AV Reviews

Rachel Hays
Department Editor

ECOLOGY

Tropical rain forests under fire. 1984. educational images ltd., Elmira, NY. Color/sound filmstrip. About 15 min. $39.95.

The title and first few frames of this filmstrip, produced by the World Wildlife Fund in cooperation with the Garden Club of America, suggest that the devastation of the tropical rain forests is imminent (within 30-50 years by some estimates). However, the program never clearly develops its thesis. The narrative does focus on a few of the economic plant resources while describing a small part of its ecology and ethnobotanical diversity. No attempt is ever made to explain why ecological diversity is directly linked to man's destructive activities, except by indirect reference. Technically, the sound effects and narration are excellent, but many frames suffer from poor color quality, sharpness and depth of field, and visual integrity and congruity.

The ethnobotany discussion represents the best treatment. Several Amazonian plant species (e.g. cocoa, rubber, *Croton*) are illustrated with commentary on their medicinal or economic use. The "overview" of rain forest ecology is interspersed with side tracks of agricultural and historical use of the forests. The only real conclusion the program makes is that we need the rain forest for yet undiscovered foods, medicines, and other "useful" products.

The study guide, printed directly from computer copy, includes a short bibliography, a list of major ecological terms with definitions, a complete script, and a teacher's guide with suggested student activities. A mixed bag of supplementary readings is also included (none carry copyright permissions).

A teacher's guide should provide insight to the filmstrip, especially for a subject wherein the teacher may lack direct experience or training. This teacher's guide provides the only apparent topical organization of the program. It does identify the broad rain forest subjects treated in the filmstrip, providing better conceptual summaries than the script does.

However, the topical emphasis is disproportionate to the script treatment. No summary carries much specific detail. For example, the problem of greenhouse effect is never mentioned in the script, but detailed here and in the readings. The issue of "slash and burn" agriculture implied in the title and visualized in the opening frames is never mentioned in the guide. The "suggested student activities" may require time or text resources far beyond those ordinarily available to junior high or secondary students.

The readings include one fairly lucid account of the reasons underlying the nutrient poor Amazonian soils. The second reading is a dated but short *New York Times* article on the "greenhouse effect." The final reading is a partial summary of an ethnobotanical report on the medicinal and agricultural potential of tropical species.

This filmstrip may be of interest to those teachers who not only have an interest in economic and cultural uses of tropical plants and animals but who are also willing to use the program as lead-in to discussions of the myriad issues confronting the world's rain forests today.

Louis Mule
Governors State University
University Park, IL

Trackdown—waste oil. 1984. New England Regional Wastewater Institute, South Portland, ME. Color/sound slides. 30 min. Rent $4. Purchase $75.

Solving a mystery is the theme of this program. Our detective takes the audience through the mystery of finding one billion gallons of waste oil.

A brief discussion of recovered "used" lubrication oils removes 75 percent of the mystery. The game begins as crude oil is drawn out of the ground. Oil is traced through transportation, refining, and production. Next follow the uses of oils and the causes for their classification as "waste" oil. Environmentally dangerous wastes are dumped into oil as a holding substance. Crankcase oil just "disappears" as it is discarded in milkjugs and landfills. Recycling sites help to collect this waste, but may also cause problems. Resale as "new oil" after filtration is shown as a problem because of dissolved contaminants. Poor storage facilities, use in space heaters, toxic emissions from burning and open area storage sites are discussed. A brief discussion of public health hazards leads to a problem with waste oil burning in plant boiler systems. The game ends with governmental regulations for waste oil usage. New York and New Jersey are shown as examples of problems in regulation. Finally, the mystery is solved by thorough refining of all waste oil—back to its original manufactured state. The cost of refining and federal regulation finish the presentation.

Reference back and forth to the board game helps to reduce audience confusion in a complex presentation. The opening sequence is confusing, but once the "board game" begins the direction becomes clearer. The cassette does not have an audible tone for mechanical advancement. To follow the accompanying script, with its black dots to indicate slide changes, makes it necessary to preview the program several times before presenting it to an organization or class.

This program offers a good overview of public misunderstanding of

Rachel Hays is the editor of the Audio Visual Review section. Hays is a junior high school science teacher in Mead, CO. She holds a Ph.D. in Botany from the University of California, Davis, and has taught courses on the college level. She earned her B.S. from San Diego State Univ. and her M.S. from the University of California, Davis. For several years Hays has done research for the Natural Resources Ecology Laboratory at Fort Collins, CO, studying nutrient cycling and soil organisms. She has published articles in several popular and scientific periodicals. Her address is: 6921 Buckhorn Ct., Loveland, CO 80537.

oil and its disposal. For use in junior and senior high classes, the program covers enough areas to stimulate research ideas for students. For the general public, it covers enough areas to lead to discussions about waste oil in the viewing area.

