

Teacher's Guide

to the film

"The Unseen Dividend"

What is World Trade?

Why is it Important?

Why did United States Imports

and Exports grow

to Their Present Volume?

These are some of the questions "The Unseen Dividend" may help your students to answer.

The film seeks to motivate class discussion, to stimulate an interest in world trade, and to help each of your students understand the importance of world trade to him and to our country.

The student is helped to visualize foreign trade in the early nineteenth century through scenes filmed in restored Mystic Seaport, Connecticut. The small vessels, the meager cargoes, the hand loading operation are in striking contrast to the world he knows.

You may want to mention other seaports, once significant, now of no maritime importance, such as Salem, Massachusetts, and New Castle, Delaware. Sag Harbor, Long Island, and New Bedford and Nantucket, Massachusetts,

too, flourished when whale oil feebly lighted the lamps of the world. Courageous whaling men wrote an indelible page in our country's history with their exploits against the sea. When Drake discovered oil in Pennsylvania in 1859, this colorful era flickered out. World trade as it touches the lives of the youngsters in your classroom is the focus of our attention now.

Concepts

You know that the concepts of world trade, its far-reaching effect on nations and individuals, are not always easy for your student to grasp. The two parts of our film which show world trade in the past and in the present will help students see that the mechanics and problems differ only in degree with the passage of time.

The farmer of the 1800's raised food primarily for his family and livestock. The larger his farm, the more men and animals he needed to run it, the more time, energy, and land he used in raising food for his livestock. Today's farmer can produce crops for export. Power-driven farm machinery has given the American farmer more land and time he can use to raise crops for sale. His use of modern methods made it possible for him to help feed the world through two world wars.

Man's destiny was linked to world trade even in our early days. Today, his life is even more closely touched by world trade, whether he be farmer, merchant, or professional man, because we import, in whole or in part, two thirds of the hundred materials basic to American industry.

Growth of Inland Towns

Inland towns prosper with our seaports as foreign trade expands. Goods and raw materials grown and manufactured inland are shipped abroad; inland towns provide a market for imports of raw materials used by the industries which followed the nation's growth and westward expansion. The movement of goods and people developed the means of transportation.

Transportation

From the day when the oxcart carried farm products to the nearest town to the motor trucks, trains, airplanes, and ships of today, transportation grew with foreign trade. We depend upon our vast network of highways and railways,



of inland waterways, to carry people, materials, and our daily food from farm to city, from state to state. Freighters that ply the oceans, airplanes that fly our goods throughout the world, bring back to us raw materials and the products your student sees on his breakfast table and on his way to school. As transportation brings people and products together, ideas, too, are interchanged, and communication improves.

Imports and Exports

We import materials we need to carry on our industry and business. We pay for these imports with the goods we export. Countries indebted to us earn dollars by selling us the things we need. The ideal balance of trade seeks to have imports closely balance exports.

How World Trade Works

Australia sells us wool and buys our tobacco and tractors. France sells us laces, wools, and perfumes and buys our machinery. India sells us manganese and jute and buys our raw cotton and medicines. Peru sells us lead and zinc and buys our motor trucks and mining machinery. Switzerland sells us watches and buys our machinery and petroleum.

World Trade Gives us Products We Use Daily

We import sugar from Cuba, copper from Chile, cork from Portugal, licorice from the Middle East, coffee from Brazil, Colombia, and other Latin American countries.

Rubber from Malaya.
Newsprint from Canada.
Tin from Bolivia.

World Trade Helps Our Security

Two thirds of the basic 100 materials essential for our industry we wholly or partially import:

From the Belgian Congo, cobalt for our tools.
From Canada, aluminum for our jet planes.
From India, manganese for our steel.
From Spain, tungsten for our steel.
From Turkey, chromium for our tanks.





Additional copies of this teacher's guide to the film, "The Unseen Dividend" can be obtained from the Public Relations Department, Esso Standard Oil Company, 15 West 51st Street, New York 19, New York.

Printed in the United States of America

World Trade helps Other Nations

Western Europe buys our cotton, flour, and wheat to feed and clothe her people.

Asia buys our farm machinery, fertilizers, power and irrigation equipment to increase her food production.

Latin America buys our machinery, trucks, and fuel pumps to develop her natural resources.

World Trade is Important to Our Economic Security

Each country sells products to pay for its imports. Increased commercial activity expands each country's economy.

The flow of commerce strengthens the bond of mutual interests between nations.

World trade creates employment for many people. Three million Americans work at jobs that depend on world trade. People from every nation benefit, because they have a wider market for their services.

Each nation and each individual gains from world trade. For many of us not directly engaged in foreign trade, that profit is "The Unseen Dividend."

Dates

In our film, the transition from the past to the present is accomplished through citing by decades the major advances in transportation and communication. Some of these events are:

Samuel Morse sent first telegraph message, May 24, 1844.
"Great Western" inaugurated first regular steamship service. Arrived New York City April 23, 1838, having left Bristol, England, 15 days earlier.

First permanent Atlantic cable completed 1866 by Cyrus W. Field.

Alexander Graham Bell invented the telephone, 1876.
Steel vessels of the U. S. Navy authorized by Congress, 1883.

