

One final point is this: Pollution has been looked at as a problem of negligence and as an effect of a lack of knowledge. But even if we obtain the knowledge and the method of handling manmade pollution, it brings to mind that in the middle of the 19th century there was a volcano that erupted and polluted the atmosphere so that in the Northern Hemisphere it snowed in July and August. This is a climate change that would have immense strategic bearing. For example, the crops all failed in a certain band. Although there was no warning of this, it caused a complete crop failure. On the strategic level I think some thought should be given to what could happen if certain bands of the high atmosphere were polluted.

We in Pittsburgh have met the problem of smoke pollution I think as well as any city in the country. The cleanup of Pittsburgh's air was achieved by a monumental bootstrap operation. It called for an unstinting cooperative effort by every element of the community. The limitation forbade all outside open fires, placed limits on the quality of the fuel sold, and generally put the emission of all types of airborne gases, vapors, and fumes, under regulatory control. For one city that was a tremendous change.

That was one of Mr. Vivian's points. It was a costly change for every person there, but it has been the greatest benefit that Pittsburgh ever had. I can say from our own experience that we in our area think that municipal and private expense as well as corporate expense was tremendously worthwhile.

I want to congratulate you both on your excellent statements.

Mr. DADDARIO. Thank you, Mr. Fulton.

Mr. Wydler?

Mr. WYDLER. I have no questions.

Thank you.

Mr. DADDARIO. Dr. Malone, again I wish to thank you and Dr. Hibbard and his colleagues.

It has been a very helpful morning for the committee.

(The biographical statement of Dr. Thomas F. Malone follows:)

BIOGRAPHICAL STATEMENT OF DR. THOMAS F. MALONE

Thomas F. Malone is Vice President and Director of Research for The Travelers Insurance Companies, Hartford, Connecticut. He also serves as: Chairman, Connecticut Clean Water Task Force (composed of 100 interested citizens from all walks of life in Connecticut who responded to a request from Governor Dempsey to recommend an action program to assure clean water for Connecticut); chairman, Committee on Atmospheric Sciences, National Academy of Sciences; chairman, U.S. National Commission for UNESCO; Secretary General, Committee on Atmospheric Sciences, International Council of Scientific Unions and International Union of Geodesy and Geophysics; member, Committee on Water, National Academy of Sciences; member, Connecticut Research Commission.

In the recent past, he has served as: Member of the Advisory Committee on Air Pollution to the Department of Health, Education and Welfare, member of the Special Commission on Weather and Climate Modification to the National Science Foundation; President of the American Geophysical Union; president of the American Meteorological Society.