INDUSTRY

Nuclear Heat Being Overlooked by Industry

➤ U. S. INDUSTRIES are losing an important source of power by failing to use ready-made heat from the "peaceful" atom, a private service dealing with atomic energy information for industry has stated.

In a report to its clients, the Whaley-Eaton "Atoms for Peace" Service said, "Low-temperature, low-pressure atomic reactors are capable today of producing industrial process heat at costs competitive with conventional methods."

Preoccupation with what one expert has termed the more "glamorous" aspects of nuclear power has led industry away from what might well be a fat little atomic baby on the doorstep, the Service charged.

Their report points out that existing nuclear reactors are currently producing low-temperature steam that is ideally suited for use in the paper, food processing, food canning, malt, distilled liquor and chemical industries. Here, the low pressure steam, in the range of from 300 to 500 degrees Fahrenheit, is applied to various raw materials being processed.

A nuclear reactor could be set up, at a cannery for example, to supply the manufacturer with this necessary process heat.

Higher temperature nuclear process heat in the range of from 1,500 to 3,000 degrees Fahrenheit, and used in smelting ores, melting glass and making bricks, will also be available in the future.

The report concluded that in the next few years nuclear energy has the best chance of competing with conventional fuels in those industries where low-pressure steam is used in large blocks, where the productive processes are continuous and the plants operate on a year-round basis.

Science News Letter, October 26, 1957

AGRICULTURE

New Corn Yields Starch For Plastics and Fibers

➤ A NEW TYPE of hybrid dent corn has been developed that promises to supply an important and useful industrial product—amylose starch.

A thin, transparent, edible covering in the form of a film that could be sprayed or dip-coated on irregularly shaped foods is one of the many products scientists expect will be developed.

Starch from the new corn contains as much as 80% amylose, compared with the 25% found in ordinary cornstarch, the U. S. Department of Agriculture reported. The unusual kind of starch is expected to serve as a raw material for making durable fibers, plastics and transparent films.

USDA scientists are now studying ways to develop corn hybrids with even higher amounts of amylose starch, yielding ability, and ears and kernels like those of ordinary dent corn.

Low-amylose starch from regular corn also has important food and industrial uses, as for adhesives and paper sizing.

Science News Letter, October 26, 1957

RADIOACTIVE POND—The effects of cesium-137 on plant and animal life in a typical pond will be studied at an experimental pond at General Electric Company's Hanford Atomic Plant, Richland, Wash. Robert C. Pendleton carefully pipes a 200-millicurie dose of radio-cesium into the pond. Cesium-137 has a long half-life (in 30 years only half of it decays) and is of major importance in the study of radioactive fallout.

PUBLIC HEALTH

X-Ray Dangers Debated

The dangers of exposure to X-rays, one of the medical doctor's most common tools for diagnosis and treatment, have been exaggerated, one scientist reports.

➤ TODAY'S X-ray specialist loses approximately two-thirds of a year from his normal lifespan, rather than the ten years indicated by widely quoted estimates, Dr. Gioacchino Failla, a New York radiologist, reported to the American Roentgen Ray Society meeting in Washington, D. C.

With the modern protection methods available, a radiologist receives no more than a 210 roentgen exposure between the ages of 18 and 60, and any shortening of his life can be considered negligible.

Dr. Failla also took issue with the recent estimate that exposure to one roentgen of X-radiation was equal to 15 days shorter life. Correctly, it should be only one day less per roentgen, he said.

Also speaking about radiation hazards was Dr. H. Bentley Glass, Johns Hopkins University, Baltimore, Md., who estimated that as many as 64,000 defective humans may be born in the next 30 years due to radiation exposure.

Each generation probably gets a dose ranging from one to eight roentgens to the gonadal tissue, causing a probable average of 800 defectives each year over a 30-year period.

"These numbers are clearly not negligible and must cause great concern," Dr. Glass reported.

Nevertheless, they must be considered against the background of the 80,000 annual births of genetic defectives that occur naturally by spontaneous mutation.

Radiation exposure creates only a 10% increase, even over a long term, he concluded.

Science News Letter, October 26, 1957

ASTRONAUTICS

UN Agency Urged for Satellites and Rockets

➤ DEVELOPMENT and use of earth satellites and long-range rockets for peaceful purposes would be undertaken by a United Nations agency and not by individual governments under a plan proposed by the Federation of American Scientists, organization concerned with interrelations of science and world affairs.

Space weapons are in the equivalent stage of development that nuclear weapons were in 1946 when international control might have been possible, the scientists argue. Banning of further tests upon large nuclear weapons and of long-range rocket weapons was also urged in the statement issued on behalf of 2,200 scientists and engineers of all fields.

Science News Letter, October 26, 1957

A photoelectric cell device resembling a fountain pen enables the *blind* to distinguish between light and shade and even between colors.