

Now, the fact is, we do not have a community criteria for any single automobile pollutant. This might come as a surprise to many people because many of those compounds have been around a long time. Sulfur dioxide has been around for a long time. So has carbon monoxide, fluorescein, and ozone, but we do not have criteria for a community.

What we have is criteria for an industry, but industry criteria is completely different from a community criteria. If a fellow works in a factory, and doesn't like the smell, he can still find another job. In a community, this is a completely different thing. This man is going to live here, and he is not going to go because he doesn't like the smell.

There is one other item and this is the question of statistics which is very difficult in the case of a community. We say as a standard that only 1 percent, 10 percent, or one one-hundredth of a percent of the people will be bothered but when you calculate what one one-hundredth of a percent is in a population of 10 million people, that is an awful lot of people and an awful lot of complaints.

So it is extremely difficult to develop the criteria for a community. The kind of research we need there is preventive research. That is, we must study the physiological acts that appear when there is a compound in the air, and then see when the first changes begin to occur. These begin long before a man enters a clinic or before he becomes drowsy. This is the type of work that has to be done on a very large scale.

As I said, there isn't any pollutant for which we have at the present time that kind of a figure. For example, the industrial level for carbon monoxide is somewhere around a few hundred parts per million. The California State Health Department has accepted the level of 30 parts per million. At 30 parts per million, 5 percent of your blood hemoglobin is taken up by carbon monoxide, instead of oxygen. That is nothing serious. But the smoker inactivates another 5 percent, so together that is 10 percent.

The judgment was made that 10 percent of the hemoglobin inactivated might be acceptable, but who determines whether it should be 5 or 10 percent? At a matter of fact, I don't like to have the court determine that I am all right with 5 percent of my blood hemoglobin inactivated.

I don't like to have inactivation at any time. So here is where a tremendous amount of work must be done by the people in the universities, the different health departments, and everywhere you can find competent people.

Thank you.

Mr. Brown. Thank you, Dr. Haagen-Smit. Your testimony has certainly covered the gamut of problems that exist in the field of smog control and the necessary research.

I want to ask just one question to start off with, and then I will ask Congressman Bell for questions.

We are faced within the next year or so with a requirement for exhaust devices on automobiles, which even at a modest cost of \$50 per automobile for 10 million cars produced a year would mean about \$500 million, which of course will be paid by the automobile purchasers—by the taxpayers.