Orville Wright made the first successful flight in a motor-driven, man-carrying airplane on December 17, 1903.

Panama Canal opened to commercial traffic August 15, 1914.

Charles A. Lindbergh made first nonstop flight from New York to Paris, May 20-21, 1927.

Filmed in full color at
Mystic Seaport, Connecticut
Old Sturbridge Village, Massachusetts
Lancaster County, Pennsylvania
and the harbors of New York City,
Philadelphia, and Barranquilla, Colombia

Produced for

ESSO STANDARD OIL COMPANY

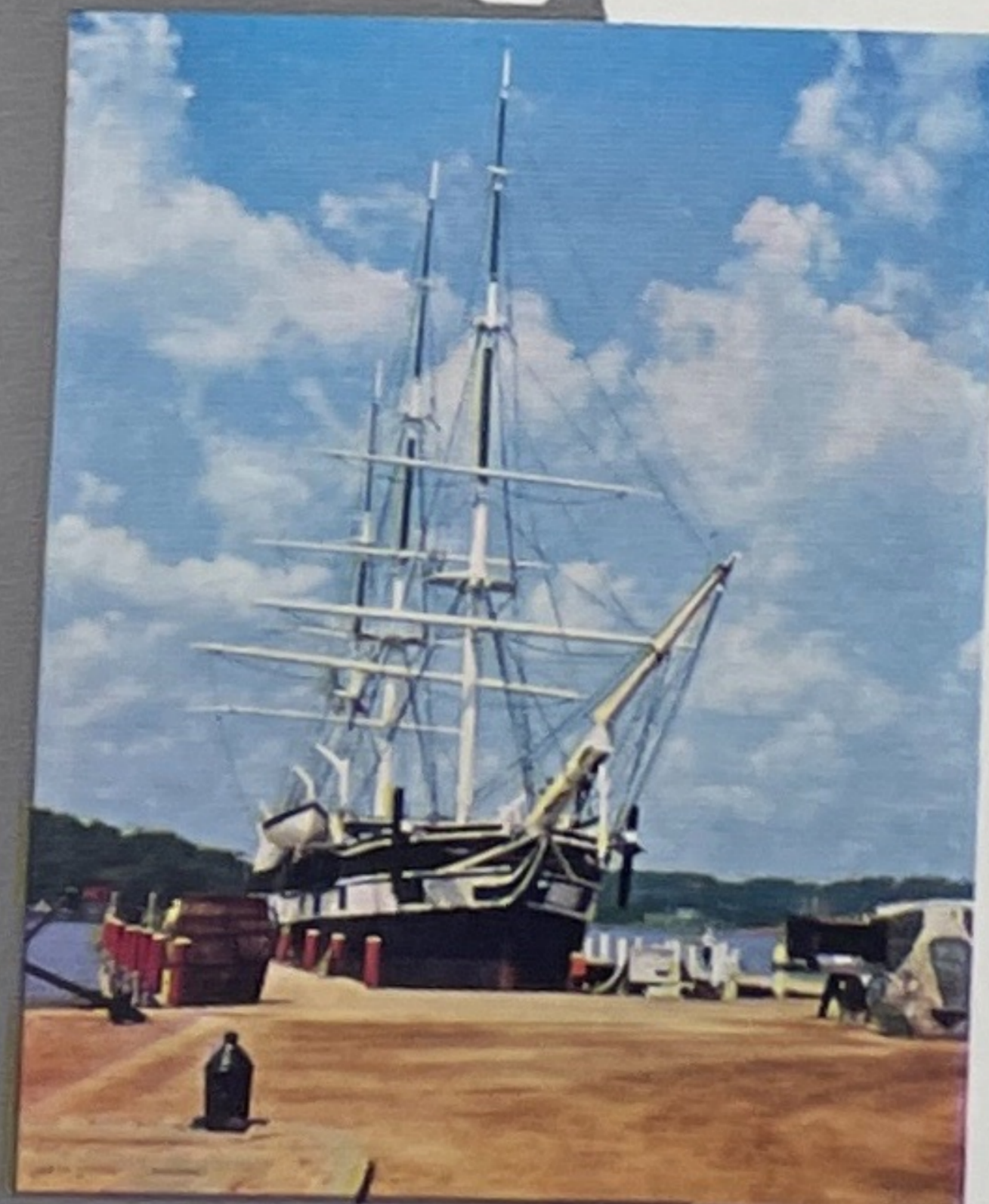
by Herbert Millington

Musical background includes early American
ballads and sea chanties

Prints available for loan, free of charge
except for return postage, to schools, civic clubs,
and other audiences where no admission is charged.
Available for showing only in those states where there are Division
Offices (see below) and Maine, New Hampshire, Vermont, Rhode Island, Connecticut,
Delaware, District of Columbia, West Virginia, and Arkansas.
Address inquiries for bookings, with substantial
advance notice, to the nearest office listed.

