

**OF THE WEEK**

Does antigravity really exist?	148
Divorcing nuclear power and weapons	148
Chicken teeth come to light	149
Crib death's possible genetic factor	150
The sperm of champions	150
Arthritis assay pinpoints CMV	150
Soviets try for a mammoth comeback	151
Pictures of an implosion	151

**RESEARCH NOTES**

Energy	152
Physical Sciences	152
Space Sciences	153
Science & Technology	153

**ARTICLES**

Heavy metals: A dangerous catch	154
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**DEPARTMENTS**

Letters	147
Books	159

**COVER:** Relatively little is known about how long-term exposure to heavy metals affects fish. A Tennessee researcher, who has joined the ranks of scientists studying this problem, monitors fish from the Holston River (pictured) and its tributaries — waterways polluted with heavy metals at "minimal risk" levels. See p. 154. (Photo courtesy of Tennessee Valley Authority)

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New York, N.Y. 10036

Fred W. Dieffenbach,

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**Editorial and Business Offices**

1719 N Street, N.W.

Washington, D.C. 20036

**Subscription Department**

231 West Center Street

Marion, Ohio 43302

Telephone (1) 800 — 247-2160

Subscription rate: 1 yr., \$15.50; 2 yrs., \$27.00; 3 yrs., \$37.50 (Add \$3 a year for Canada and Mexico, \$4 for all other countries.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code.

Printed in U.S.A. Second class postage paid at Washington, D.C. Title registered as trademark U.S. and Canadian Patent Offices.

Published every Saturday by SCIENCE SERVICE, Inc. 1719 N St., N.W., Washington, D.C. 20036. (202-785-2255) ISSN 0036-8423

# LETTERS

**Acid comments**

While Project Leader of the Ambient Air Modeling Program at the General Motors Technical Center, I was involved in the investigation of acid rain (SN: 2/2/80, p. 76; 2/16/80, p. 106), which affected paint finishes on cars. It is interesting to note that the large outbreak of acid rain in the East followed the switch of eastern powerhouses from coal to oil. Refineries use platinum/vanadium catalysts to remove sulfur from oil. When the State of Michigan considered switching from coal to oil, I wrote a letter (Dec. 10, 1974) to the State Air Pollution Control Commission and remarked: "The law ignores the quality of the community contaminant. In the northeastern part of the United States severe restrictions on powerhouses caused powerhouses to switch to low sulfur oil. The oil contains catalysts which favor the formation of sulfur trioxides. It is raining sulfuric acid in the East." While sulfuric acid can be found in coal powerhouse plumes it is important to note that obvious severe changes in pH (exponential increases in rain acidity) are difficult to explain with the control of sulfur emissions occasioned by our laws and the few large stacks built in the Northeast or Ohio. If one looks at the U.S. acid rain map, acid rain since 1974 has skirted Michigan.

*Peter C. Williams  
E. Longmeadow, Mass.*

Each week your writers do an impressive job of presenting scientific information intelligibly for us non-scientific types. Susan West's recent "Acid From Heaven" is an excellent example, particularly considering its global nature. It is, however, this global viewpoint which may have allowed a slight oversight.

Ms. West states there are "...no controls...for NO<sub>x</sub>..." State and local air quality agencies have been established in California for over a decade. Utilities in southern California have spent millions of dollars controlling NO<sub>x</sub> and SO<sub>x</sub> emissions from power plants. You will find this true in many other areas of the United States also. Certainly, we in California have not been waiting for EPA.

Ms. West's general conclusion that emissions will increase is still appropriate, however, for any area with increasing population and a moratorium on nuclear power plants.

*P. J. Roemmelt  
La Mesa, Calif.*

*(According to the EPA, little technology exists to reduce NO<sub>x</sub> emissions. Those controls in use reduce NO<sub>x</sub> by only 20 percent to 30 percent, compared with techniques that can reduce SO<sub>x</sub> by 50 percent to 80 percent. Comparable methods for controlling NO<sub>x</sub> have not yet been tested in utility-sized burners. — Ed.)*

**Cancer and vitamin C**

The letter by Dr. Linus Pauling (SN: 1/5/80, p. 3) was quite correct in its assessment of the results of the Mayo Clinic study. In addition, I am writing to mention another aspect of the study which makes it erroneous to claim that vitamin C has no therapeutic effect on cancer patients.

Because the Mayo Clinic study involved only patients who were terminally ill and for whom no other treatment sufficed, it is illogical to claim that vitamin C has no beneficial effect in cancer patients. Already at death's door, how could anything less than a miracle help them?

The same conclusions would be reached in relation to rabies vaccine if a study similar to the Mayo Clinic study was performed. That is, the rabies vaccine would show no beneficial effect on rabid patients if all the patients were in the last stages of the disease before the rabies vaccine was administered. Obviously, the value of rabies vaccine is well-established.

Therefore, I concur with Dr. Pauling that vitamin C has not been disproven to be beneficial in either the prevention or treatment of cancer by the Mayo study.

*Richard de Long  
Corpus Christi, Tex.*

**Don't rule out the filibuster**

Your article "Interior Extends Alaska Lands Protection" (SN: 2/23/80, p. 119) requires some clarification. The article states that Senator Gravel, who has opposed protective legislation, has agreed to a time limit on debate over such a measure "thereby ruling out any chance of a filibuster." Not quite so. Any bill passed by the Senate is likely to differ from the one passed by the House in May of last year. A conference committee will have to resolve those differences and the resulting compromise will have to be accepted by both the House and Senate. The time agreement does not prohibit a filibuster against the bill at that time. Indeed, Senator Gravel has been quoted in the Anchorage newspaper as saying that "we could probably stop a bill coming out of conference at the end of the session." People desiring strong legislative protection for Alaska's wild lands must not relax.

*Wallace Elton  
Middlebury, Vt.*

**Argonne acknowledged**

I would like to point out an unfortunate omission from the article entitled "R(3.17) or the color chemistry of quarks" (SN: 2/16/80, p. 103). The R(3.17) was observed in two experiments performed at different high energy physics laboratories, namely the CERN laboratory in Geneva, Switzerland, and the Argonne National Laboratory in Argonne, Ill. The Argonne experiment is not acknowledged in your article. It was the appearance of the R(3.17) in the data from both experiments which convinced us of its existence.

*Gerald A. Smith  
Professor of Physics  
Michigan State University  
Lansing, Mich.*

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