

AIR POLLUTION

CO and mortality

There is a significant correlation between basin-wide carbon monoxide levels and over-all deaths in Los Angeles County, two researchers with the California State Department of Public Health report in the April 16 SCIENCE. They also found a correlation between CO and arteriosclerotic heart disease.

The correlations did not obtain for photochemical oxidants, another major air pollutant, but the researchers, Alfred C. Hexter and Dr. John R. Goldsmith, say they have not yet looked at nitrogen oxides.

Their measure is less sensitive when there are fewer total deaths from a particular cause. There was no demonstrable correlation between emphysema deaths and CO, for instance.

Over a four-year span the death rate increases in one-day periods amounted to an average of 11 deaths more when the basin-wide CO average was 20.2 ppm than when it was 7.3 ppm, Hexter said. But Hexter in an interview stressed that the researchers did not associate death rates with specific areas of the county in which the deceased persons may have been exposed. Thus deaths may have been associated with levels as high as 50, 60 or 70 ppm, he says.

The researchers now wish to look at more specific factors, such as the age of victims. One hypothesis is that children under one year of age—and particularly under one month—may be more vulnerable to CO because of differences in their hemoglobin.

DESIGN

Old ways often better

Modern man in constructing his artifacts often ignores the older, more natural ways of doing things, says Christopher Williams, instructor in industrial design at the Cleveland Institute of Art, in a grant proposal to the National Endowment for the Humanities.

Williams, his wife and preschool son spent 15 months traveling in "underdeveloped" portions of Europe and Africa noting traditional ways of adapting human cultures to the environment. These ways are often remarkably sophisticated, and superior to "modern" ways, they report.

"This celebration of self-sufficient folk may sound like another ho-hum paean to the simple life . . .," says an article in the Spring HUMANITIES describing Williams' work. But actually, continues the article, Williams uses his background as an industrial designer to show that the "modern" ways often are naive when contrasted with the old ways.

For instance, says Williams, modern man seals himself up in a centrally heated, air-conditioned home insulated and isolated from the elements. Such isolation, he suggests, may do violence to man's own physiological cycles, which may conform to the seasons. But in the still remote Transylvania Highlands, the natives shingle their houses with a coarse-grained spruce. The spruce reacts to moisture in the wintertime, swelling and sealing houses tight. During the summer, the shingles contract and allow cooling breezes to pass through.

Part of the problem in modern societies, says Williams, is the specialization which allows the specialists to ignore

the totality of the environment. Bankers are interested in interest rates, urban developers are interested in the financial return on office space, steel companies are interested in selling girders. Thus no one is concerned with congestion when a new 40-story downtown office building is constructed. In the "underdeveloped" cultures, by contrast, everyone is part of the same community, and there is recognition that the environment, the members of the community and their artifacts constitute a single system.

ABATEMENT

Air pollutants go underground

The Michigan Department of Public Health has approved a proposal by Georgia-Pacific Corp. to begin an air pollution abatement project that will pipe polluted air through abandoned gypsum mine tunnels.

Air contaminated with gypsum from kilns, and from crushing and cooking operations of the company's wall-board plant in Grand Rapids, will be piped through three miles of the tunnels. The tunnels will be equipped with sprayers to create a fine mist of water.

The gypsum particles will absorb water and fall to the mine floor. Eventually they will be recycled, but it would be done only after about a century, say company officials who explain that amounts accumulated will be fairly small because of the efficiency of in-plant scrubbers.

ENERGY CRISIS

Monopoly plays a role

The energy crisis—in which there are shortages of all the major fuels for power plants—may have its roots partly in increasing monopolistic control of energy sources, according to a study described in the May ENVIRONMENTAL ACTION by Steve Williams, a student of environment and government at American University.

Williams compiled his data from the National Economic Research Associates, Inc., from testimony to a Senate antitrust subcommittee, from work by Lawrence Beck and Stuart Rawlings of Ralph Nader's staff and from other sources.

The monopoly trend in energy began in 1966 when the Consolidation Coal Co., one of the largest coal producers in the nation was acquired by Continental Oil Co. Since then, six more of the nation's 15 largest coal companies have become oil company subsidiaries. The major oil companies also have significant positions in oil shale, uranium and tar sands, says Williams.

The prime reasons for the diversification, according to Williams, are capital gains and depletion favors, the threat of gasified and liquified coal (SN: 5/5/71, p. 381) and simply the desire to control as much as possible of the energy market.

The natural gas industry, for instance, has been pressuring FPC for years, with some success, to raise natural gas rates. Development of synthetic gas from coal could undercut the industry's position.

One of the unhappier aspects of the situation is that techniques for developing nonpolluting ways to use coal in power plants—gasification and liquefaction being two major possibilities—remain undeveloped.