

## MEDICINE

# Smog Kills Flu Virus

SOMEBODY has something good to say about smog, for a change.

The good word comes from two scientists who live in Los Angeles, considered by many to be the most smog-smitten city in the U.S.

They found that smog affects influenza viruses in such a way that they are unable to infect. Here is what Drs. Robert D. Boche and James J. Quilligan of the College of Medical Evangelists did:

They exposed black mice to high concentrations of synthetic smog for two months. These mice were then more resistant to influenza virus infection than their corresponding controls if, after virus inoculation, they were again allowed to reside in smog.

This led the researchers to the conclusion that smog destroys the virus in the infected animals. To test this explanation, they bubbled various quantities of smog-like gases through suspensions of viruses. Repeated studies showed that the synthetic smog destroyed the ability of the virus to infect, the scientists reported to the meeting of the Federation of American Societies for Experimental Biology in Chicago.

Another group of mice, located in a spot in the U.S. that is diagonally opposite Los Angeles, have produced evidence that humans may someday be able to supply each other with blood-building tissue as easily as a blood transfusion.

Dr. Elizabeth S. Russell of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, showed this could be done with anemic mice. She transplanted bone marrow from normal mice to their anemic "cousins." She found that the blood picture of the anemic mice improved immediately and soon became normal.

In addition, skin grafts later transplanted from the normal mice to their formerly anemic cousins were permanently accepted.

Normally, when no bone marrow had been transferred to the anemic mice, the skin grafts would, within 30 to 60 days, be rejected by the mice.

Such skin grafts have remained on the formerly anemic mice for more than 250 days, she reported. However, this success only occurs after blood-forming tissue has been transplanted to these mice.

This suggests that these mice are very much alike except for a slight incompatibility of tissue. She further believes that this might be true in humans. By matching gene-types, it might be possible to induce this type of tolerance in humans. Then someday people would walk around with special patches on their arms to identify their blood-gene types.

Identical types could then donate blood-building tissue for victims of radiation, leukemia and burns. There are probably many more such types than the blood types we know today, she speculated.

Science News Letter, April 23, 1960

## Breathes Automatically

SLAPPING baby's bottom at birth causes him to cry and begin breathing. But for the next few days of life, the child's breathing is automatically controlled and has nothing to do with the drive to supply oxygen and exhale carbon dioxide as in the adult.

This conclusion is based on a study by Drs. E. Adolph and P. A. Hoy of the University of Rochester, Rochester, N. Y. They studied the breathing habits of newborn rats, including response to various degrees of oxygen shortages.

It has long been known that infant animals can live without air for much longer periods than adults. They can also survive in atmospheres containing very small amounts of oxygen. Thus, in a gas

mixture that contained only 20% to 30% of the usual amount of oxygen, newborn rats survived more than one hour.

The researchers said that the infant rats were capable of carrying on bodily processes with very little use of oxygen.

Ordinary breathing at birth is not driven by the shortage of oxygen, and probably not by the excess of carbon dioxide, as is most likely true in adults, the scientists reported at the meeting.

Rather, they suggest that a pattern of breathing is set up within the body that is modified only by extremes of oxygen and carbon dioxide. Therefore, breathing is probably controlled from inside the nervous system during the early days after birth.

Gradually the familiar control by body carbon dioxide and oxygen content becomes more exact and reliable. The controlled system gradually becomes refined into a system more responsive to environmental changes. At about the same time, the infant's ability to live with low amounts of oxygen has been lost, and the adult stage emerges. At this point, the child has come to depend upon a full supply of oxygen.

Science News Letter, April 23, 1960

## Alcohol Damage Curbed

SUBSTANCES that appear to be capable of preventing some of the damage caused by alcoholism were reported.

The substances are ribonucleosides, nucleic acids that occur in all living cells. These acids have been found to be helpful in checking the amount of damage that alcohol produces in a certain strain of bacteria, *Lactobacillus arabinosus*, Drs. E. M. Lansford, Jr., W. Shive and I. D. Hill, of the University of Texas, Austin, reported at the meeting.

They found that alcohol, in sufficient concentrations, can kill some strains of bacteria. A previous study of a different strain of bacteria revealed that growth prevention caused by the alcohol was counteracted by another substance, glutamine, a component of many proteins.

It was later shown that when rats received the glutamine, they chose to drink less of a diluted alcohol than when they did not receive the protein substance. Tests on humans revealed that some alcoholic patients benefited from supplemental amounts of glutamine to the extent that their compulsion for alcohol was reduced.

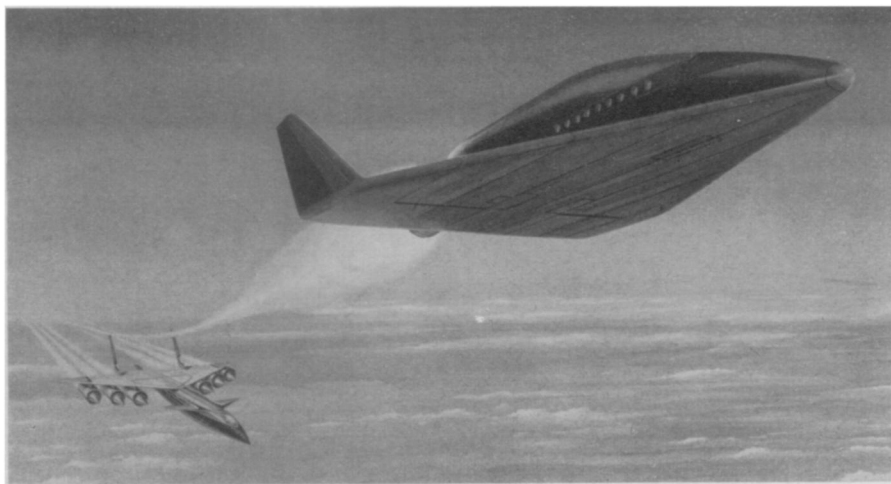
Now, the Texas scientists are hopeful that the ribonucleosides will produce this same effect in alcoholics.

Science News Letter, April 23, 1960

## Blood Loss From Aspirin

ASPIRIN can cause bleeding in the stomach when taken in relatively heavy doses for a week or more.

It has often been reported that aspirin causes significant internal blood loss through the stomach but reports on the effect of various amounts of the common pain killer have not been in agreement. Drs. Richard M. Watson and Richard N. Pierson Jr. of St. Luke's Hospital, New York, offer additional evidence that Amer-



**SPACE "PIGGY-BACK"**—A rocket-powered hypersonic transport plane that separates from its supersonic booster at 120,000 feet is predicted for the year 1980. The transport, which would carry passengers 6,000 miles in an hour, was proposed by Leston Faneuf of the Bell Aircraft Corp., Buffalo, N.Y.