entire section of the plant.

For three weeks the oxygen furnaces were closed down while repairs were made. A good many men were laid off and the steel company did without 8,000 tons of steel a day that these furnaces put out.

Meanwhile in our own valley many disorders have occurred in the gas cleaning unit of Sharon Steel's Kaldo oxygen furnaces.

Rather than shutting down operations Sharon blows all the gases out the emergency stack, in other words directly into the air. Since 1963 when Sharon put the Kaldo furnaces into use, the gas cleaning unit on these furnaces has been bypassed during fifteen percent of its operation.

Every time you see that long reddish brown cigar shaped cloud hanging over Farrell you can be sure that the filtering system has been bypassed.

That cigar shaped cloud is made up of carbon di-

oxide, oxygen, and nitrogen saturated with iron oxide. This reddish brown substance is deposited on cars, houses, and people as well. Besides ruining paint jobs, every surface is covered with a heavy reddish grit.

This giant problem will exist until the valley does something about the inexcusable tolerance in its attitude towards this pollution.

Jets Contribute Three More Sources of Pollution

Jet aircraft are another source of pollution, contributing in three ways:

1. Noise pollution
2. Air pollution from exhaust
3. Air pollution from number of planes

The noise of a jet at take-off measures 150 decibels (conversation measures about 60 decibels). Doctors agree that continuous noise above 85 decibels can cause deafness, and noise at a level of 165 decibels can kill rats and cats by changing sound energy to heat in their bodies.

People who live near or work at airports are therefore, in grave danger. Men who work around planes wear "Mickey

Take A Pick, Ice Or Water

Our scientists have already let us know that we stand a good chance of extinction due to choking or poisoning from our polluted water and air. That, in itself, sounds startling enough, but they have added a few more possibilities to the list which includes drowning and freezing.

Let's look at freezing first. Since 1945, the average temperature of the earth has dropped 1.5 degrees due to the blockage of sunlight by the smoke particles in the atmosphere.

That wasn't too alarming until they found out that the Ice Age, which took millions of years to form, was triggered because of a 4 degree temperature drop. If we continue at our present rate, the glaciers could start moving again by the year 2010.

But it is just as possible that we could drown before we freeze. It seems that the chemicals being dumped into the oceans are causing the Arctic Sea to melt. If, by chance it all melted, the excess water would flood the continents and leave little or no land left for life.



Other Pollution Problems Face Planet Earth

by Allison Zippay

Pollution is not limited to air and water. There are many other forces which contribute to the deterioration of the land. Because these forces have become common sights in our environment, people often become immune to them and fail to realize their destructive potential.

Open garbage dumps, stretches of junked cars, thoughtless use of insecticides, are examples of ordinary, decay-inducing sights. sprays, litter, and dilapidated buildings which land-harming industries and noise are additional pollution problems. The noise, much of it result-

ing from heavy traffic and airports, is already unbearable to many.

In many cases, these situations could be prevented or controlled with stricter laws and public

interest and understanding. Too often, however, people are uncaring or unaware of the pollution danger these situations possess. Many will not join the fight against

pollution until their own toes are stepped on as their health or property suffers.

Pollution has been with us for a long time. If we don't act quickly our time may run out.

Will Our Land Survive?

by Kathy Saternow

Man does not need to ponder his future, for there will be none if he does nothing about the present situation of one of our most important resources: the soil. His constant driving for progress is slowly destroying the land, which is so imperative to man's survival.

Due to improper strip mining operations, the once beautiful green valleys and hillsides of Pennsylvania could be mistaken for the barren surface of the moon. Trees and fertile flatlands were destroyed to meet the demand for coal.

Consider this sight: the peace of the mountain side is broken by a giant electric shovel, as tall as a twenty-story building. With every bite it lifts more than 350,000 pounds of dirt. Fertile

topsoil is covered with sterile subsoil as it exposes the coal vein. After it travels on, the evil still continues. Sulfur, an impurity in the seams of coal, mixes with rain and produces sulfuric acid. Run off water bleeds into creeks and lakes destroying vegetation, fish, and other animal life.

Fortunately, it is now law that land be restored to its original condition, but in the past this was neglected because of the tremendous expense.

What is to be done with this worthless land? In Pennsylvania, alone, more than 200,000 acres have been affected and more than 3,000 miles of the state's streams are polluted by the drainage of acid water.



The once beautiful earth lays as a barren wasteland of slag and gravel. The trees in the foreground were left, not to preserve nature, but to hide the ugly scars from the public's view.

Can Garbage Have Future Benefits?

Each of us is a consumer, and as a consumer each of us is a solid waste producer. Although throwing a paper out of the car doesn't seem like much, the average consumer

produces one ton of solid wastes each year.

Well over 50% of the people live on less than 1% of the land. In the near future, where are you going to dump your ton of garbage?

Burning the trash may be a solution, but when the ashes leave the incinerator, the air or water becomes polluted, which starts the cycle over again.

People have to realize the complexity and seriousness of the disposal of waste. The next step is to solve the problem.

A common practice in larger cities is sanitary and carefully engineered

land-filling of marshes, open pit mines and steep canyons.

This provides parks, golf courses and other recreational or industrial facilities. Seventeen percent of New York City rises from the refuse-filled land.

A future suggestion is to construct offshore islands out of garbage.

"People are up to their knees in garbage, but they don't really care," says a New York specialist. "In three years when they are up to their waists in it, they'll start screaming." Do you care enough to scream now?

Polluted Water Plagues Plankton

Thermal pollution is a recent hazard to all forms of aquatic life. This pollution is heated water dumped into cold water lakes by nuclear generators.

Studies have shown that fish, which are coldblood-

ed, are sensitive to abnormal changes in their environment. When heated water is poured into their natural habitat, the temperature rises.

A rise of over 93 degrees makes the water uninhabitable for all fish

except certain southern species. Although they may not be killed directly, body functions are impaired.

Cooling towers are used to remedy heated water, but they are too costly for most plants.



Once out of our city in the surrounding countryside, sites like this become very numerous.

Noise of Modern Automation Presents Deafening Situation

Very few people realize what a potential problem excess noise presents.

In our modern world, we are continually exposed to noises too high in volume for our ears to cope with. Excluding high volume acid rock, the individual hears sounds such as lawn mowers, jackhammers, jet plane take-offs, and other noises which are more dangerous than any of us realize. For example, the noise of a jet plane taking off is equal to about 150 decibels, a large enough noise to permanently damage an individual's hearing.

Large cities have even larger problems. The con-

stant noise of traffic disturbs everyone, more than they consciously realize. The constant hum

of the city takes the edge off many individuals' hearing abilities.

Some city offices, in order to eliminate noisy disturbances, have purchased machines that create a steady hum that is louder than and therefore absorbs other distracting noise. Quite obviously, covering up noise with more noise is not the key to silence, but something has to be done before silence is all we hear.