DIVISION OFFICES

ESSO STANDARD OIL COMPANY, 135 Clarendon Street, Boston 17, Massachusetts
ESSO STANDARD OIL COMPANY, Hutchinson River Parkway, Pelham 65, New York
ESSO STANDARD OIL COMPANY, 500 North Broad Street, Elizabeth 3, New Jersey
ESSO STANDARD OIL COMPANY, Esso Road & City Line Ave., Bala-Cynwyd, Pennsylvania
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ESSO STANDARD OIL COMPANY, 1410 Canal Street, New Orleans 16, Louisiana
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The Unseen Dividend™

... A STORY OF WORLD TRADE



from Exxon

1

The Big E's: Energy, Environment, Economics #15271

30 minutes. Free teacher's guide.

The film shows how energy, the environment and economics depend upon each other—that a change in one affects the other two. The film poses provoking questions about the trade-offs society must make to have adequate energy, a healthy economy and a clean environment.

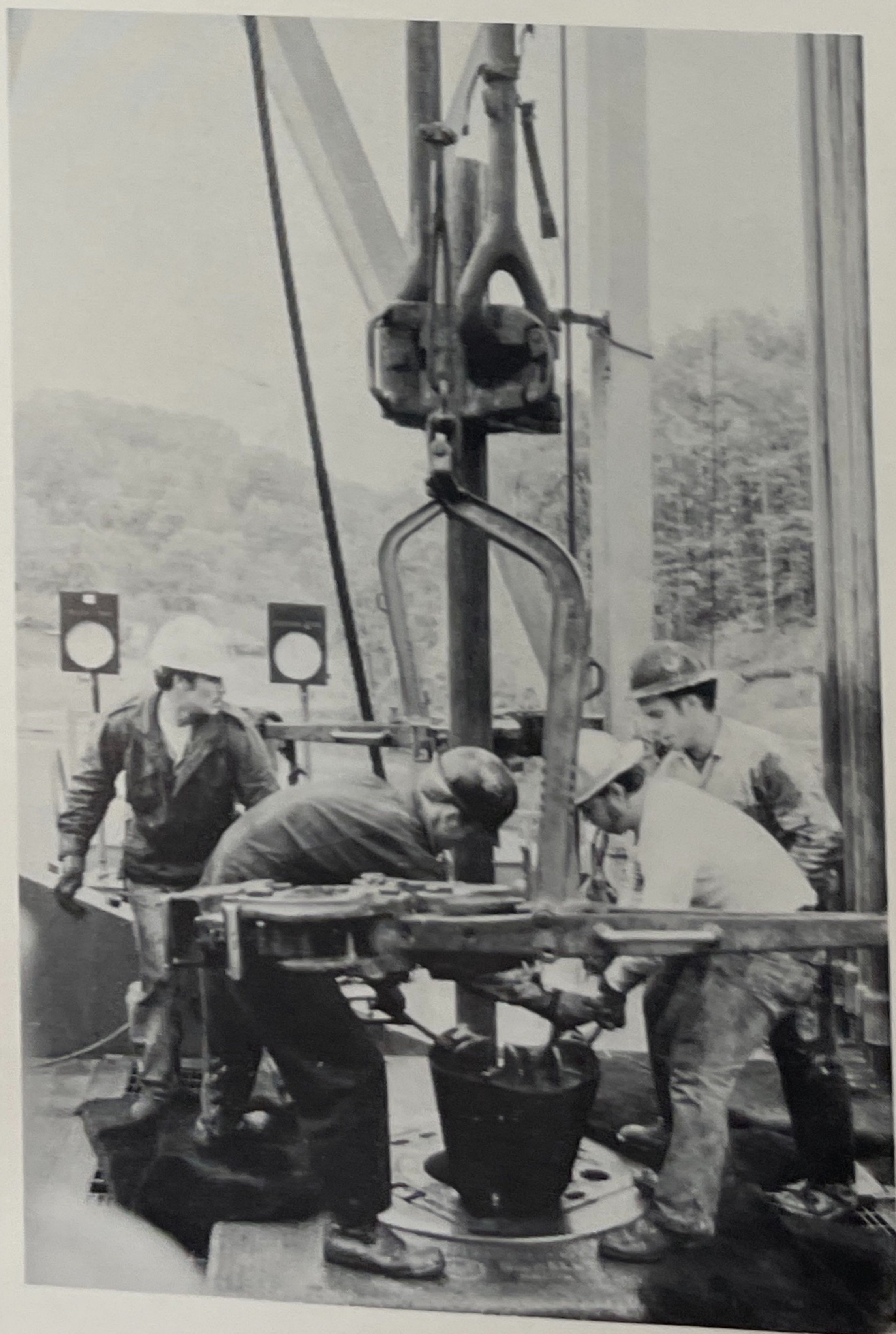


2

Energy for the 80's #31805

28 minutes

Petroleum products have become our main source of energy in the 20th Century, but it is now apparent that we must draw on other sources of energy if we are to meet our needs. This film puts the important alternative sources of energy into relationship with oil and natural gas and it indicates the role a major oil company can play in developing new sources.



3

A Funny Thing Happened on the Way to the Gas Station #4903

28 minutes, elementary to junior high school, available with free teacher's guide and classroom posters.

This is the story of a 13-year old boy's remarkable journey as he follows the making of gasoline from a production well in Texas to a service station in New Jersey. By means of a fantasy journey, the boy visits an actual oil production site, rides aboard an oil tanker, visits a modern refinery and an oil marketing terminal as he learns in entertaining fashion the many steps involved in producing a gallon of gasoline.