No specific solutions are covered, but the program encourages everyone to work toward saving our "basic finite resource."

Robert E. Phipps
Parkersburg South High School
Parkersburg, WV

GENETICS

Genetic fix. Agency for Instructional Technology, Bloomington, IN. 1984. 16 mm color/sound film. 30 min. $300 ($135 videocassette).

This film focuses on genetic research and its ethical ramifications. It begins by contrasting the gradual genetic changes that have occurred in nature, and those that have been achieved through the years by selective breeding, with the rapid and radical changes made possible by modern genetic engineering.

High school students who are summer interns at Jackson Laboratory in Bar Harbor, Maine, briefly describe their experiences at the laboratory. One major sequence follows an experiment in which a human globin gene, isolated from one student's blood, is prepared and injected in a mouse embryo. Eventually, the researchers hope, such gene surgery will lead to cures for some serious genetic diseases.

Two of the students travel to Washington, D.C., where they meet Alexander Caprow, executive director of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research.

Through the use of live film and marvelous graphics the viewer gets an excellent look at the methods of DNA extraction and gene manipulation. Even with the speed that technology is moving, this film is produced in such a manner that it is not likely to be outdated soon. It is a real "inquiry type" film.

A small teacher's quide accompanies the film which helps guide discussion that should follow viewing. One of the main points is the importance for the public at large to understand the issues involved so that genetic research will be properly channeled.

This is one of the best programs in recent years for science and social studies not only for high school, but also for college students and adult groups.

Donald R. Winslow
Dept. of Science & Environmental Ed.
Indiana University, Bloomington

MICROBIOLOGY

Microbiology: imaging a hidden world. The light microscope. 1984 Coronet Films, Dearfield, IL. 16 mm color/sound film. 15 min. $395.

As an educational tool to be used during instruction in the use of microscopes, this outstanding film is unsurpassed.

There are only two major complaints I have about the film. The first is its title—it's too wordy. My students always want to know the name of the film they are about to watch, supposedly, "for their notes," but in reality, to know whether or not they should prepare to "tune out" mentally. This title gets them well prepared for that. And, even if you give them only part of the title—like "Microbiology" or "The Light Microscope"—you still get a groan from the best of students. "Imaging a Hidden World" is more interesting, true, but you will spend the next ten minutes repeating and spelling the word "imaging" and "No, it's not a woman's name." After several showings, I decided to use simply "A Hidden World."

My second complaint, and also the complaint of many of my students, is that the film is too short. After 15 minutes of most educational films, half of the class would be either asleep or "tuned out." The film left them screaming for more.

Once the film starts, even the "tuned out" students come alive to the music and pictures on the screen. The opening is colorful and interesting and the music is especially well done. It was designed to build just the correct amount of suspense and then to punctuate key points being made by the narrator.

The photography is excellent in every way. It, alone, could hold the attention of the rowdiest junior high class. The narration is clear and understandable.

Without doubt, however, the film is of greatest value to high school and college biology classes that have already had some instruction and experience in the use of the microscope.

The film should be followed immediately with an exciting lab . . . try some of the ideas from the film and actually use polarized, colored light, and dark field illumination to observe microorganisms.

The written synopsis is very complete. In addition to a summary and a statement of their instructional design, it lists learning objectives (which I agree with) and suggestions for both before and after viewing. The after viewing questions are quite in-depth. I would suggest showing the film twice: once for the total enjoyment and once for seeking answers to questions.

Marlene M. Hurley
Dietrich High School
Dietrich, ID

NATURE STUDIES

The Columbia River gorge: a natural history. 1983. Northwest Film Study Center, Portland, OR. 16mm color/sound film. 23 min. Rental $35. Purchase $350.

This narrative, dedicated to presentation of the environmental diversity located in the gorge, is well targeted for junior and senior high students as well as adults. Clay is used for a dramatic introduction to the ancient geological processes responsible for the current geophysical characteristics of the gorge. These events are sequentially presented first in a two-dimensional, then in a three-dimensional, model. Following this introduction, the authors have canvassed the majority of the gorge's north and south banks to illustrate thoroughly the types of habitats and differences among these habitats due to variation in precipitation, exposure, and substrate composition. Provided with the film is a two-page descriptive summary that has a satisfactory list of references users may cite for further student reading about the gorge.

This quality production by the students at Cleveland High School has only two technical discontinuities. First, depiction of the ice dams, associated dam failure and catastrophic floods leaves the viewer with the idea these dams were located in the gorge itself. The narrator does refer to these dams' location "in northern Idaho"