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Cover: Galileo tested the theory of gravity by dropping balls from the Tower of Pisa. Modern physicists use satellites in orbit and the quasars at the remote edges of the universe. Questions still remain. See p. 76. (Photo: Courtesy Italian Government Travel Office.)

<b>Publisher</b>	E. G. Sherburne Jr.
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<b>Advertising</b>	Scherago Associates, Inc.
	11 W. 42nd St., New York, N.Y. 10036
	Fred W. Dieffenbach Sales Director

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Subscription Department  
231 West Center Street  
Marion, Ohio 43302

Subscription rate: 1 yr., \$10; 2 yrs., \$18; 3 yrs., \$25. (Add \$2 a year for Canada and Mexico, \$3 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. Established as Science News Letter® in mimeograph form March 13, 1922. 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). Cable: SCIENSERV.

# to the editor

## Wrong diesel

I would like to comment on the article "Danger of proposed diesel additive" which was on my research (SN: 6/17/72, p. 394). Actually these barium-based smoke suppressant fuel additives are commercially available. At this time these additives are not widely used, with the possible exception of areas with strong enforcement of laws governing the emission of smoke from diesel rigs.

In the study that I conducted a single-cylinder, Petter diesel was used. This small engine was ideal for the project; however, it does not represent the majority of diesel engines in use today. Under the conditions that I used I found that only about 20 percent of the barium was in the sulfate form. Other reports indicated that, in some cases, nearly 100 percent of the barium emitted in the exhaust was barium sulfate. Part of the discrepancy is accounted for by the engine type, dosage level of the additive in the fuel and the amount of sulfur in the diesel fuel. Further work needs to be done incorporating these variables. Certainly the toxicity of barium-laden exhaust has not been proven.

E. E. Gutwein, Ph.D.  
Purdue University  
W. Lafayette, Ind.

## An industrial democracy

Vernon Fierre responded (Letter, SN: 7/1/72, p. 4) rather bitterly with respect to the disemployment of NASA and other workers. He suggested that if they acquire the correct perspective that they may "shake off their bewilderment and dismay" and "they will see they are not alone." Then, wishfully, he states that "the whole industrial complex must hopefully find a cure and preventive medication for this class of disease" (unemployment when there is useful work to be done).

His personal involvement in seeking the cause and cure for the social malaise seems to have been to shrug it all off for two and a half years with "that's the way the ball bounces." If Fierre had opened his eyes and his mind, he would have discovered that the space program, the production of military hardware and even war, itself, on which he and others had depended for employment were conducted in the interests of the employing class of America and that the employed class benefited only as long as there was profit in it

for the employing class. Also he would have seen that the Government of the United States is an instrument to serve the interests of the employing minority rather than being an instrument of all of the people.

The brains and brawn which make the wheels go are those of the employed class, the members of which are constantly on the verge of disaster akin to that which hit him and the NASA employes. There is human power and capability enough to solve all the world's problems, including destruction of the environment, as soon as the employed or employable majority of society declares its independence of the capitalist class and its governmental agents and establishes an industrial democracy—a democracy in which goods and services will be produced for the use and benefit of all of the people and in which the processes of production and distribution will be administered as well as carried on by the people.

Ralph W. Muncy  
Ann Arbor Mich.

## Required reading

Thank you for printing my recent letter regarding the resistance to change inherent in science, particularly in physics (SN: 6/17/72, p. 386). A clear blueprint of why this occurs appeared, of all days on June 16, 1972, in SCIENCE page 1203. Here a noted psychologist states "A paradigm becomes an implicit framework for most scientists working within it. . . . It does not seriously occur to the adherents of a paradigm to question it any more. . . . A paradigm acts as a blinder."

As one who has been for more than 40 years engaged in scientific research activities I heartily recommend that this article be made required reading in every, repeat every, freshman science course; with certain sections to be memorized by every graduate student.

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Chicago, Ill.

## Table of contents

The index page of SCIENCE NEWS has been a keen disappointment for the last few issues in which substantive information was deleted. It was time-saving and informative to scan the table of contents in previous issues. Please reinstate the old policy!

Jane Levine  
Drexel, Pa.

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