4

Faces of Energy #4906

28 minutes. Free teacher's guide.

This magnificent documentary tells the story of the petroleum industry through a series of individual portraits of people at work. The story was filmed in the Atlantic with an exploration ship, along the Alaskan pipeline, offshore in the Gulf of Mexico on an oil platform, aboard a tanker moving along the lower Mississippi River, in a California refinery and at a lobster-loading dock in Beals Island, Maine.

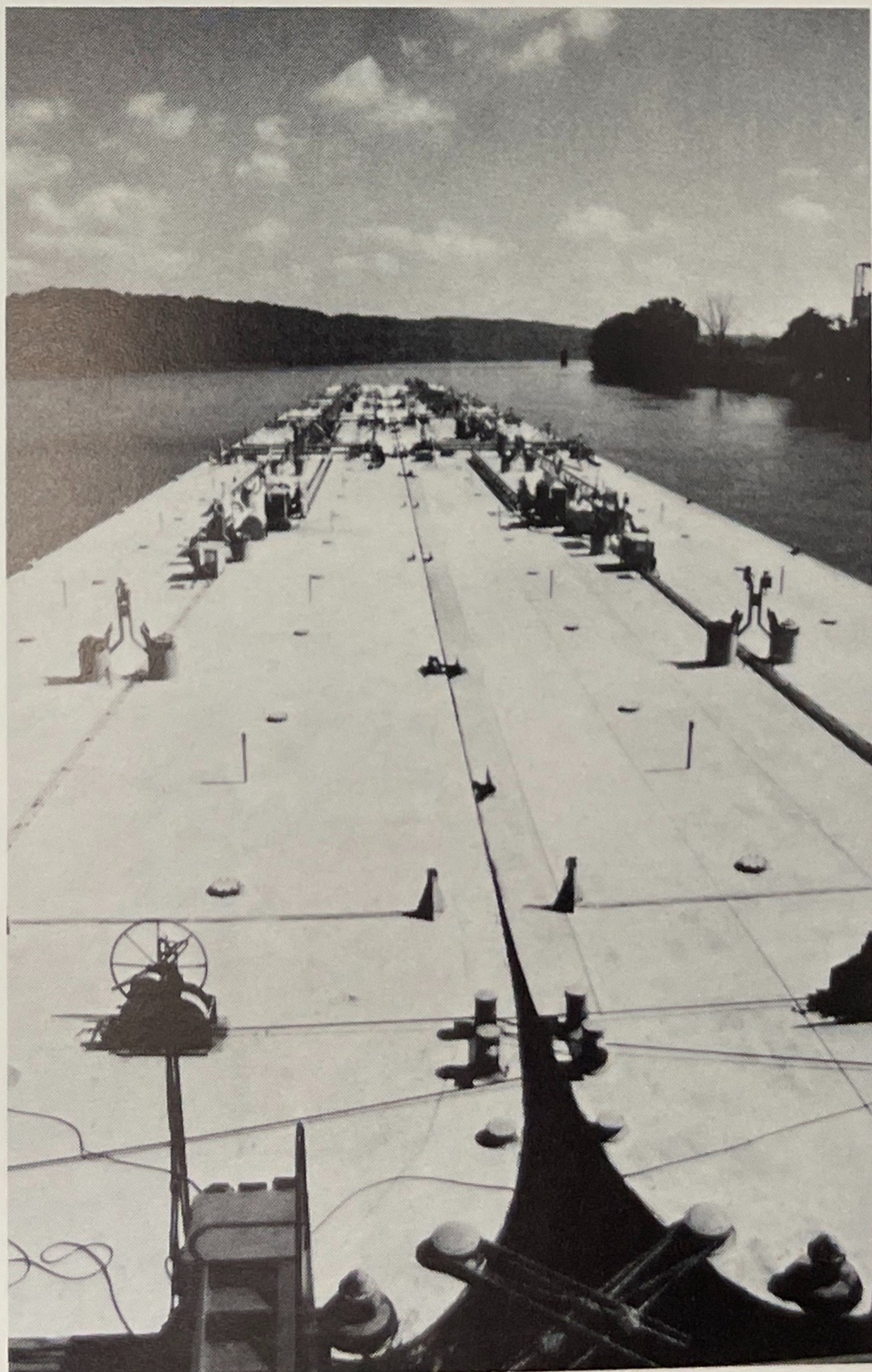


5

Great River Road #15321

20 minutes. Free teacher's guide.

This film shows one step in the transportation of oil: the journey of a towboat up the Ohio River. The boat is moving gasoline and other fuel from the refinery at Baton Rouge to Pittsburgh and points in between. The film also shows examples of jobs in river navigation.

