

pollution occurs and a clarification of the forces that produce pollution or allow it to occur.

Now, social scientists are not particularly good at biochemistry or combustion engineering and ought not to work on the physical aspects of pollution per se. What they ought to be thinking about is the sociological context in which pollution takes place. What are the human attitudes, interests, inhibitions, habits, beliefs, and so on that affect the processes of handling air, water, waste, containers, food, and the like.

Let me take as an example one that comes through some public health experience that I happened to have had. One of the most serious problems in underdeveloped countries is a disease called weanling diarrhea, which affects children from 6 months to 3 or 4 years of age. In addition to malnutrition, retarded physical and mental growth, increased susceptibility to respiratory diseases, and other infections are the symptoms of this enteric affliction. It often terminates in death.

The origin, transmission and behavior of this disease are being studied and there are a good many open possibilities. It might be a dietary deficiency, a virus infection, bacterial infection, or other causes. An interesting question is how this disease moves about among the population. It was a behavioral study that showed an intimate association between the prevalence of diarrhea and the availability of water.

Now, if water is available within a hundred meters of the home, the prevalence of the diarrhea is remarkably less than if the water is more than 100 meters away. This finding comes from a study done in Costa Rica by the Louisiana State University School of Medicine. There is not much difference in prevalence whether the water is piped into the individual house or available in a public spigot or even at a well as long as it is near the house. It is distance from the home that counts. This suggests very strongly that the mode of transmission is hand to mouth in a very literal sense. That is, the cleanliness of the mother and child are greater if water is available so that they can keep themselves clean, and therefore keep the infants' food and toys and other things that children put into their mouths clean.

Now, it is probably failure of personal hygiene through the lack of water that is one of the major means of transmitting whatever the causative agent of this disease may be. Behavioral study suggests very clear clues as to how the disease is transmitted, and maybe how it can be partially controlled.

Now I want to take another example of social science research and show its possible contribution to the study of pollution. Much attention has been paid to the possibility of reducing air pollution in urban areas by altering commuter habits, especially by shifting people from private automobile to public transportation and particularly from vehicles propelled by internal combustion engines to some other kind, preferably electrical.

Now, economists have been doing some thinking about some of these problems and doing some research, examining the value of time, the attractiveness of mode of transportation and questions of subsidy or cost of alternative modes of transportation.