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No one really knows how it all started. It's been rather like death, spinning its web slowly, calmly, and finally catching everyone up in it, almost imperceptibly.

Many people say it's simply one more evil of our times, the debt come due on modernization, to be paid by all humanity, with no possibility for a moratorium, to borrow another fashionable word of our times.

The ancient lakes have disappeared from the valley of Mexico, given way to the buildings that shelter the thousands of people who have emigrated to the country's center. The rivers that criss-crossed the city have been diverted underground to make way for roads, and their waters now mix with industrial waste and sewage.

Those kinds of measures were once a "solution" to the city's immediate problems; but no one was thinking about the future then.

"We must look to history, and not just the recent past, to understand the roots of the deterioration of atmospheric quality in the valley of Mexico," says Fernando Ortiz Monasterio, an outstanding researcher concerned with the potential consequences of environmental deterioration. He claims that since prehispanic times, the population has tended to concentrate in the valley. "The same thing happend during the colonial period; and now we also confront a style of urbanization that concentrates the population here, that has attracted twenty percent of the country's total population."

# Pollution in the City: Edging Towards Catastrophe?

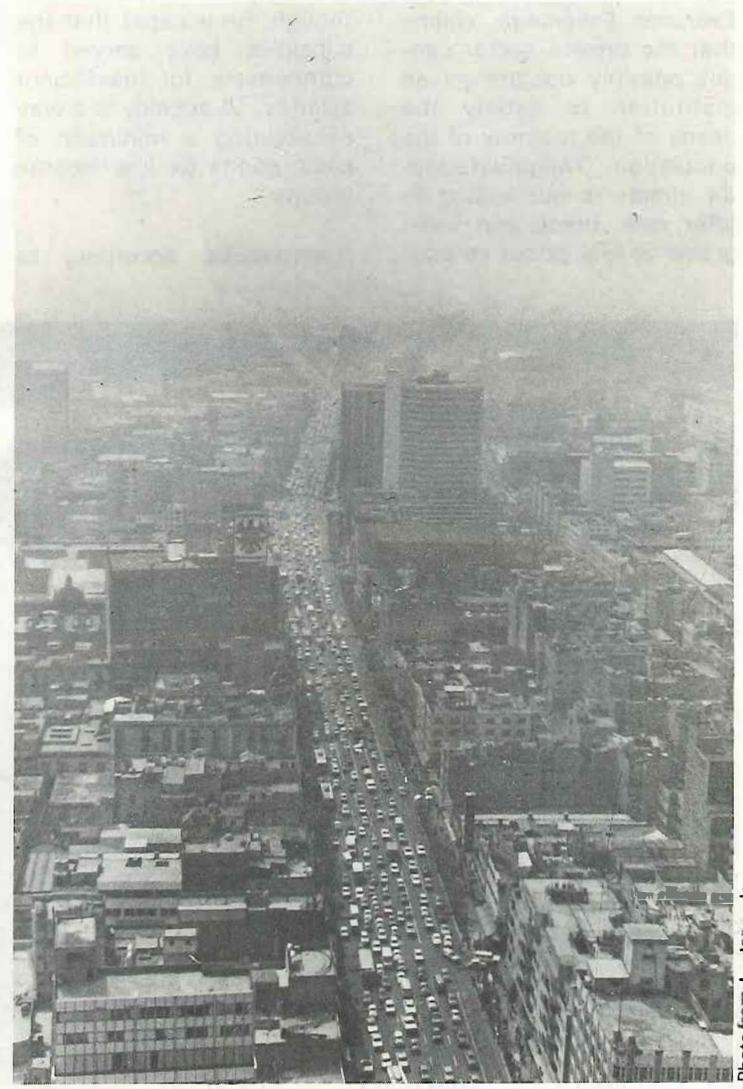
*All Mexicans know the smog problem is serious; the question is, what can we do about it?*

*The air bleeds on the city  
Light dove that the falcon flies over*

*It's not yet night and the sky's  
dense, as if with storm.*

*José Emilio Pacheco*

By now, no one among the 18 million inhabitants of the world's most populated metropolitan area can claim to be very far removed from the environmental havoc generated by six tons of contaminants suspended in the city's air.



Mid-morning in Mexico City.

Photo from La Jornada.

## IN PURSUIT OF THE FUTURE

In 1900, Mexico City had 390,000 inhabitants living in the 250 square kilometers that fell within city limits. In 1930, there were 740,000 people, by 1940, there were one million and by 1950, the population had grown to 3.5 million. Today, 18 million of us live in a 1500 square kilometer area. From the figures it is obvious that urban growth has been extremely rapid. And to make matters worse, there has been almost no planning based on geographic realities.

Ortiz Monasterio explains that the city's problems are critically influenced by the fact that it is located in a completely closed hydrolic basin. Wind velocity is less than 1.5 meters per second, impeding the flow of clean air through the area,



Photo from La Jornada.

A difficult problem to solve

and to the contrary, actually trapping certain contaminants in specific zones.