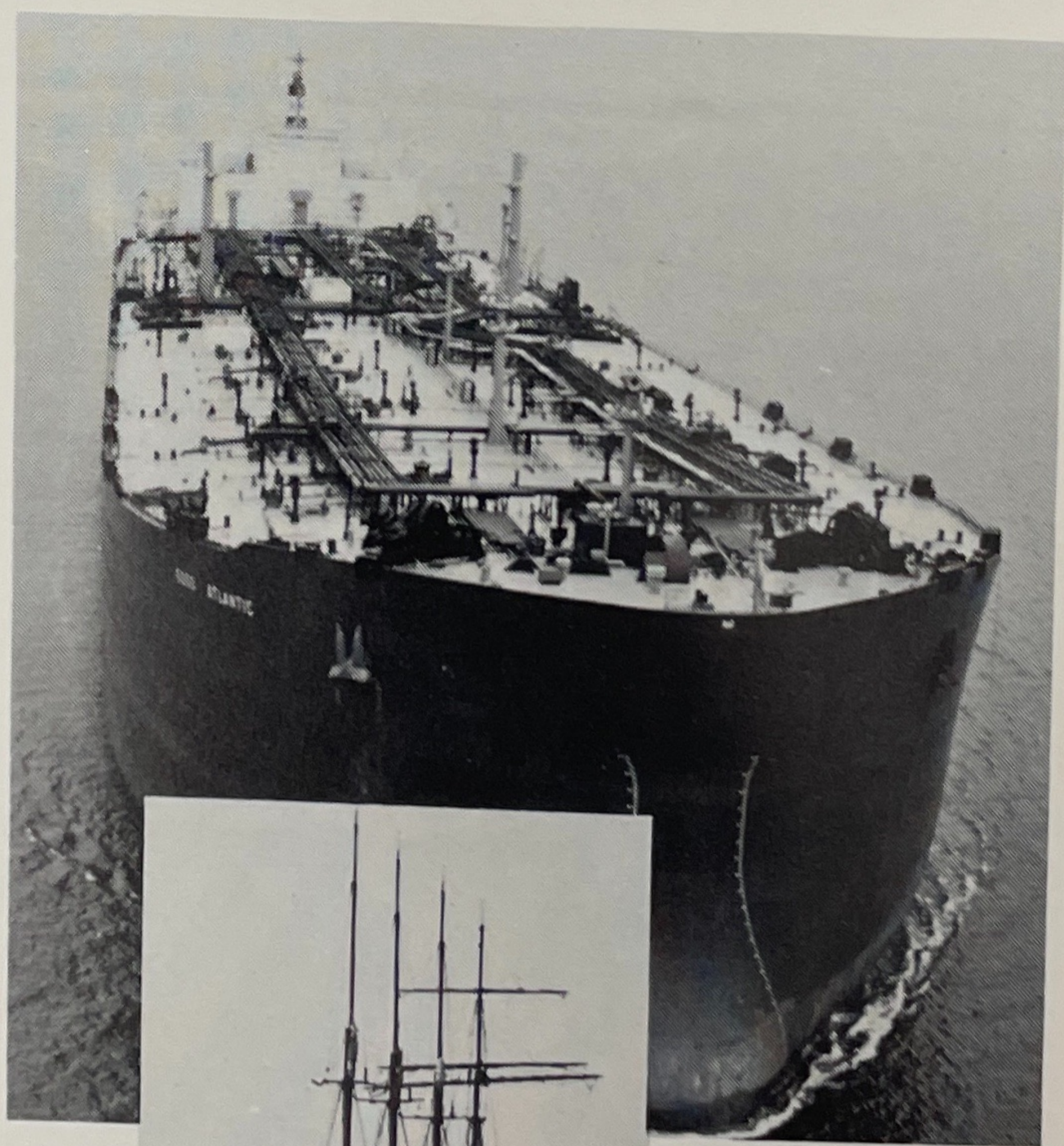


6

The Hundred Year Voyage #16180

30 minutes

This film follows the development of the modern oil tanker from sailing ships of 100 years ago to today's huge oil carriers. The story is told by the men who sailed the ships.



7

Offshore #4880

18 minutes. Free teacher's guide.

More and more, America is looking offshore for its energy needs, and OFF-SHORE provides you with a grandstand seat for observing the search. The camera takes you beneath the ocean to watch a sonar-like sleeve sound the seafloor for oil and gas; tows you to sea with a drilling platform; perches you high atop a rig as the drilling bit plunges into the water; and anchors you to the slippery deck as men strike oil under the glare of floodlights at night. The film's rapidly-paced action is enhanced by superb color photography.



8

Pipeline #12874

20 minutes. Free teacher's guide.

Oil was discovered on the North Slope of Alaska, near Prudhoe Bay, in 1968. Building a pipeline to transport the crude oil south to the port of Valdez was the largest privately financed project ever undertaken, and one of the most difficult. The 800-mile pipeline crosses arctic plains, three mountain ranges, canyons and rivers to reach an ice-free harbor in Prince William Sound. The film records the building of the line in all its drama.



9

Refinery #4879

14 minutes. Free teacher's guide.

This film shows how crude oil is refined into such everyday products as gasoline and home heating oil. Though the refining process is complex, it is explained clearly and simply by combining animation and actual film footage.



10

Coal: Bridge to the Future #12875
28 minutes. Free teacher's guide.

