

The Anti-Industry 'Carcinogens' Hoax

A biologist tells business to quit being defensive

The media brouhaha over alleged "cancer-causing agents" in our food, air, and water was condemned as a hoax by biologist-geneticist Richard Pollak, a spokesman for the Fusion Energy Foundation. Dr. Pollak made the charge in a speech to a workshop on diesel emissions sponsored by the Departments of Energy and Transportation and the Environmental Protection Agency, in New York City. This article is taken from Dr. Pollak's remarks.

There has been a pervasive problem of defensiveness in the industrial community, of bowing to the assumption that the introduction of new industrial technologies always means severe new health hazards for the population.

This is a hoax, a tool of insinuation and innuendo used against technological innovation and its industrial applications.

An insidious argument is continuously put forth by the environmentalist movement, which goes like this: Industry and technology must bring harmful effects, but since the effects are not always readily apparent, they must be expressed as a "hidden plague" of cancer. Thus, it is claimed, cancer is the scourge of modern industrial society.

The facts, however, show that the incidence of cancer has not increased since 1900. Remember that in the period from 1900 on, the United States underwent a

massive shift to mechanization, both in rural and in urban areas. This was a tremendous social change that thrust millions into the industrial modern era. As a result cancers *should* have increased dramatically, if, as it is argued, industrial by-products are highly carcinogenic; increased so dramatically that we would have seen a tremendous rise, a geometric rise, in cancer.

But this simply didn't happen. If you take into account the increase in the absolute size in the population and the relative increase of the elderly to the population as a whole, and then add in the increase in lung cancers which is epidemiologically closely correlated to cigarette smoking, it is clearly demonstrated that there has been *no* increase in the incidence of deaths due to cancer for the population of the United States. Indeed, there has been a slight decrease.

Those "Scientific Tests"

Yet, in their zeal to protect the population from the illusory "cancer epidemic" and to provide an equally illusory "risk-free" environment, environmental scientists have mustered an imposing array of empirical tests which, if they were taken seriously, prove that we

all should have died years ago. These tests have no scientific bearing on the problem of human cancers.

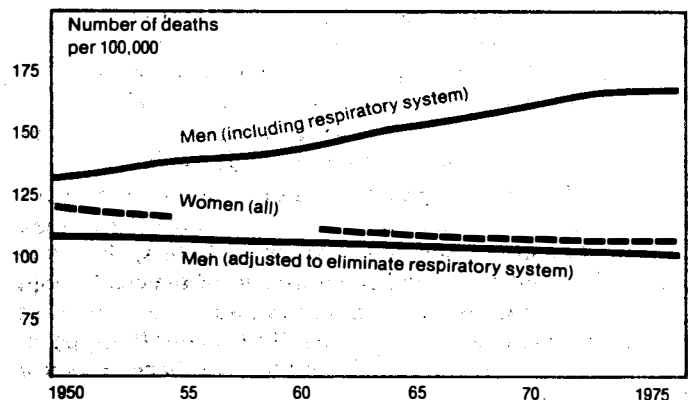
One of the most frequently quoted tests which is alleged to indicate the carcinogenic potential of various substances is the Ames test. It involves subjecting specially engineered bacteria to various chemicals to determine the substances' mutagenicity (i.e., their effects on the bacteria's

extrapolating these findings to show the alleged carcinogenic potential for humans. But this extrapolation is fraudulent. The linkage of mutation to cancer is uncertain, the effect of high doses used in the tests cannot be linearly compared to that of the low doses to which the human population is exposed, and there is little correspondence between the physiology of a highly sensitized primitive bacterium and that of the most advanced mammalian species. Moreover,

claims that the Ames test has a certain value as a screening tool to determine which compounds should be further investigated for carcinogenic activity rest on a statistical correspondence between the Ames test and other animal tests, which is being refuted as more data are generated.

Current animal studies are also fraught with inconsistency. Here too, the problems are ones of unwarranted extrapolation, from nonhumans to humans and from high doses to low. The former implies that animal systems and human systems are basically the same. This is obviously not the case; there are profound metabolic, physiological, and anatomical differences which demand a great deal of caution in the interpretation of animal studies to potential effects in humans. For instance, penicillin produces sarcomas in rats; under Environmental Protection Agency guidelines doctors should not use penicillin to treat human disease!

