

Questions

ASTRONOMY—What is the largest planet visible during February? p. 58.

ENGINEERING—Why is an atom-powered car not in sight for the American motorist? p. 57.

GENERAL SCIENCE—What is the new scientific field of study, gnotobiotics? p. 62.

GERIATRICS—What are two factors contributing to the shortening of man's life span? p. 56.

MEDICINE—How is the new blood measuring machine superior to the old type? p. 54.

NUCLEAR PHYSICS—What principle was being questioned when experiments were made leading to revolutionary new knowledge in theoretical physics? p. 51.

Photographs: Cover, General Electric Research Laboratory; p. 50, photos Dr. Lee, Prof. C. S. Wu, Dr. Garwin and Prof. Lederman, Columbia University; Dr. Yang, Dr. Yang; lower left and lower right, National Bureau of Standards; p. 53, U. S. Army; p. 55, General Electric; p. 64, Varco.

RADIO

Saturday, February 2, 1957, 1:45-2:00 p.m. EST.

"Adventures in Science" with Watson Davis, Director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Harry Polster, Senior Development Engineer, Perkin-Elmer Corporation, Norwalk, Connecticut, will discuss "Aurora and Satellites."

ENTOMOLOGY

Insect's Sense of Smell May Prove Its Undoing

► AN INSECT'S sense of smell may prove to be its undoing. A Czech scientist, Jaromir Pospisil of the Academy of Sciences in Prague, is attacking harmful insects through the use of aromatic insecticides.

Using special equipment, UNESCO reports, the biologist has charted reactions of insects to various odors. Flies, for ex-

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ample, are attracted by the smell of lactic acid in food and repelled by other chemicals, such as menthol.

The scientist is now trying to find specific aromatic chemicals that can be incorporated with insecticides that would kill only harmful insects, or make it distasteful for them to attack foodstuffs.

Science News Letter, January 26, 1957

PHYSICS

New Technique Brings Stronger Metals Nearer

See Front Cover

► METALS many times stronger than the best commercially available today have been brought a step closer by the development of a new technique for observing the motion of tiny imperfections in crystalline materials. The atomic imperfections, like those shown on the front cover, can be studied in greater detail than ever before by using the technique described by Dr. John J. Gilman and Dr. William G. Johnston, General Electric Research Laboratory.

The technique for observing the motion of tiny imperfections in crystalline materials involves the use of an etching solution and crystals of lithium fluoride. When the crystals are etched with a special acid solution, atomic imperfections in the crystals are revealed and can be photographed easily. The imperfections, called dislocations, are the focus of scientific interest since they are believed to hold the key to the strength of such crystalline materials as metals and ceramics. By such a technique, the deformation process can be studied in more detail than by older means, thus aiding the development of stronger engineering materials.

Science News Letter, January 26, 1957

Impurities in the air, such as sulfur dioxide, hydrogen sulfide and sodium chloride, induce more rapid corrosion than do pure air and moisture.

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Do You Know?

A *virus* which commonly causes mosaic disease of elm trees is transmitted through the pollen.

It is believed the average life span of whooping *cranes* in the wild is about seven years.

The Mexican bean, or "*frijole*," is the major source of protein for the rural population of Mexico.

Milk *cows* are responsible for a great many non-fatal accidents, including kicking, butting, hooking with horns, trampling and crushing.

One acre planted with *soybeans* produces about six times as many proteins as could be obtained from the meat of cattle fed from the products of one acre.

The tenderizing effects of *papain* take place during the cooking, so the usual practice of applying tenderizer and letting meat stand before cooking is unnecessary.

Cotton plants take up about 100 pounds of *nitrogen* per acre to produce the first bale, and each succeeding bale requires at least another 30 pounds.

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