

areas of the Nation. This is far from the case. It has also been assumed that air pollution and disease go hand in hand. The evidence for this assumption is still limited. The response of the individual to varying levels of SO_2 is not too clear. Air pollution is suspect as an etiological factor in the production of chronic bronchitis, but it is difficult to indict it with certainty "since it is but one of many noxious factors in urban life." The same guarded conclusion may be made with respect to emphysema. It is still less than clear that polluted air has any significant impact upon this disease. If anything, the correlation with smoking is far more impressive.

Continued and intensive exploration of the biological effects of prolonged exposure to ordinary urban air pollution is certainly to be emphasized. The present situation is fairly and wisely stated most recently in the Tukey report (PSAC) in the following terms:

While we all fear, and many believe, that long continued exposure to low levels of pollution is having unfavorable effects on human health, it is heartening to know that careful study has so far failed to produce evidence that this is so, and that such effects, if present, must be markedly less noticeable than those associated with cigarette smoking. Attempts to identify possible effects of ordinary urban air pollution on longevity or on the incidence of serious disease have been inconclusive. Special attention has been focused on lung cancer, which is known to be closely associated with tobacco smoking, and with the inhalation of radon, other radioactive materials, nickel carbonyl, chromates, asbestos, and other chemicals. There are consistent findings of a greater incidence of lung cancer in the cities than in the country, and it is possible that urban air pollution is a contributory factor in this disease. But its role is uncertain except in special situations, such as proximity to industrial plants that handle known carcinogenic materials.

Regardless of current looseness of definition of problem, of place and of effects of air pollution, certain quantitative aspects for the predictable future are important. Almost all projections of social and economic activity between 1960 and 2000 indicate that residues discharged into the air will multiply manifold, due to great increases in population and resulting industrial, domestic, and automotive activities. Electric power production, on all prophecies, will be multiplied threefold or fourfold. Probably two-thirds of this power will still be from fossil fuels. Motor vehicle population, if current public policy is continued, will mount by some fourfold by 2000.

In the motor vehicle and in power production lies the bulk of the air emission problem, via motor fuel and coal, oil, and natural gas. Between them, they account for a major part of the problems with particulate matter, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon dioxide. Congressional discussions give due recognition to two pressing issues: the control of hydrocarbon emissions from motor vehicles and the development of low-cost techniques to reduce emissions of oxides of sulfur in the combustion of sulfur-containing fuel. In both of these areas, economics and technology play significant roles.

The primary questions as to the Clean Air Act of 1965 are whether its regulatory and research assignments to the Department of Health, Education, and Welfare and the Department of the Interior are best calculated to produce the results earnestly desired by Congress. Unless the agency activities are geared more closely to private corporate developments than is indicated in the recent record with other pollution abatement efforts, the successes are likely to be slow and disappointing.