The second incorrect extrapolation involves dosage levels. When an investigator massively doses a test



organism, he often surpasses the threshold level at which those organisms have the ability to detoxify the substance in question. Yet if one takes those results and extrapolates down to lower levels, which is the usual methodology involved, the implication is that even at low levels the effects are the same, a statistical model which has never been verified in biochemical studies or in metabolic studies.

Of course, there is the final question of the interpretation of the results. Hair dye is found to cause cancer in rats—when the rats eat large quantities of hair dye. To extrapolate that to someone using hair dye on his hair and skin is far-fetched, if not outright dishonest.

Then there was the Colorado researcher who inserted a coin into the peritoneum of a group of rats, and found that these coins caused cancer. Does that say something about the money supply? It does not say anything about cancers, as they relate to either the workplace or the environment as a general phenomenon.

The truth is that a "pure" environment just does not exist. Think of your drinking water, for example: calcium has been shown to be carcinogenic by the Food and Drug Administration. But if you took calcium out of your drinking water and drank "pure" doubly distilled water, like that found in every laboratory, you would very quickly be dead, because the doubly distilled water would leach out ions, including calcium, that are essential to your metabolic being.

The type of data which appears to be the best for evaluation purposes is epidemiological. Yet, this too runs into some real problems.

For example, there was a Swiss study by Blumer, et al. in 1977 on polyaromatic hydrocarbons in soils and the relationship to cancer in a Swiss village. The study found that there were two groups of individuals in this village — one lived by the road in older housing along a well-traveled highway, the other further back off the highway in newer housing, in a place where there was very little traffic. The former group had higher incidences of cancer.

This study has been interpreted by the environmentalists to show that diesels on the highway caused cancer. Yet any careful reading of this study shows that it does not say that at all. In fact, it is actually quite a poor study.

First of all, diesels are never mentioned in the study itself. But then, let us look at some of the data-collecting activity in the study. It never says how this town is divided in terms of age groups. It is possible that, because there was a clear-cut division in the age of the housing, perhaps there had been a shift in the population such that the younger people moved to the newer housing. I do not know; there was no data. We will never know unless we go back and do the study again.

Were the water supplies the same? We do not know. Were the housing materials the same? Were the income levels the same? How about smoking habits, the occupational breakdown, and the material of the road — not necessarily the vehicles that traveled on it, but what about the roadbed material itself? None of these parameters were investigated. How can you therefore show

with this study that diesels were the cause in the difference of incidence of cancers is beyond me.

Technology And Well-Being

The essential question here, however, is the basic one of a "no-risk" society. This utopia is an illusion. It is fallacious to assume that it is possible to separate out the biological risk to an individual as a result of the introduction of a particular form of technology from the contribution that that technology makes to the overall health of the society; the individual's biological health is not a category which is separable from societal growth and well-being. Therefore there is no need for manufacturers and people in the industrial technologies to apologize to the environmentalists!

Let me illustrate this concept briefly by looking at what happens when you introduce diesel equipment into a mine.

First let us look at some of the risk factors in a mine in general. There is black lung disease; the risk is death for one out of every 10 workers. Mine accidents create another huge risk. A miner goes into a mine knowing that he could be struck down by a variety of possibilities. It is a very hazardous profession, to say the least.

Now think what diesel equipment does in a mine. It frees the number of workers needed. The introduction of machinery actually increases the labor power of the individuals in that mine, such that you need a concomitantly decreased number of workers in order to get out the same product. The cancer rate for the particular worker group actually declines for a given productivity.

As soon as you remove a significant number of workers by the introduction of this machinery, you have increased the health of those workers. That is obvious. No longer do they face black lung disease, coal accidents, and so on. You also increase society's health in a very significant way, because you now free these workers to go on and make diesel equipment, and to administer to other technological needs of society, like inventing newer forms of technology that will supersede the diesel and other technologies of today. This labor power can then also become biologists and medical personnel to deal with, and eventually cure, cancers.

It is foolish to be defensive about the introduction of advanced technologies, because the general health and well-being of society, as well as of the individuals in the particular area, is obviously *enhanced*.

You can always say that the introduction of this or that machinery brought a risk, but the overall effect is, obviously, positive. Indeed, the increase of free energy as a result of every introduction of technology may lead to other general health cures.

Thus, the industrialization and the implementation of advanced technologies throughout this society has had an absolutely positive effect on the health and well being of the individuals. As I have pointed out earlier, the nominal increase in cancer is primarily due to the increase in lifespan and the age grouping. And that increase in lifespan was a direct result of the most massive industrialization in the history of the globe, in the United States from 1900 to 1975.