Perhaps the only sound plan for a habitable capital city was designed during the Lázaro Cárdenas presidency (1934-1940). The 1935 Development Plan for Mexico City projected a population of 2 million for the city after a 50 year period of growth. It contemplated solutions for a series of key problems: the preservation of the city's historic center, a design for transportation and roadways, increased agricultural production and supplies for the city, an ecological reserve and most importantly, industrial development poles.

Today's reality is quite different. Cardenas' plan is but a nostalgic memory. Ten years after the plan was written, the city's population had already surpassed the goal set for 1985.

## THE SPECTER IS WITH US

The problems that were not corrected in their due time are with us today: anarchic growth, terrible traffic, industrial concentration and the end result of all of these, pollution. Before, pollution was just a specter, whose mention would conjure up fears for the future. But now the specter is with us constantly.

A researcher at Mexico City's Metropolitan Autonomous University, Arturo Espitia, offers the following statistics: in 1976, some 1.6 million tons of contaminants were loose in the atmosphere; in 1981 there were almost 4 million tons of atmospheric contaminants. And according to data provided by Jorge Legorreta at the Eco-Development Center (a dependency of the National Council for Science and Technology, CONACYT), by 1983 there were approximately

5.647 million tons of particulate contaminants.

Ortiz Monasterio claims that the three million cars that circulate in Mexico City are responsible for more than 80% of the pollution, with local industry responsible for the rest.

Jorge Legorreta's study has produced alarming figures, even for the world's most polluted city, where virtually every known contaminant is present. "Industry contributes 20% of the annual production of atmospheric contaminants: approximately 393,000 tons of sulfur dioxide, 130,000 tons of hydrocarbons, 114,000 tons of carbon monoxide and 383,000 tons of a variety of particulate matter."

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Photo from La Jornada.

Mexico City pollution.

At the same time, growth has provoked an almost insatiable predation on the green areas that once surrounded Mexico City. The average green area per inhabitant is only 0.4 square meters, compared to the 9 square meters recommended as a minimum by international standards. Seventy-five percent of the woodlands have been destroyed, almost entirely to make way for urbanization.

Another equally serious factor must be added to those already mentioned as part of the city's pollution problem: residual waters (only 70% of the sewage is collected by the city's sewage system). And there is yet another: 10 thousand tons of solid garbage are produced daily. That represents a titanic collection task, even under the best of circumstances.

## IN SEARCH OF UTOPIA?

In spite of the situation, researchers, ecologists and the public in general have hopes that the pollution can be brought under control. Environmental quality is not a luxury to be enjoyed only by the developed countries, according to Ortiz Monasterio. He speaks of viable measures and of Mexico's capacity to design the needed technology given that economic reasons make it impossible to import technology used in other parts of the world.

As Coordinator of the environmental engineering program at the Metropolitan Autonomous University, Alfonso Espitia shares Ortiz's ideas and adds that there have already been important advances in the design of instruments to measure and control pollution.

## the nation

Ortiz does not believe that prohibiting industrial production in the area is the answer. Rather, pollution control mechanisms must be adopted, using tax breaks to stimulate their implementation. In addition, a good public transportation system must be created to encourage people to leave their cars at home (on the average, 70% of the vehicles on the road at any one time are cars with only one or two passengers).

10 Finally, Ortiz explains that some kind of investment must be made in relation to the problem, either to deal with the causes or to deal with the effects of pollution. For example, if the pollution remains very serious, then more money will have to be spent in the health sector. He adds that studies done in the U.S. have shown that for every \$21 million spent to prevent pollution, \$28 million would have had to have been spent to deal with the effects of that pollution had it not been prevented.

### BUT WE DON'T HAVE THE RESOURCES

At any time of day, the streets are jammed with cars; nearby buildings disappear in the smog; people push and shove to find transportation; and public protests demanding a solution to pollution problems are increasingly common. As a result, the government has come out with a new program which is being implemented as of last february.

But the real problem is that the country does not have the resources to implement solutions. Before, there was no ecological consciousness; now there is no money.

Ortiz Monasterio summarized the situation in these terms, "In Mexico, especially with the severe financial crisis, we are confronted with the fact that one of the phenomena that accompanies economic dependence and the brutal reality of the foreign debt, is the destruction of the natural environment."

Within this context, then, the solution must lie in society's capacity to invest its scarce resources so as to resolve its most urgent needs, those needs that concern our survival as a species.

The specialists we interviewed have made the matter all too clear for us. If the pollution problem is not solved soon, one day we may all have to flee Mexico City, -or face collective ecocide.★

Enrique Vargas Anaya

in solitude and vacant, and restaurant tables were left empty.

In fact, the average Mexican family now prefers to spend their vacations at home as the inflation rate makes the prospects of travel less inviting all the time. 1985 was a difficult year for the country, marked by diplomatic conflicts, natural disasters and economic

In some countries, they even thought that Mexico City had disappeared from the map, totally destroyed in the quake.

### THE IMPORTANCE OF TOURISM

Tourism is important for Mexico not only because of the income it generates, but also because it is a source of development for certain regions, which lack other



Photo by Carlos Gattel