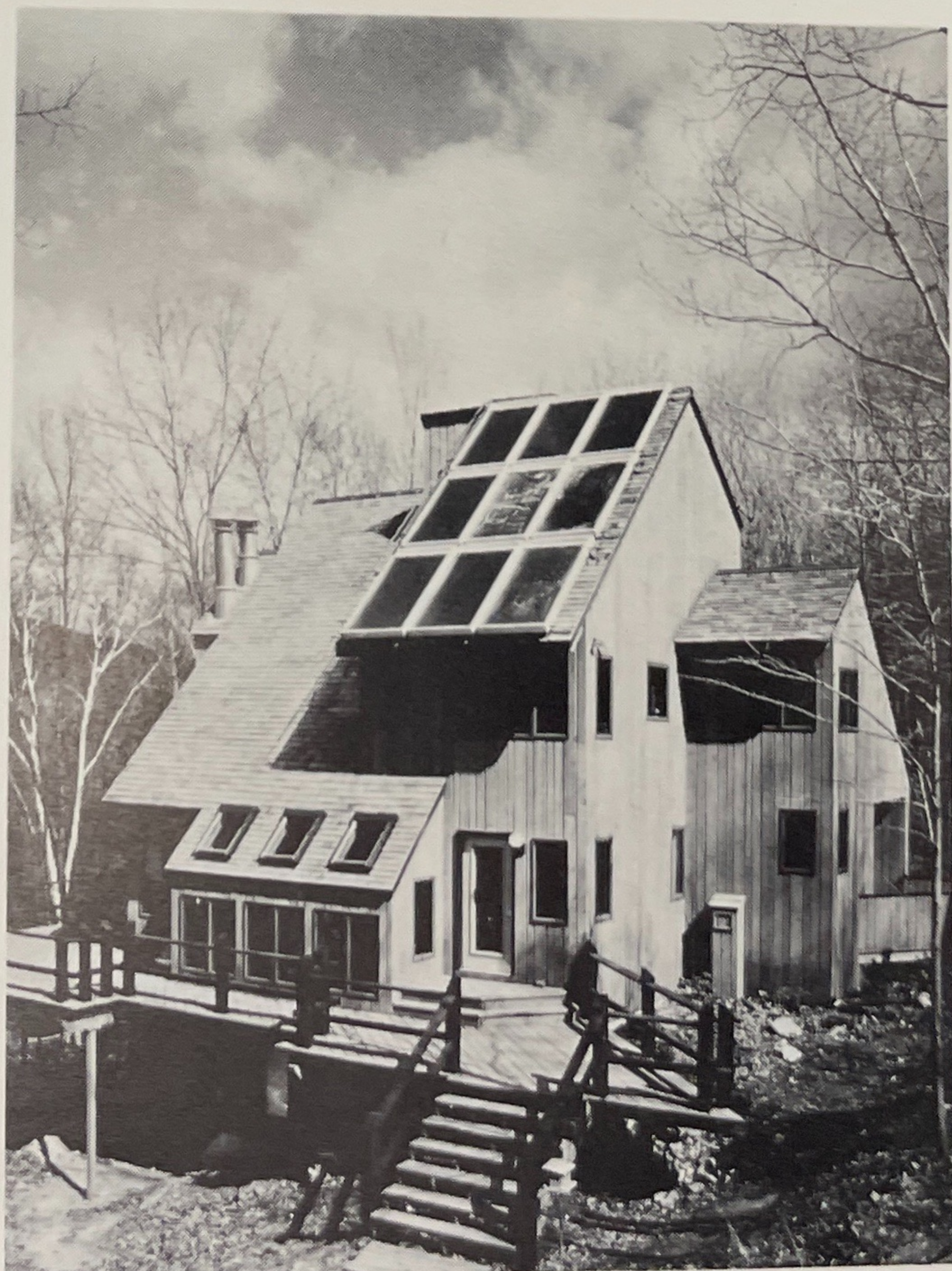
There is renewed interest in the use of coal to meet a part of our energy needs. The film shows how this traditional fuel is mined, processed and used today and how it may become an economical source of liquid and gaseous fuels in the future.



11

Energy from the Day Star #31806
20 minutes. Free teacher's guide.

Solar energy is recognized as a valuable new source of energy, particularly for homeowners. This film examines the passive use of solar energy and its relationship to the environment. Solar installations in existing homes as well as new solar homes were filmed in many parts of the United States.



12

Nuclear Energy—A Perspective #4884
28 minutes. Free brochure.

The film follows the development of nuclear power from the hunt for uranium to the production process, to the installation of nuclear fuel in a reactor's core.



FILE COPY

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1975

PROD. NO.

black and white
negatives in file

SCENE

TAKE

SOUND

VIDEOCASSETTES
FILMSTRIPS AND
FREE-LOAN FILMS

PRESENTED
BY

EXXON CORPORATION

Refinery

This film shows how crude oil is refined into such everyday products as gasoline and home heating oil. Though the refining process is complex, it is explained clearly and simply by using animation together with actual film footage. A teacher's guide is available.

14 minutes 16mm sound Color



1980



Exxon Corp

Photo Library

Sea Venture

This award-winning film tells the story of a new kind of seafarer — one who works on offshore rigs drilling for oil and natural gas to meet today's energy needs. For several weeks at a time, the rigs are the oil men's homes where they eat, sleep, and work. The film explains how

these man-made islands operate. Discussed are the design of different drilling rigs, the importance of mud, how a blowout preventer works, and how oil moves from sea to shore. A teacher's guide is available.
28 minutes 16mm sound Color



Offshore

America is looking offshore more and more for its energy needs, and "Offshore" gives you a grandstand seat to watch the search. The camera takes you beneath the ocean to watch a sonar-like sleeve sound the seafloor for oil and gas; tows you to sea with a drilling platform; perches

you high atop a rig as the drilling bit plunges into the water, and anchors you to the slippery deck as men strike oil under the glare of floodlights at night. Its rapidly-paced action is enhanced by superb color photography. A teacher's guide is available.

