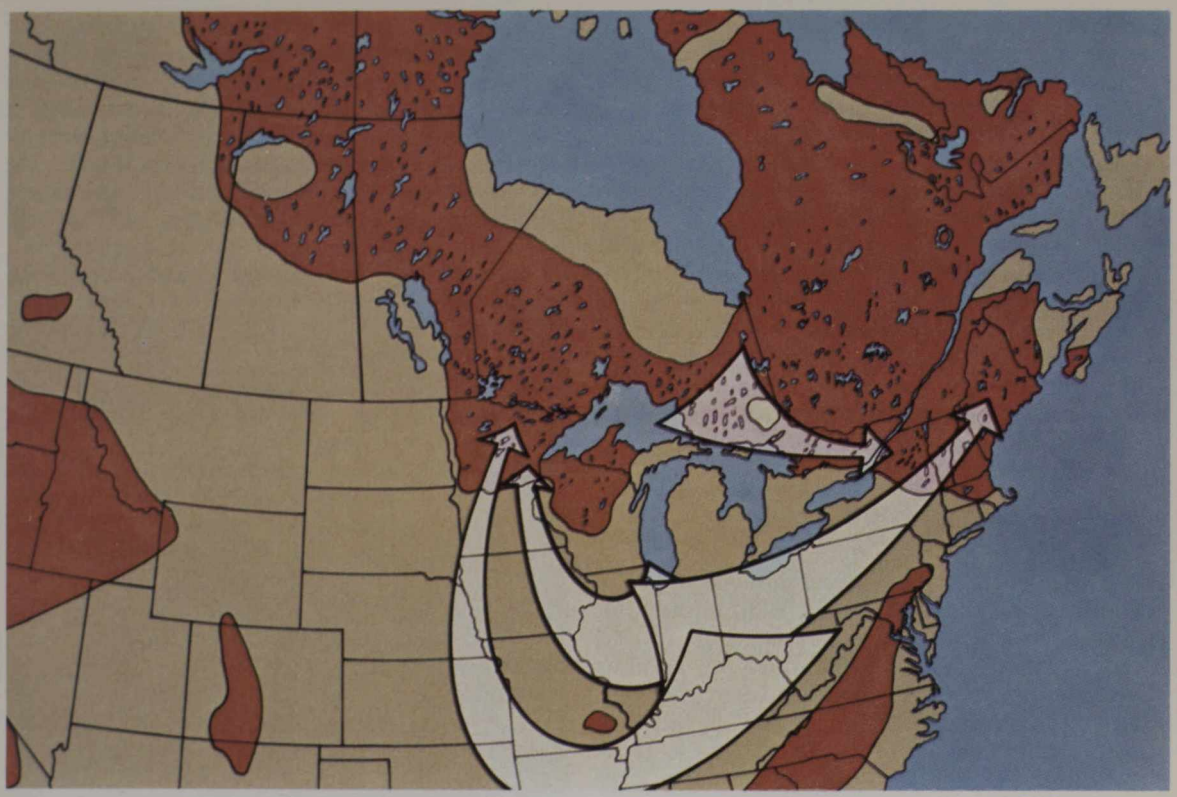

The greatest concentration of sulphur dioxide emissions in North America is in the Ohio Valley, and the pollutants come down wherever the winds blow them. The winds vary from day to day, however, and stagnated air masses frequently absorb large quantities of emissions as they stay in place for a week or more. They then move on and subsequent rains wash out the pollution, hundreds or thousands of miles from their original sources.

Q: *How do smokestack emissions get into the higher atmosphere?*

A: In recent decades smokestacks have been built taller to prevent local pollution. One stack in Sudbury, Ontario, is a quarter of a mile high. The use of such stacks did curtail the highly visible local pollution, but it also permitted the dispersal of diluted emissions over wide areas, extending what were once local problems. Dispersed, invisible pollutants now come down far, far from their sources.

Q: *How do emissions travel long distances?*

A: They travel with the wind. Eighty per cent of the sulphur pollution in North America is generated east of the Mississippi. About half of the sulphur deposited in eastern Canada originates in the United States, particularly in the Ohio Valley — Pennsylvania, Ohio, West Virginia, Kentucky, Indiana and Illinois. American lakes have also been affected by pollutants produced in Canada.

Q: *How long has this been going on?*

A: Air pollution, at least on a local scale, has been a problem since the industrial revolution. In the late nineteenth and early twentieth centuries the metropolis of London was known as "The Big Smoke," and the residents of industrial towns grew accustomed to the destruction of plant and animal life in the immediate countryside. In recent decades, as industrialization grew rapidly, the problem of heavy local pollution was ameliorated, but the problem of widespread acidification of rain was created. In some areas of the northeastern United States and eastern Canada, the acidity of rain has increased in twenty-five years to a point where it is now forty times what was once the normal level. In the last decade and a half it has spread, and rainfall with high levels of acidity has been reported in southern California, Colorado and Florida.

Q: *Does acid rain affect everything (and everyone) in the same way?*

A: The fall of acid rain has varying consequences. Some geological areas are much more susceptible than others. Lakes in areas of granite or basalt bedrock (where there are few natural carbonates available as buffers) are particularly fragile.

The acids damage buildings, monuments and statues, especially those made of limestone and marble. They combine chemically with the surface of the stone, and the surface flakes off. Notre Dame, St. Peter's, and the Parthenon (which sustained virtually no damage through erosion in the previous two thousand years) have been greatly damaged in the last twenty years. Many newer buildings, such as the Taj Mahal and the