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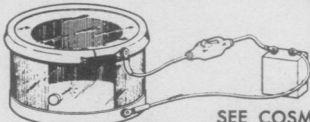
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PUBLIC HEALTH

Study Air Pollution

➤ NEITHER rain, storm, snow nor sleet keeps the British postman from the completion of his daily rounds, but air pollution does.

Health records of mailmen in Britain indicate there is a "very significant correlation between visible fog and sickness absence and 'bronchitis wastage' (by which is meant mailmen dying in service, or prematurely retired, from chronic bronchitis)," Dr. Geoffrey C. Carey reported.

A seven-year study of postal workers showed the pneumonia and bronchitis rates for an indoor worker was comparable to that of an outdoor mailman 20 years younger, Dr. Carey told the National Conference on Air Pollution meeting in Washington.

The scientist, a member of the department of preventive medicine and industrial hygiene, University of Cincinnati, said that a study of some 200 chronic bronchitis patients also gives evidence of a relationship between air pollution and sickness. The patients tend to feel worse immediately before the onset of visible fog. Furthermore their symptoms increase and decrease in

exactly the same pattern as do simultaneous measurements of smoke and sulfur dioxide. Other studies, especially a long-term follow-up study of the sickness records about 700 school children grouped according to their places of residence, are being carried out to study the effects of air pollution.

While it is difficult to compare the air pollution problem in the United States and Britain—pollution levels in a typical American city are only one-tenth those in London—there are some similarities, Dr. Carey said. Chronic bronchitis sufferers in this country also exhibit a worsening of symptoms with increases in air pollution.

Other scientists at the Conference, reporting on the health effects of air pollution, pointed to research implicating polluted air as a possible factor in emphysema, lung cancer and other diseases of the respiratory system. However, much of the research is still in the early stages and the relationship between effects observed in animals and diseases in man needs further study, they said.

Science News Letter, November 29, 1958

METEOROLOGY

Radar Helps Weathermen

➤ PROGRESS in efforts to improve very short-range forecasts of the ceiling and visibility at airports was reported at a weather radar conference meeting in Miami Beach.

Sudden changes in visibility can endanger descending aircraft. Reliable reports of visibility during the next few minutes are especially important when jet aircraft are being landed.

Radar observations of rainfall may be helpful in forecasting the sudden changes, Prof. James M. Austin and Morton Glass of Massachusetts Institute of Technology have found. They and other M.I.T. meteorologists have been studying the problem with the help of a device that integrates and corrects the information appearing on a radar scope about precipitation.

This electronic apparatus, developed at M.I.T., is called an iso-echo contouring device. The radar weather observer who uses it receives a more complete and up-to-the-minute picture of the contours of a storm than he is likely to be able to piece together from ground observers' reports. Many more rain-gauge readings than are normally available would be needed to give a forecaster as good a picture as this apparatus produces on the radar scope of the area covered, the intensity and the duration of precipitation.

The extent to which radar observations may be applied successfully to short-range forecasting depends not only upon the relationship of ceiling and visibility to rainfall, but also upon the predictability of the radar patterns themselves. Dr. Aaron Fleisher and Thomas M. Noel of M.I.T. have been using

an IBM-704 electronic computer to study the feasibility of predicting the rainfall patterns as seen by radar.

At the same time, Prof. Austin's wife, Dr. Pauline M. Austin, and Mrs. Dorothy Berry have been using the iso-echo contouring device to study small storms that occur within the area encompassed by a large storm. Their research has indicated the variations within storms should be considered both in investigations of the effects of rainfall on the surrounding atmosphere and in studies of the formation of precipitation.

The radar weather work at M.I.T. has been supported by the Army, Navy and Air Force, and was described during a conference sponsored jointly by the radar meteorology committee of the American Meteorological Society and the radar meteorological section of the University of Miami Marine Laboratory.

Science News Letter, November 29, 1958

● RADIO

Saturday, Dec. 6, 1958, 1:35-1:50 p.m. EST

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.

Dr. S. Fred Singer, professor of physics, University of Maryland, College Park, Md., will discuss "Radiation Menace in Space."