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OF THE WEEK

RESEARCH NOTES

ARTICLES

DEPARTMENTS

COVER: Abandoned chemical-waste dumps and sites where hazardous wastes have been dumped illegally represent a loophole in forthcoming federal regulations that lawmakers are belatedly trying to patch up. Thousands of these sites, located throughout the 50 states, represent silent and often unknown hazards to humans and the environment. See story on p. 348. (Photo courtesy of EPA and Sciquest).

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LETTERS

Saving helium

"The great helium waste" (SN: 5/12/79, p. 312), and the deploring thereof, is nothing new. In his article, "Helium, the New Balloon Gas" (NATIONAL GEOGRAPHIC, Vol. 35, No. 5), G. S. Rogers describes the wholesale waste of helium-bearing natural gas by drillers in southern Kansas because the helium and nitrogen contained in it reduced its burning qualities. Such gas was "contemptuously called 'the wind gas'" (p. 449).

> "It was customary [he states, p. 449] to allow this wind gas to blow wild into the air until exhausted; and how many million cubic feet of valuable helium have been wasted in this way no one can ever estimate."

It is interesting to compare your figures on the cost of extracting helium from natural gas ("up to $13 per 1,000 cubic feet") with those reported by Dr. Rogers in three federally funded experimental plants, each using a different method, set up during World War I to extract helium for use in observation balloons and dirigibles.

> "Our helium...can be produced by the first two methods at less than 10 cents a cubic foot, and if the third process fulfills the expectations of Bureau of Mines experts, this figure will be still further reduced" (p. 450).

I am interested in saving helium, not only because it is useful in the electrical/electronic technologies, but also because I live in hope that the air transport industry will someday come to its senses and bring back the dirigible.

David L. Hoats
Bordentown, N.J.

Alternative to the Doppler

Re "Something Weird in the Milky Way" (SN: 4/28/79, p. 277): In the 17th century Isaac Newton revolutionized science's view of reality.

In the 20th century it was Einstein.

Do you suppose that some day someone will prove that the Doppler shift is not a valid method of measuring the speed and direction of astronomical bodies?

After all, no one has ever really been "out there" to check it first hand.

Bernard Fremerman
Kansas City, Mo.

(The Dirac school of cosmology makes the Doppler shift vanish by a clever balancing of two different ways of measuring distance. Others have proposed physical means, such as "tired light" theories in which the light loses energy on the way. —Ed.)

Premature death knell

I was shocked to note in SCIENCE NEWS the implication that the Naval Arctic Research Laboratory at Barrow, Alaska, was "now closed" (SN: 3/24/79, p. 185). Although this 32-year-old laboratory is plagued with funding problems, escalation of costs and concerns about the future, I can assure you that we are very much alive.

The NARL supports the activities of a wide variety of research projects in oceanographic, biological, and atmospheric sciences. It also conducts a substantial in-house research program.

Perhaps the author of the article was confused with the closure of Fletcher's Ice Island T-3, which was abandoned in 1974 when it was grounded in the Arctic Ocean off Northern Canada. Scientific research projects had been carried out on T-3 nearly continuously since the International Geophysical Year, and it has served the science community as an important platform-of-opportunity in the Arctic Ocean during the period of its drift. It is again adrift and presumably will attain renewed interest.

Please be assured that the reports of the NARL's demise are premature.

Dr. John J. Kelley
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Barrow, Alaska

Measuring radiation over time

In the article about NIH in radiation research (SN: 4/28/79, p. 279) it was stated that residents of St. George, Utah, were exposed to 6,000 millirems, but the period of time to obtain such radiation was not explicitly specified. Without complete specification of units of radiation exposure the data are meaningless. Attention should be given to precise units of radiation exposure. A lifetime dose of 1,000 mR is safe considering that anyone old enough to read has been exposed to that amount of radiation from the sun. But a dose of 1,000 mR in one day is extremely dangerous.

Bill Iverson
Albion, Wash.

(The 6,000-millirem figure refers to the population dose from a single nuclear test in 1953 and delivered on one day. Patrick M. McLain, a counsel for Robert Eckhardt's (D-Tex.) Commerce subcommittee on oversight and investigations, which conducted hearings in Utah on the subject, offers another figure that may help put the St. George exposures in better perspective. He said that in congressional testimony on April 23, 1979, Gen. Mahlon Gates, the current manager of the Nevada Test Site, estimated a total-population dose to St. George residents for the period 1951 to 1958 of 3.7 rems. —Ed.)