

Audiovisual Reviews

TEMPERATURE REGULATION

1979. International Film Bureau, Inc., (332 South Michigan Avenue, Chicago 60604). 16 mm color-sound film. 12½ minutes. Purchase \$215; rental \$15.

Involuntary control and regulation of body temperature are depicted utilizing human subjects and animated drawings. Dermal mechanisms, including sweat glands, superficial blood vessels, and sensory receptors are clearly demonstrated. Hypothalamic responses via autonomic nervous system outflow are elucidated in a pleasant and appealing manner. The important aspects of heat loss and heat production are thoroughly covered and shown in a straightforward and effective style. This film is a simple and worthwhile portrayal of an important subject in physiology.

Classes in biology, physiology, and anatomy would benefit from this film, both in the upper secondary school levels and in introductory college courses.

Raymond E. Henzlik
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THE LYMPHATIC SYSTEM

1979. International Film Bureau, Inc., (332 South Michigan Avenue, Chicago 60604). 16 mm color-sound film, 14½ minutes. Purchase \$250; rental \$17.50.

The lymphatic system is often poorly covered in introductory courses, and its relation to the blood vascular system is subject to misunderstanding. Moreover, the exact nature and composition of lymph is commonly overlooked or imperfectly presented. This single-topic film adequately fills that gap. Live-action photography and animation show lacteals and lymphatic vessels. The viewer is treated to distinctive and memorable photographic sequences of phagocytosis and lymphocyte activity.

This film should be a welcome addition to any film library that services high school science classes or introductory college courses in biology, physiology, and anatomy.

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Faith Hickman, Audiovisuals Editor, selects materials and coordinates the review process for this feature. Catherine Monson 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:

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THE CHEMISTRY OF HEREDITY I: IDENTIFICATION OF GENETIC MATERIAL & DNA STRUCTURE and THE CHEMISTRY OF HEREDITY II: PROTEIN SYNTHESIS

1979. Sponsored by the March of Dimes Birth Defects Foundation. Distributed by Milner-Fenwick, Inc. (2125 Greenspring Drive, Timonium, Maryland 21093). 16mm color-sound films. 15 and 9 minutes. Purchase \$150 and \$125; rental \$25-\$40.

These two films set forth quite clearly the identification of DNA as the carrier of hereditary information, the subunit and total structure of DNA, and the processes of replication, translation, and transcription. In most sequences, the argument is based on the evidence from classical experiments. For example, the first film opens with the identification of DNA as genetic material based on the work of Griffith, Avery and his group, and Hershey and Chase. In each case, the critical experiment is described in sufficient detail to permit a clear understanding and without details that would obstruct the thrust of the thought. DNA structure is presented first through a discussion of nucleotides and their components; then the contributions of Watson, Crick, and Wilkins to the understanding of the total structure are discussed; finally, the subject of semi-conservative replication is covered through the work of Meselson and Stahl.

The second film is slightly less successful, because it contains a few pedagogical rough spots. For example, the student is asked to "remember" that RNA contains

uracil instead of thymine; but this difference had not been previously pointed out in either film. Similarly, the term "central dogma" is used without definition. On the other hand, an interesting use is made of the idea of co-linearity in developing the concepts of transcription and translation and a short but probably successful attempt relates the factors of Mendel with the biochemical cistron (without, mercifully, using this term). No mention is made of the processes that modify RNA directly transcribed from DNA to ready it as messenger RNA nor is there any discussion of initiator or stop codons.

These omissions may, of course, have been intentional attempts to control the degree of detail and the level of difficulty.

The artwork is clear, interesting, and directed almost exclusively to the clarification of the subject. In all, both films would appear to be eminently suitable for use in high school and introductory college classes, preferably as a review of material already presented rather than as a medium of first presentation.

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FUTURE STUDIES

1976. Educational Dimensions Group (Box 126, Stamford, Connecticut 06904). Two color-sound filmstrips. 17-20 minutes each. Purchase \$60.

This program focuses on how subtle changes in our daily lives influence the future. The history of technological development is traced from 1900, when life seemed so permanent, to the accelerating rate of change in today's world. A good parallel is drawn between small, but significant changes in personal lives and changes in cultural and world view. The problems now facing humankind are described in a subjective way. The narrative is easy to follow, and the technical quality is excellent.

However, I had several problems with the program. First, some of the statements made in the presentation represent what many Americans might view as an "East Coast, metropolitan" bias. "The rural lifestyle created a sense of space. People needed—and expect—room, unlike today." I doubt that statement, because, if the psychologists are