

## MEDICINE

## Chemical Remedy May Bring Cancer Control

**C**ONTROL of cancer by a chemical remedy, perhaps one that can be taken by mouth, seems more probable than ever as a result of research reported by Dr. Leonell C. Strong of the Yale University School of Medicine (*Science*, Feb. 11).

No such human cancer cure has yet been obtained, and Dr. Strong's report is of research with mice only. When he fed these animals a chemical, heptyl aldehyde, along with an otherwise normal diet, however, the spontaneous tumors of the breasts of the mice softened, liquefied and regressed or disappeared completely.

Without referring at all to human cancer, Dr. Strong points out that his research "opens up the question that spontaneous tumors, in mice at least, may eventually be controlled by chemotherapy."

The research now reported is a sequel to previous work in which Dr. Strong found that feeding cancerous mice true oil of wintergreen caused softening and complete liquefaction of the tumors. The active agent in this oil, he has now found, is the chemical heptyl aldehyde. When he gave this chemical to the mice, the tumors liquefied so extensively that they could be drained or sucked up through a hypodermic needle. This drained-off liquid was tested bacteriologically by Dr. C. G. Burn and found to be sterile.

*Science News Letter, February 26, 1938*

## HYDROLOGY

## Wind Over Water Makes Slowly Turning Rollers

**W**IND over water causes the formation of huge, invisible, slowly turning rollers extending from the surface downward for a number of feet with the long axes of the rollers parallel to the direction of the wind.

A description and explanation of this phenomenon, by Dr. Irving Langmuir, Nobelist of the General Electric Company, appears in *Science* (Feb. 11).

Dr. Langmuir was stimulated to investigations of the phenomenon when he observed, during an ocean voyage, long parallel streaks of seaweed lying in the direction of the wind, with spaces of clear water between them. He reasoned that the seaweed had been carried

to its position by surface currents moving across the wind, and that the streaks represented quiet water where the cross currents had come together and sunk, side by side.

Later, he carried on experiments on the sheltered waters of Lake George in New York. He used various things to keep track of the drift of the water along the surface, downward at the streaks, and up again in the spaces between. His experimental materials ranged from oil and the dyestuff fluorescein to white strings supported with corks and umbrellas with lamp bulbs as floats.

These watery rollers that the wind sets to rotating turn in opposite directions, one to the right, its neighbor to the left, and so on. The rotation is not truly in roller fashion, but rather with a helical, or corkscrew motion.

The motion is not powered directly by the push of the wind, but results from the cooling of the surface water. Cool water is denser than warm, so when it finds itself on top of warmer water it sinks, until it finds the level of its own density. In the meantime more water on the surface has been cooled to the sinking-point, and so the game goes on as long as the wind blows.

*Science News Letter, February 26, 1938*

## ENGINEERING

## Rare Earth Metal Makes Bearings Last Longer

**I**NDIUM, a few years ago a chemical curiosity, extracted with great difficulty from rare minerals, is now a full-fledged industrial metal, with an ever-expanding use as an alloying agent for bearing metals.

Motor bearings, resisting millions of revolutions during the life of a car, are now being made even tougher by plating the bearing surface with indium. C. F. Smart, General Motors Corporation engineer, reported to the American Institute of Mining and Metallurgical Engineers. This surface coating makes the bearing metal resistant to corrosion by the acid oils now in common use in motor cars.

Until recently, babbitt metal, an alloy of tin, antimony and copper, was used for most high-speed bearings. Today, bearings are lined with silver-copper-cadmium, cadmium-nickel, and cadmium-zinc alloys, which are later electroplated with indium, increasing their resistance to oil corrosion.

*Science News Letter, February 26, 1938*

# IN SCIENCE

## PSYCHOLOGY

## Baby Cries Most During First Four Months of Life

**P**ARENTS fast wearing down under the strain of the new baby's crying can look for some relief when he reaches the age of four months. This is the month when babies do the least crying, Drs. Mary Cover Jones and Barbara S. Burks found in research at the University of California's Institute of Child Welfare.

Before the baby is four months old, he cries because of internal hurts and bodily needs such as hunger or other discomforts. After the relatively quiet fourth month, baby starts to cry again but for different reasons. He is older now, has begun to take more interest in the world around him and his crying is stimulated by external causes. He now cries because he wants to be picked up and petted, or because he is angry.

*Science News Letter, February 26, 1938*

## MEDICINE

## Heart Pain Traced to Overweight in Many Cases

**S**EVERE chest pain resembling that of the dread heart malady, angina pectoris, is in many cases due to excessive overweight, Dr. William J. Kerr, professor of medicine in the University of California Medical School, has found.

The huge "bay window" of very fat men forces them to adopt an abnormal posture which cramps the chest, causes flaring of the lower ribs, fixes the diaphragm at a low position, thus producing breathlessness and preventing the heart from getting a normal supply of oxygen. Severe pain and low blood pressure in the standing position accompany the condition. The shortness of breath is marked only in the standing position which is contrary to the usual experience in heart failure.

The pain and other features clear up when the weight is reduced and the posture brought back to normal, Dr. Kerr discovered. Diet, properly fitted abdominal belts, and later postural exercises are used in the treatment.

