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LETTERS

to the editor

Germ-free mice

Sir: We are obliged to challenge the report "Germ-free Animals Undernourished" (SN: 4/6 p. 334). If the weights of our germ-free rodents were to average 55 percent that of our conventional counterparts, we would say that they were not representative of germ-free quality. I would recommend to Dr. Naeye that he look to his diet or his source of animals for explanation of his astounding data. His results do not agree with our findings with germ-free rodents. Good quality germ-free rodents should be comparable to conventional stock except for the weights of the organs involved in immunological phenomena and cecal size.

Morris Pollard, Director
Lobund Laboratory
University of Notre Dame, Ind.

(Dr. Naeye's results are under attack from many quarters; he is sticking to his guns [see p. 456]. Ed.)

The four-color problem

Sir: In speaking of the four-color theorem of topology, George Gamow ("One Two Three . . . Infinity") says that one can either "try to devise the proof that not only five, but even four colors are sufficient to color any map, or . . . he can draw a map for which four colors are not enough. In the event of success of either of the two attempts his name will be perpetuated in the annals of pure mathematics."

James Brown, (3/16 p. 263) "proved mathematically that no more than four colors are needed to differentiate countries' maps." Yet he only won a place as a scholarship alternate along with someone who studied recessive genes.

James Stewart
San Mateo, Calif.

(Brown's work was excellent, but the judges did find holes in his proof. Ed.)

films OF THE WEEK

Listing is for readers' information of new 16mm and 8mm films on science, engineering, medicine and agriculture for professional, student and general audiences. For further information on purchase, rental or free loan, write to distributor.

ANGULAR MOMENTUM OF CIRCULARLY POLARIZED RADIATION. 16mm, b&w, sound, 18 min. The torque produced when circularly polarized microwaves are absorbed by a torsion pendulum is demonstrated. The apparatus is described and the method of producing circularly polarized radiation is discussed. Data are given so that the student may compare the torque measured to the torque expected from the power absorbed. Audience: college. Purchase \$120 from Universal Education and Visual Arts, 221 Park Avenue South, New York, N.Y. 10003.

APOLLO ATMOSPHERIC ENTRY PHASE—MSC-67-345. Explains the geometry of the return trajectory and earth entry of the Apollo lunar mission spacecraft. Describes the problems involved and the methods and action for overcoming these problems. Audience: general. Free loan from National Aeronautics and Space Administration, Manned Spacecraft Center, AP2, Houston, Texas 77058.

THE COLOR OF LIFE. 16mm, color, sound, 24 min. Portrays the important physiological processes which take place in the growth of the green plant. Using time-lapse photograph and animated diagrams, it shows the development of maple seedlings, the cellular structure of the maple leaf, the process of photosynthesis, and a detailed study of the tree trunk. Audience: high school. Purchase \$270 from Universal Education and Visual Arts, 221 Park Avenue South, New York 10003.

THE CRITICAL TIME. 16mm, color, sound, 24 min. The importance of brief critical periods in permanently directing the pattern of future developments in both animals and man is discussed, including the impact of enriched or deprived environments, nutrition, and both prenatal and post-natal early experiences. Audience: general. Purchase \$300 from Graphic Curriculum, P.O. 565, Lenox Hill Station, New York, N.Y. 10021.

THE HOSTILE ENVIRONMENT. 16mm, color sound, 24 min. Life on earth has a long history of survival. Film describes what is being learned by studying earthy animals to help man adapt to changes in his environment, physical and social, to guard him against the hazards of space travel. Audience: general. Purchase \$300 from Graphics Curriculum, P. O. Box 565, Lenox Hill Station, New York, N.Y. 10021.

THE SEARCH FOR THE TUNGUSKA METEORITE. 16mm, b&w, sound, 37 min. Produced in the U.S.S.R. under the supervision of the Committee of Meteorites of the Academy of Sciences, film describes the search for the remnants of a comet which entered the earth's atmosphere in 1908 and exploded six miles above the ground in a remote region of northern Siberia. Geophysical and geochemical field and laboratory research techniques are shown, together with the difficulties of reaching and working in the region of the Tunguska river. Audience: high school, college, adult. Purchase \$145 or free loan from Audia-Visual Services, Smithsonian Institution, Museum of History and Technology, Washington, D.C. 20560. (English-language sound track.)

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