

mates, the dogs survived the operation for 30 days.

Drs. Creighton A. Hardin and C. Frederick Kittle found that cortisone helped the dogs with grafted lungs survive a little longer, but benadryl and X-ray treatments did not help in fighting the body's reaction to a foreign substance.

One experiment was made by removing the spleen, the organ which manufactures the antibodies to foreign substances in the body. This, however, did not affect survival rates in the dogs.

Although the dogs survived the operation for only short periods, the transplanted lungs did function as breathing organs. Proof of this came from two animals that survived two and one days, respectively, when they had only the transplanted lung to breathe with.

#### MEDICINE

## Forsee Better TB Cures

► A BETTER understanding of how the body is damaged in tuberculosis and some future hope of new weapons against the disease is coming out of research at the University of California.

Dr. James B. Cason, professor of chemistry, has isolated from the tuberculosis germ a rare acid that causes TB lesions in animals.

He has also worked out some of the architecture of the acid molecule, and has built a synthetic model containing all of the molecule's known structural features.

The synthetic molecule and similar molecules are being tested in animals by Dr. Sanford Elberg, professor of bacteriology. The tests are not complete, but they already show that small differences in geometrical molecular shape can cause very large variations in reactions of the animals.

An implication of the work is this: if the chemical proves beyond question to be responsible for the TB lesion, tuberculosis may at some time in the future be fought on new grounds.

The scientists cautioned, however, that a great deal of work remains to be done, and that no treatment could be based on their research to date.

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Freezing has also made a kind of immortality possible for bulls. The situation is reminiscent of that described in the popular song of several years ago, "I'm My Own Grandpa."

By freezing the male sex element of the bull, it is possible for a bull to father calves long after he died. This might give rise to a "family" in which every offspring for several generations had the same father.

Frozen semen banks have not yet taken their place with blood and bone banks, but live calves have been born from cows artificially bred with frozen semen. The technique used is the glycerol method developed by the British scientists. The Wisconsin Scientific Breeding Institute has bred several thousand cows with the frozen semen.

Science News Letter, September 18, 1954

The work is an outgrowth of research begun about 20 years ago by Dr. R. J. Anderson at Yale University and Dr. Florence Sabin of the Rockefeller Institute. Dr. Anderson isolated a mixture of branched chain fatty acids from tubercle bacilli, and Dr. Sabin found they caused TB lesions in animals.

Not until Dr. Cason isolated a pure component from the mixture, was it possible to tell precisely which acid was responsible for the damage. The acid appears to be the agent, or one of the agents, by which the bacillus harms the body.

Dr. Cason and his co-workers have separated the fatty acid from five different virulent strains of tuberculosis. It was not found in two non-virulent strains. Other strains must be investigated to determine if the acid makes the difference between virulence and non-virulence.

The research is very tedious because only minute quantities of the acid are present in the bacilli. Two pounds of bacilli will yield only about one-hundredth of an ounce of the toxic acid. Only about one-twentieth of an ounce have been isolated so far.

Science News Letter, September 18, 1954

#### PATHOLOGY

## Liver Cancer, Cirrhosis Increase Since Repeal

► BOTH LIVER cancer and cirrhosis of the liver have been increasing since the repeal of prohibition, it appears from figures reported by Dr. Hugh A. Edmondson of Los Angeles to the International Congress of Clinical Pathology meeting in Washington.

The increase in cirrhosis has been five-fold, that of cancer of the liver ten-fold since repeal of prohibition, Dr. Edmondson said. His figures were from autopsy reports at the Los Angeles County Hospital.

Science News Letter, September 18, 1954

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