

films OF THE WEEK

WAVE MOTION: INTERFERENCE. 16mm, b&w, sound, 7 min. Shows an experiment in the teaching of wave motion which shows true forms of interference patterns on the surface of water. Special apparatus has been designed to avoid the distortions usually seen in a simple ripple tank because of the lens-like actions of the ripples themselves. This apparatus was devised and is demonstrated by W. Llowarch, M. A., Institute of Education, London University. Audience: high school, college. Purchase \$55 or rental \$5 from International Film Bureau, Dept. SN, 332 S. Michigan Ave., Chicago, Ill. 60604.

HOW THINGS DISSOLVE. 16mm, color, sound, 16 min. In understandable terms and simple experiments, this film helps students understand both the chemical and physical characteristics of solutions. Meanings of terms such as solution, solute, solvent and dissolve are clearly developed and visually demonstrated. After each experiment, resulting data are charted on large, simple graphs. Equally effective as either introductory material, a supplement to a lesson, or as a comprehensive review, film urges students to perform experiments for themselves. Audience: intermediate, junior high school. Purchase \$210 or rental \$12.50 from McGraw-Hill Films, Dept. SN, 330 West 42nd St., New York, N.Y. 10036.

FIGHTING FIRES WITH SCIENCE. 16mm, color, sound, set of two half-hour films. A motion picture starring Raymond Burr, familiar to television viewers as "Ironside" and "Perry Mason." The film reveals powerful new weapons and firesafe products that American industry is creating to protect people and buildings against fire. For loan availability, write B. F. Goodrich Co., Public Relations Department, 500 South Main St., Akron, Ohio.

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.

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to the editor

Geography from space

L. R. Brandt's letter, "Advantages overrated" (SN: 4/10/71, p. 244) was somewhat startling. Brandt infers that the money spent on "space and defense projects" would have been better spent on "advancements in TV, Hi-Fi, computers, etc.!" What mechanism would he recommend to achieve this? Surely not subsidy of private industry, which is frowned upon by Sen. Proxmire. And it's not likely to be a partnership venture of Government teaming with private industry, if the Government cop-out on the SST program is any example. Or, is it intended that the Government contract for thousands of these advanced "TV, Hi-Fi, computers, etc." (advanced usually means more costly, among other things) and give these devices to welfare recipients? Or, should the Government nationalize the "TV, Hi-Fi, computers, etc." industries and go into the business of improving and marketing these items?

It seems that Brandt, as a professor of geography, might be interested in some "spillovers" from the defense and space projects which increase the knowledge in his field. A few of them:

1. Photographic maps, made from orbit, are far more accurate than any other kind of map, and can be updated frequently at a lower cost than can any other kind of map. It is cheaper to map a four-state area from space than it is with conventional ground teams; and one orbital pass over the United States of America can map an area approximately two states wide by ten states long.

2. Photographic reconnaissance from space can spot sources of land, atmospheric and water pollution on a while-happening basis. The photographs can be in the visual and infrared spectrums. Oil slicks (whether caused by wells or ships at sea), individual factory smoke stacks and smoke patterns, and waste matter dumped into river water, can be quickly spotted from space.

3. Using a simple orbiting device, "the most accurate measurements yet made for determining the size and shape of the earth [have] just been completed;" SCIENCE NEWS, 4/10/71, p. 242.

And there are many more such "spillovers" which directly increase our knowledge of geography.

*R. Wayne McAllister
New Orleans, La.*

Dispute about tritium

I had to comment on your report of the "Danger of tritium" (SN: 4/17/71, p. 272). It is likely to be read

and interpreted in a wrong manner, adding "fuel to the fire" of the so-called ecology-minded individuals who are trying to prevent construction of nuclear power plants throughout the country.

Tritium is released as a waste product from nuclear power plants in the form of tritiated water. You reported that Dr. Dieudonne Mewissen has made the assumption that tritium released from nuclear power plants would have an affinity for thymidine once incorporated into the body.

Much work has been undertaken investigating the biological effects of tritium bound as tritiated water (HTO) and bound as tritiated thymidine (³HTdR). Investigators have cited that a small percentage of tritium ingested as HTO becomes organically bound. However, I know of no established work that has stated any kind of affinity for such released tritium to seek out the thymidine pool and to become incorporated into thymidine nucleotides leading to eventual DNA incorporation.

We have undertaken extensive investigations in our laboratories on the incorporation of ingested tritiated thymidine into rat gonadal DNA and have elucidated the associated kinetics and resultant dosimetry. Even as ingested ³HTdR, the largest percentage of tritium is excreted as HTO.

I do not question the correlation of increased incidence of malignant tumors in mice from ingested ³HTdR but I do object to correlating biological effect from ingested ³HTdR to proposed biological effect from ingested HTO.

Certainly those researchers active in tritium dosimetry would dismiss such misinformation. Yet individuals active in the campaign to thwart the implementation of nuclear power installation programs will seize the opportunity to exploit this information to the uninformed public.

*Mary Ann Dugan, Ph.D.
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On dowers

I think your very brief summary of my article in NATURE is quite fair (SN: 2/13/71, p. 119).

In spite of all my results, I doubt if it will shake the faith of dowers in their own ability.

*R. A. Foulkes
Director, Engineering Div.
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Dublin*