

## Quick Corrective Steps Urged

# Air Pollution Puts Climate in Danger

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WASHINGTON,

**M**AN may be changing earth's climate. If he doesn't stop our children could choke in a world of stifling heat and violent storms and polar ice could melt and the oceans rise to swallow up our coastal cities. The cause? Our own acts of air pollution.

This is not idle speculation or science fiction. Warnings have been sounded by responsible scientists in and out of government.

It is a simple projection from two undisputed facts: We are adding fantastic amounts of carbon dioxide to the atmosphere; carbon dioxide acts as a heat trap.

This process could turn the earth into a giant greenhouse.

"And we're not doing anything about preventing it," says Vernon G. Mackenzie, chief of the Air Pollution Division of the Public Health Service.

It is possible, of course that these potential dangers could be of only academic interest. We might all die from other kinds of air pollution

—those that cause lead poisoning, or lung diseases—before the climate change comes.

But Mackenzie, who wears tweedy jackets and has the trick of imparting shocking information with a studied, professorial calm, thinks the air-temperature problem should be tackled—now.

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**S**INCE Charles E. Duryea operated one of the first successful American autos in 1892, the amount of carbon dioxide in the earth's atmosphere has increased by 8 percent. Burning of coal, oil and natural gas form vast amounts.

That in itself is significant. But between now and the year 2000 it will go up another 25 percent.

"As it increases," explains Mackenzie, "it has a blanketing effect. It cuts down the infrared radiation going from the earth into space."

In other words, the air is getting warmer. As far as scientists today can tell, this process could raise the average temperature by several degrees before the century ends.

The implications of such a basic climate change are enormous. Hot air is more turbulent than cold, so storms could be bigger and more violent. The polar ice cap could melt and raise the level of the oceans, flooding the coastal areas.

"And if it does get to the point where it changes climatic conditions, we won't be able to do anything about it," says Mackenzie. "It will be too late."

"I think we ought to start fairly soon to get the scientific information we need to decide how serious this possibility really is."

People are probably getting bronchitis, emphysema, bronchial asthma, and lung cancer that they would not if they could breathe clean air.

The amount of lead and other poisons added to gasoline and pumped by autos into the air—and into our lungs—at an increasing rate, is approaching the danger point.

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**T**HE Environmental Pollution Panel of the President's Advisory Committee was so concerned that it has recommended an early start in finding new sources of energy that won't produce pollutants. It could mean an end to auto transportation as we know it.

There are other sources of pollution, but most of them stand still and can be coped with. The auto is everywhere.

In the last 12 months we have dumped about 133,000,000 tons of various pollutants into the air, and 85,000,000 of these tons have come from the exhaust pipes of autos and other machines of transportation.

Manufacturing contributed 22,000,000; electric power generation, 15,000,000; heating, 8,000,000; trash burning, 3,000,000.

All of it, of course, can be traced to the population explosion and the rapid concentration of this population into the urban centers. Today, two-thirds of us live in urban areas. Nearly all of us breathe dirty air, and the view of the landscape is hidden.

California is working on the auto. New cars in California must have devices that cut the main pollutants by about two-thirds, and the Public Health Service has authority to require them nationally by the 1968 model year.

Mackenzie, still maddeningly calm about it, figures that the air will start to clear a little in Los Angeles and other cities as new antismog-equipped cars replace the older models. But then, along about the 1980s, things will start to get worse again as the number of autos starts to make up for the reduced emissions per car.

The big hope, he says, is that in the interim we'll find some better way to clean up after the auto.

California authorities are already looking ahead. They have ordered another 15 percent cutback in auto pollutant emission by 1970. The engineers in Detroit don't know how they will comply.

If Detroit doesn't come up with some new and better answers, the scientists tell us it will be necessary to find some other way to travel than by machines which burn gasoline.

The President's science advisers suggest starting now to find a way to make a car run on electricity or nuclear energy of fuel cells. Or, the pollution panel suggests, it may become necessary to de-emphasize personal transportation, and figure ways to make more people use mass conveyances.

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**A**S A fast-breaking problem, air pollution has sparked a fairly quick reaction from the Federal Government. Congress committed the United States to efforts to clean up the air with laws in 1955, 1963, and 1965.

At first the Federal emphasis was on research and spreading information. But with the Clean Air Act of 1963, it started giving direct aid to cities wanting to take some of the filth out of their skies.

Since it entered the field 10 years ago, the Federal Government has spent or committed more than \$100 million. But the main spending will have to be done by State and local governments.

About all the Federal Government can do is show them how to identify the sources of pollution, give them technical advice on stopping it, and help with legal problems.

At this moment, Mackenzie estimates, every community with a population of 50,000 or more has a real air-pollution problem, whether or not it is an industrial city.

All told, there are probably some 7000 communities in this country with dirty-air problems.

When the Science Advisory Committee reported to the President on air pollution, its main message seemed to be that nothing done so far is likely to come anywhere close to being enough.

Some people may have thought that when Congress passed the Clean Air Act and the amendments of 1965, we could all quit worrying.

"But no knowledgeable people in the field had any such solution—nor did informed individuals in the Congress," says Mackenzie.

It's enough to make things frustrating for pollution fighters. "You can say our attitude is one of cautious optimism," explained Mackenzie, as he managed a small, sad smile.