

example, the segment on blacklung disease quotes a miner, "I got no choice... it's the only work I know, and I got my family to feed." The segment on hydroelectric dams illustrates the effects these dams have had on an increased number of earth tremors and then quotes a woman who says, "... that dam was the best thing that has ever happened to this area... a perfect vacation spot." The segment on nuclear energy quotes scientists who are in favor of this source and then illustrates the problems created in Colorado by uranium wastes after the A.E.C. had declared them safe. Throughout, the unit presents similar pros and cons, and underscores the point that the problem is immediate, and that the entire society, not only the scientific and technological communities, must be involved in the solution.

The preface to the teacher's guide states that this unit "... is designed to show how science and society interact, how each causes change in the other and how the values and interests of groups and individuals can influence the interaction... to spark discussion, debate, analytical thinking, and critical evaluation... and to guide students toward reaching value based conclusions." I believe this unit, with the assistance of the teacher, will cause these goals to be achieved. I recommend this unit for use in both the science and social studies areas from the junior high level through beginning college years.

Raymond P. Tamppari  
Northern Arizona University  
Flagstaff

**HUMAN ISSUES IN SCIENCE, UNIT 3: OUR CHANGING WORLD.** 1975. Scholastic Magazines, Inc., (50 West 44th Street, New York 10036). 4 color-sound filmstrips with records or cassettes. Unit 1: Ourselves; Unit 2: Energy; Unit 3: Our changing earth; Unit 4: Hunger. Purchase all four \$249.50; each \$69.50.

The first filmstrip "Changing Local Weather" depicts characteristics and effects upon the environment by natural weather phenomena such as hurricanes, snow and fog. Integrated with this information are examples of human interference with weather for immediate, local benefit. Hard questions are posed: Will we be concerned about repairing the damage we have done? How will we react to the widespread, long range side-effects of our attempts to control the weather?

"Changing Global Climate" begins with a hypothetical newscast of the future from some point in space, report-

ing alarming events occurring on Planet Earth. These "natural" catastrophes have resulted from human manipulation of meteorological factors. Fragments of past history of Earth's climate are included and the "greenhouse effect" is discussed.

The third filmstrip "Changing the Land" deals with the influence of people and their activities on the land: plowing the shortgrass prairie, clearcutting forests, suburban sprawl, water control and pollution. The history of land use in the United States over the past two hundred years is reviewed and current practices are questioned in terms of their future impact upon the North American continent.

The final filmstrip is "Changing the Sea." It questions our right to pollute the sea simply to satisfy our material wants. Environmental problems illustrated include oil leaks and spills, waste dumping, and over-harvesting of certain forms of sea life. Concerns about these misuses are viewed in light of our future need to use the sea as a source of food, minerals, and, perhaps, habitat.

A teaching guide is included with the unit providing the instructor with outlines of concepts and objectives included in each filmstrip. Background data and an extensive bibliography on each topic are also given, along with a narrative of each soundtrack.

The photographs in the filmstrips are excellent, but to some extent overdramatic and repetitious. The emphasis of the narrative and audio background is on dramatization rather than factual presentation. Primarily because of this overdramatization, the series was poorly received by college freshmen and was the brunt of jest when shown to tenth grade biology students. The set was well received by sixth graders. Advanced fourth graders were frightened by the sound effects. Had the emphasis been placed upon presentation of information (much of which is available only in the teaching guide), the unit would have been better received by a general audience, including older students. It appears, however, to be limited in its effectiveness to the middle school and junior high grades.

Dorothy L. Brock  
North Georgia College  
Dahlonega

**HUMAN ISSUES IN SCIENCE, UNIT 4: HUNGER.** 1975. Scholastic Magazines, Inc., (50 West 44th Street, New York 10036). 4 color-sound filmstrips with records or cassettes. Unit 1: Ourselves; Unit 2: Energy; Unit 3: Our changing earth; Unit 4: Hunger.

Purchase all four \$249.50; each \$69.50.

The four filmstrips focus on hunger, its causes and solutions. They show how science and society interact and how they have influenced or changed each other. The unit includes opposing points of view and raises numerous questions for discussion.

The first filmstrip, "Too Many People?" deals with the population problem. It contains very general, introductory knowledge about populations, including causes and possible controls of overpopulation.

"Growing Enough Food 'B'" brings out the most immediate cause of hunger—not enough food. The section stresses the social, political, and economic problems associated with food shortages. Other topics covered are natural crop disasters and fertilizer problems. As in all of the filmstrips, open-ended questions are raised—pro and con—that can be used for further discussion.

"Using Pesticides" relates the food problem to the use of pesticides. It points out that pesticides have been beneficial, but that the build-up of residues is causing uncertain biological consequences. Substitute pesticides and biological controls are mentioned.

As an alternative to food shortages the final filmstrip, "Artificial Foods," suggests the use of artificial foods. It tells of the many food additives in use today, their side effects, and benefits.

The filmstrips are fast paced, informative, and graphically illustrated. The narration is quite different from other filmstrips. "Speaking" characters give simulated and actual first person accounts. The Teaching Guide includes behavioral objectives and follow-up activities that can be useful to the teacher.

Pat Wakeman  
Tonganoxie High School  
Tonganoxie, Kansas

Faith Hickman, Audiovisuals Editor, selects materials and coordinates the review process for this feature. Catherine Marble is her assistant. Their continuing contribution to the journal is deeply appreciated.

Readers interested in becoming audiovisual reviewers are invited to write to Ms. Hickman. General inquiries on this feature should also be addressed directly to her at:

Post Office Box 930  
Boulder, Colorado 80302