

films OF THE WEEK

INDUSTRY IN AFRICA. 16mm, color, sound, 11½ min. In many parts of Africa, there is a pattern of industrial growth which develops interdependence among various jobs and products, and expands the economy. Africans now produce many goods which traditionally have been imported. As jobs are created by new industries, workers enjoy a higher standard of living represented by such things as better housing and new cars. Materials and labor needed for manufacturing houses and cars then become major factors for further economic growth. Using the new knowledge and skills of a modern society, Africans today are working with a strong feeling of pride in the future of their young nations. Audience: elementary, high school. Purchase \$150 from BFA Educational Media, Dept. SN, 2211 Michigan Ave., Santa Monica, Calif. 90404.

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THE NATURE OF LIFE: THE LIVING CELL. 16mm, b&w or color, sound, 13½ min. Photomicrography investigates single-celled and multicelled organisms, how they produce or absorb food, convert food to energy, respond to their environments and reproduce. Simple experiments seen through a standard microscope demonstrate the functions of cell structures: an electron microscope reveals smaller cell structures. Audience: junior high, senior high. Purchase color \$175 or b&w \$87 from Coronet Films, Dept. SN, 65 E. S. Water St., Chicago, Ill. 60601.

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PAVE IT AND PAINT IT GREEN. 16mm, color, sound, 27 min. A personal comment on ecology and man's capacity for despoiling his natural environment while remaining indifferent to it, the film is made without narration or commentary. It combines cinematography and music to contrast the grandeur of Yosemite with the activities of the hordes of tourists whose insistence on physical comfort and the accoutrements of civilization produce traffic jams, parking lots, supermarket lines, mountains of refuse and smog in the heart of one of the nation's most spectacular national parks. Stylistic transitions from color to black and white, as well as time-lapse, speeded-up sequences, are used for poetic and satiric effect as the film observes the impact that the massive tourist influx has on the park. Audience: classes and discussion groups concerned with ecology, conservation and the population problem. Purchase \$325 or rental \$25 from Extension Media Center, Dept. SN, University Extension, University of California, Berkeley, Calif. 94720.

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QUALITY AND RELIABILITY. 16mm, color, sound, 28 min. Undertakes an examination of the relationship between quality and reliability with emphasis on their essential indivisibility. The economics of quality control are introduced briefly, while variability systems for measuring quality and a plan for improvement of quality and reliability take up the major portion of the presentation. An explanation is given of the uses of life curves, normal distribution curves and differences between unit and system reliability. Also stressed is the need for sound organization, human relations, total involvement of all personnel and the necessity of continually updating education and training. Film is a lecture by Eric Summerscales. It is produced by the British Productivity Council. Audience: industrial. Purchase \$250 or rental \$45 from Roundtable Films, Dept. SN, 325 S. Beverly Dr., Beverly Hills, Calif. 90212.

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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 or circle the appropriate number on the Reader Service Card.

to the editor

Monopole argument

Re: "Searching for monopoles" (SN: 8/29, p. 183). As you may know, the theory of relativity explains all "magnetic" phenomena in terms of a moving electric field whose magnitude and direction are modified by the well-known Lorentz transformations. The concept of "magnetic" fields is a mathematical fiction retained for reasons of traditionalism. The same traditionalism forces on us the needless concept of fictitious "conventional" currents flowing contrary to the actual electron-drift. The difference between a magnetic N and S pole is merely a difference between clockwise and counterclockwise rotation of electric charges. Basic geometry and common sense tells us that no body can have a spin or orbit in the same direction with respect to all possible observers. Why should we then expect to find magnetic monopoles?

George W. Lagus
San Antonio, Texas

(Given the premises that Lagus cites, the conclusions that he draws are the traditional ones. Opponents of the existence of monopoles usually couch their argument as he does. But the theoretical formulations on which it is based, Maxwell's theory, which united electricity and magnetism, and special relativity, which corrected Maxwell for high-speed processes, ignore the fact that electric charge is quantized.

Dirac's monopole theory gives an explanation of the quantization of charge. Schwinger's dyons point toward theoretical explanations of the failure of parity and charge-conjugation symmetry. Since these are important problems of modern physics, some physicists feel a need for explanations of them, and theories that grant magnetism an existence independent of electricity are one way this can be done. Ed.)

Credit for LOFT

I found Dietrick Thomsen's article "Covering the spectrum in space" (SN: 9/5, p. 202), to be informative and in most respects an accurate description of the LOFT program and its current status. I must point out, however, that Astro Research Corp. is responsible for the design, fabrication and flight test of the five-meter LOFT rather than Cornell Aeronautics Laboratory as stated.

The LOFT concept of a spin-deployed one-mile diameter parabolic antenna, was invented by Astro Research under the National Aeronautics and Space Administration sponsorship and has been under development here since 1965. The work of Cornell Aeronautics

has been specialized in certain aspects of the radio-frequency parameters of the system.

It might be of interest to note that the LOFT concept, in which centrifugal force provide the major contribution to structural rigidity, requires one compressional member, the central mast from which extend the dielectric guys that pull the LOFT reflector net into its three dimensional parabolic shape. In the full-scale configuration, this mast will be approximately 12 feet in cross section and slightly over one-half a mile long. The design is a self-erecting structure for which Astro holds exclusive patents.

Dr. Robert W. Bogle
LOFT Program Manager
Astro Research Corp.
Santa Barbara, Calif.

Guitars and credibility

Alan Perlmeter, the writer of the article on my guitar design project (SN: 8/29, p. 180), did an exceptionally fine job on this article. It is quite accurate in technical details and yet very well written with an original approach on his part. I was surprised to find that interviews with other people were included. To my mind this added a certain amount of balance to the article and even a good amount of spice. My reaction to these extra interviews (with Huber and Bobri) was that it lent much more credibility than would have been the result of an article based just on the interview with myself.

I might indicate to you that apparently the article and SCIENCE NEWS are very widely read because I have received notes from all parts of the country on this work.

Michael Kasha
Director, Institute of
Molecular Biophysics
Florida State University
Tallahassee, Fla.

Merits gratitude

Your writers and editors have a rare talent for simplifying complexities soundly and interestingly. While all departments are excellent, I feel your coverage of Aerospace (Driscoll) and Environmental Sciences (Gilluly) is truly outstanding, and consistently so.

Your fine publication merits the praise and gratitude of the scientific and educational communities, as well as the public at large.

Clifford S. Knappe, Ph.D.
Waco, Texas

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