

# SCIENCE IN THE NEWS

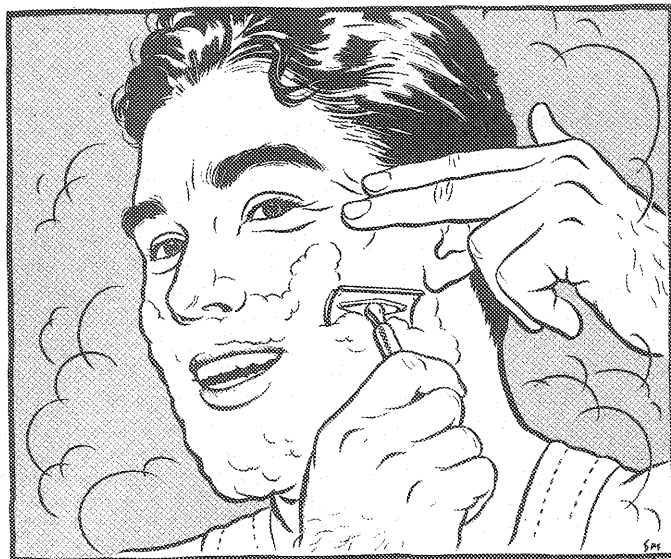
## 1949 Nobel Prizewinners

■ *Physics*—Dr. Hideki Yukawa, 42, now Visiting Professor of Theoretical Physics at Columbia University, for his mathematical prediction—14 years ago—of the meson, the atomic particle whose existence was proved experimentally by Caltech's Carl Anderson in 1936. (Anderson's discovery of the positron won him the Nobel Prize in Physics in 1936). Dr. Yukawa is the first Japanese ever to receive a Nobel award.

■ *Chemistry*—Dr. William Francis Giauque, 54, Professor of Thermodynamics at the University of California, for his studies of the behavior of matter in temperatures close to absolute zero.

■ *Physiology and Medicine*—Joint award to Dr. Walter Rudolph Hess, 68, Director of the Zurich University Physiological Institute, for his discoveries of how certain parts of the brain control the organs of the body; and to Dr. Antonio Caetano de Abreu Freire Egas Moniz, 75, Professor Emeritus of Neurology at Lisbon University, for developing the surgical technique known as pre-frontal lobotomy—a brain operation which opens up new possibilities for the cure of mental illnesses.

The 1949 Peace Prize went to Lord Boyd Orr, 69, of Scotland, former Director General of the United Nations Food and Agricultural Organization, President of the Movement for World Government.



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24—DECEMBER 1949

## Orlon: coming up

■ Late next year E. I. duPont de Nemours & Company will start commercial production of a new synthetic fiber called orlon. In exhaustive tests orlon has proved to be "the most resistant of all man-made fibres." It's resistant to sun, heat, and acids. It washes easily, dries quickly, and holds its shape. It's shrinkproof, mothproof, and a lighted cigarette won't set it on fire. In its strength and lightness it approaches nylon, duPont's earlier major success in the chemical yarn field. In most of its other properties—including probable cost—it falls somewhere between nylon and rayon.

Orlon was first developed during the war as a possible product for use in the South Pacific, where other materials—with the exception of nylon—rotted away in hours or days. Its first uses are likely to be in automobile tops, tents, tarpaulins, filter cloths for chimneys, curtains, and protective work clothes. Later on, it will probably compete with nylon in men's and women's clothing.

Orlon fiber is made from polyacrylonitrile, a plastic formed by the polymerization of acrylonitrile. Made from such basic materials as limestone, coal, petroleum, natural gas, water and air, acrylonitrile is one of the intermediate products in making synthetic rubber.

## Revolution in printing

■ Another new electronic device which threatens to revolutionize the printing industry was introduced in Cambridge, Mass. this fall. The machine has a standard typewriter keyboard, and any competent typist can operate it. By twisting a dial you can select any size type you want. An automatic justifying device makes all lines come out even. Though you can see what you're writing, the machine has a "memory" which stores up letters until a complete line has been punched. Mistakes can be corrected by pushing a button which "rubs out" the error in the storage chamber.

At the end of each line the letters are taken electronically from the storage chamber and coded, then transmitted to a decoding device where they bounce out in their natural form. They flash against an unexposed film and are photographed. The film can be developed instantly and engraved on a printing plate, ready for the presses—eliminating the long series of intermediate steps necessary in present printing methods.

Dr. Vannevar Bush, president of the Carnegie Institution of Washington, who has long been active in the development of graphic arts techniques, predicts that the new composing system will be "sure to cause some disruption" in the printing industry, but that disruption is "the penalty we pay for progress."

The machine, based on inventions by two French scientists, Rene A. Higonnet and Louis Moyroud, will be manufactured and sold by the Lithomat Corp.

## World War IV

■ The story goes round, says *The New Republic*, that Albert Einstein was asked by an admirer what weapons would be employed in World War III. Expressing ignorance, he said he could only speak for World War IV. "And what will they use then?" asked the breathless questioner. "Rocks," said Einstein.