18 minutes 16mm sound Color



World Beneath the Sea

The film addresses itself to the day-and-night vigil of the oil companies to protect the environment as they drill for oil and gas beneath the sea. Discussed are technological developments—from camouflaging a drilling platform as a high-rise apartment, to computerized controls, underwater television cameras for inspection, and drilling systems that

operate on the ocean floor. The film visits the beaches of Santa Barbara today, where volleyball is played in sight of surfers and playful whales. Using animation, the film sketches the special deep-water welding and X-ray techniques used for offshore drilling at Santa Barbara.

28 minutes 16mm sound Color



Through the Northwest Passage

This film documents the well-publicized voyage of the S.S. Manhattan through the Northwest Passage to Alaska's north slope. The trip had several objectives. While attempting to prove the route as a practical one for shipping crude oil to eastern markets, the ship was a floating laboratory for oceanographers. Using scouting planes, a satellite, and a computer to guide her, the Manhattan purposely avoided "easy" open water and headed for bungalow-sized blocks of ice while television

cameras on her bow and stern watched. As the Manhattan cruised the dreaded McClure Straits, a massive ice floe stopped her. Calling on all the power of her 43,000 horsepower engines for the first time during the trip, the ship rocked free and steamed to Point Barrow, Alaska. The Northwest Passage had been breached—1,100 miles of ice. Never before in the history of ships had a commercial vessel done it. A teacher's guide is available.