*Science News Letter, February 26, 1938*

# E FIELDS

## MINERALOGY

### Minerals Magazine Uses Fluorescent Pages

**P**RINT that glows brightly green on a black page when exposed to ultraviolet light, and is red on a white page under ordinary light, is featured in the February issue of *Rocks and Minerals Magazine*. Long a pioneer in the field of fluorescence, this magazine is among the first to feature pages that are printed in fluorescent ink.

Fluorescence, the ability of a substance to radiate visible light when exposed to invisible ultraviolet light, has been put to work recently in many industries to separate substances that look alike under ordinary light. Thus, zinc ores at Franklin Furnace, N. J., are separated from similar-appearing worthless rock, and tungsten ores in Nevada are identified with little trouble.

*Science News Letter, February 26, 1938*

## ANTHROPOLOGY

### Stone Age Man Had His Own Tooth Troubles

**O**UR Stone Age ancestors had plenty of tooth troubles—and the trouble wasn't all in the teeth of cave bears, saber-tooth tigers, and other super-dentalized neighbors, either. Stone Age greatgranddad's tooth troubles were right in his own head.

This information, debunking widespread ideas that primitives, eating rough and raw foods, always had perfect teeth, was laid before the American Association for the Advancement of Science by Prof. W. M. Krogman of Western Reserve University.

It is true that dental caries is rarer in the oldest human skulls, and that its incidence increases as one comes down the line toward more recent times. In the Old Stone Age, over a hundred thousand years ago, the frequency of dental caries ranged from five to 20 per cent. In the New Stone Age, twenty thousand years ago, the frequency rose to a range of 15 to 45 per cent.

"In the next succeeding ages," Prof. Krogman continued, "the frequency rose, until in 3500 B. C., just before the

dawn of history, an early Iranian (Persian) people showed as high as 75 to 90 per cent. of the entire adult population afflicted with dental caries—a frequency as high as that of any 'civilized' group today."

And there weren't any dentists!

The false notion that primitive man always had perfect teeth got its start, Prof. Krogman pointed out, because archaeologists and curators always picked out "pretty" skulls for museum display. Now they keep the imperfect specimens, too—and frequently learn more from faults than they do from perfections.

Not civilization as such, but domestication, is the thing that has played havoc with man's teeth, Prof. Krogman declared in conclusion. And domestication started thousands, perhaps millions of years ago. For all our energetic fussing with vitamins and mineral foods and the like, our teeth keep right on going to the bad. It's all very discouraging.

*Science News Letter, February 26, 1938*

## ENGINEERING

### Britain to Follow Trend To Streamlined Trains

**A**FTER lagging a bit behind the United States and Germany in streamlined railroad trains, Great Britain is apparently on the way to follow the modern trend in what was once known as the iron horse.

Extensive wind tunnel tests have been reported by F. C. Johansen, engineering research officer of the London, Midland and Scottish Railway, to Great Britain's Institution of Mechanical Engineers.

A conventional British type train, it was found, has half its total drag caused by air resistance when the speeds are 80 miles an hour and above. The air resistance could be reduced 50 per cent. without too drastic departure from conventional design and could be reduced 75 per cent. by ideal streamlining, it was discovered.

The most hindering kind of wind was not one which came directly head on, as one might at first suspect, but which came in a quartering direction from ahead at an angle of from 30 to 60 degrees.

Surprisingly enough, the gaps between separate coaches in the train offered relatively little air resistance; but of great importance was the large drag caused by the trucks and undercarriage structure of the cars and engines. This last point was especially pronounced in a quartering or side wind.

*Science News Letter, February 26, 1938*

## MEDICINE

### Two New Heart Drugs Found in Experiment

**T**WO NEW drugs for treatment of heart disease which are 20 times as safe in relation to effectiveness as any previously known have just been found, Prof. Maurice G. Visscher, head of the department of physiology of the University of Minnesota, has announced.

The two new drugs were found during tests of 100 drugs in a study in which for the first time an animal's heart and lung were kept alive 24 hours after removal from the body in order to observe the relation of energy input and output of the heart.

Names of the drugs are being kept secret until clinical tests corroborate the experimental findings. They belong to the same group as digitalis, having a phenanthrene nucleus. Other related drugs include ouabain, squill, and certain poisons from the skin of the common toad, long used in Chinese folk medicine.

More than 250 hearts and lungs (the lungs to furnish oxygen for the hearts to burn) were placed in watertight glass containers. Glass and rubber tubes, simulating the arteries and veins of the body, were attached, and readings taken of the normal functioning of the heart. After about an hour, by which time the heart had begun to fail, a drug was added and its action noted.

"Under sterile conditions," Prof. Visscher said, "we could have kept the hearts alive for longer than 24 hours. However, by that time we had had all the information needed."

*Science News Letter, February 26, 1938*

## FOUNDATIONS

### Swedish Manufacturer Endows Science Foundation

**N**EW financial encouragement for scientific work will soon be forthcoming as a result of the endowment, by Dr. and Mrs. Alex L. Wenner-Gren, of a \$1,000,000 foundation, to be known as the Wenner-Gren Society, for furthering scientific research.

Dr. Wenner-Gren, Swedish industrialist and president of the Electrolux Company, has donated 25,000,000 Swedish kroner, (\$1,000,000), in bonds and securities yielding over 1,000,000 kroner (\$40,000) a year, as the society's endowment. Natural sciences, medicine, economic and social problems will be the chief concern of the society.

*Science News Letter, February 26, 1938*