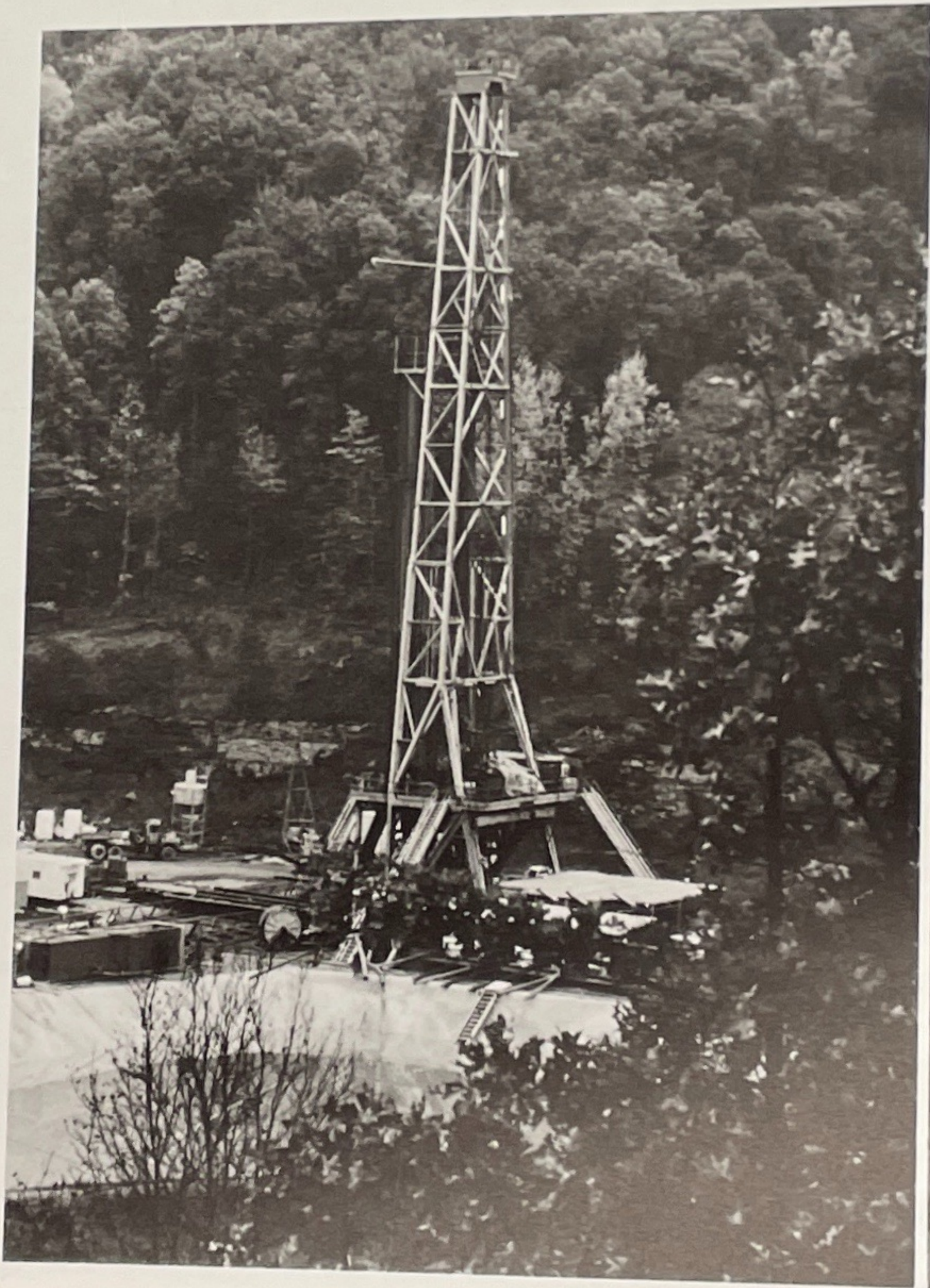
27 minutes 16mm sound Color



The Three E's

Environment, energy and economics. These three E's are interrelated, and neglect of one must result in disastrous consequences to the other two. The film calls for "a more compassionate technology,"—an approach to economic growth that permits us to make profitable use of our natural resources while preserving and restoring the environment from which these resources are drawn. A teacher's guide is available.

28 minutes 16mm sound Color



Hometown

An award-winning cultural documentary about neighborhood performing arts and the role they play in creating an atmosphere of friendly "hometowns"—even in big cities like New York. Engaging vignettes about seven performing groups include a jazzmobile in Harlem; an opera company in the Bronx, and a dance group in Queens. It's a story of people helping people. A teacher's guide is available.

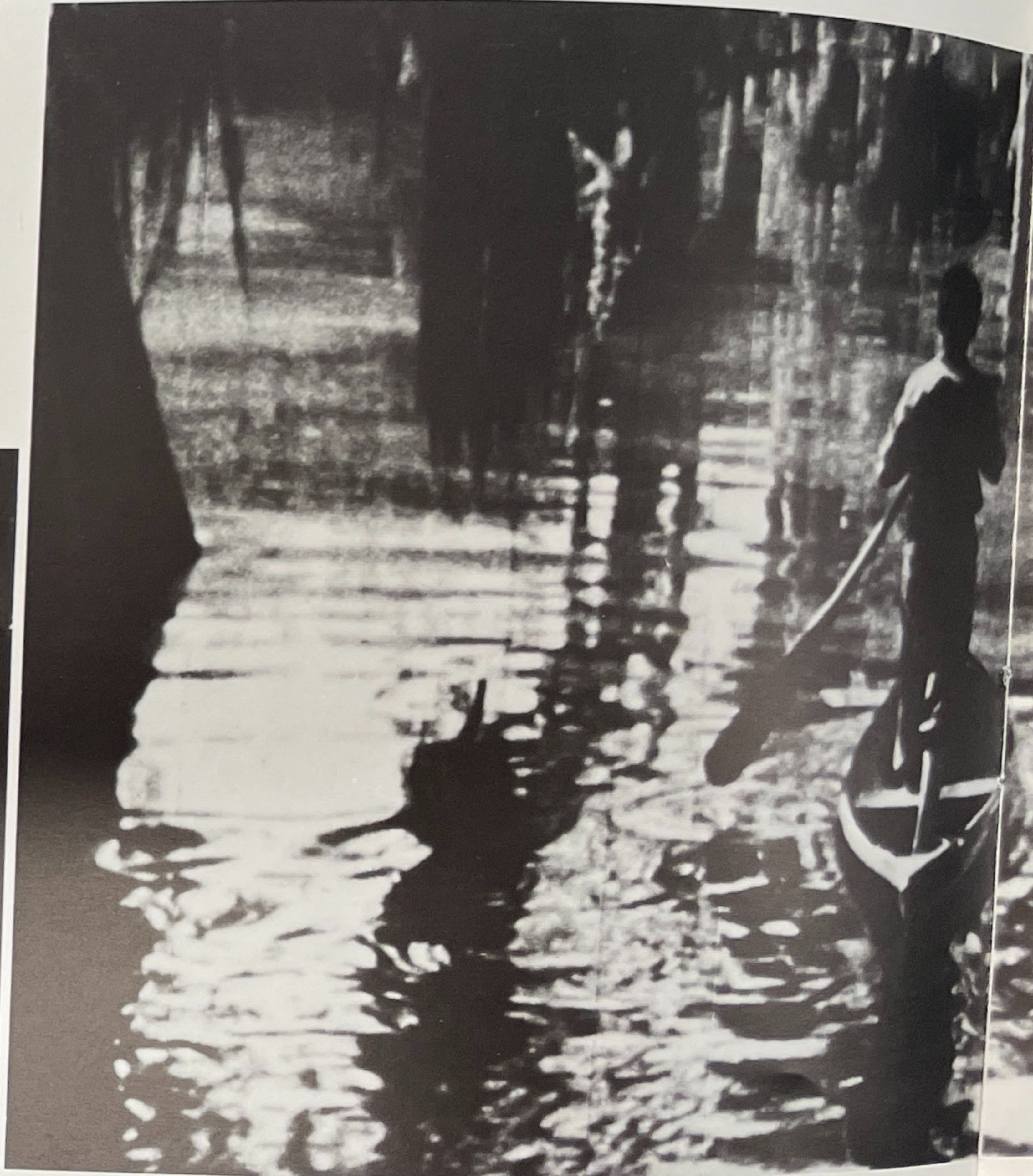
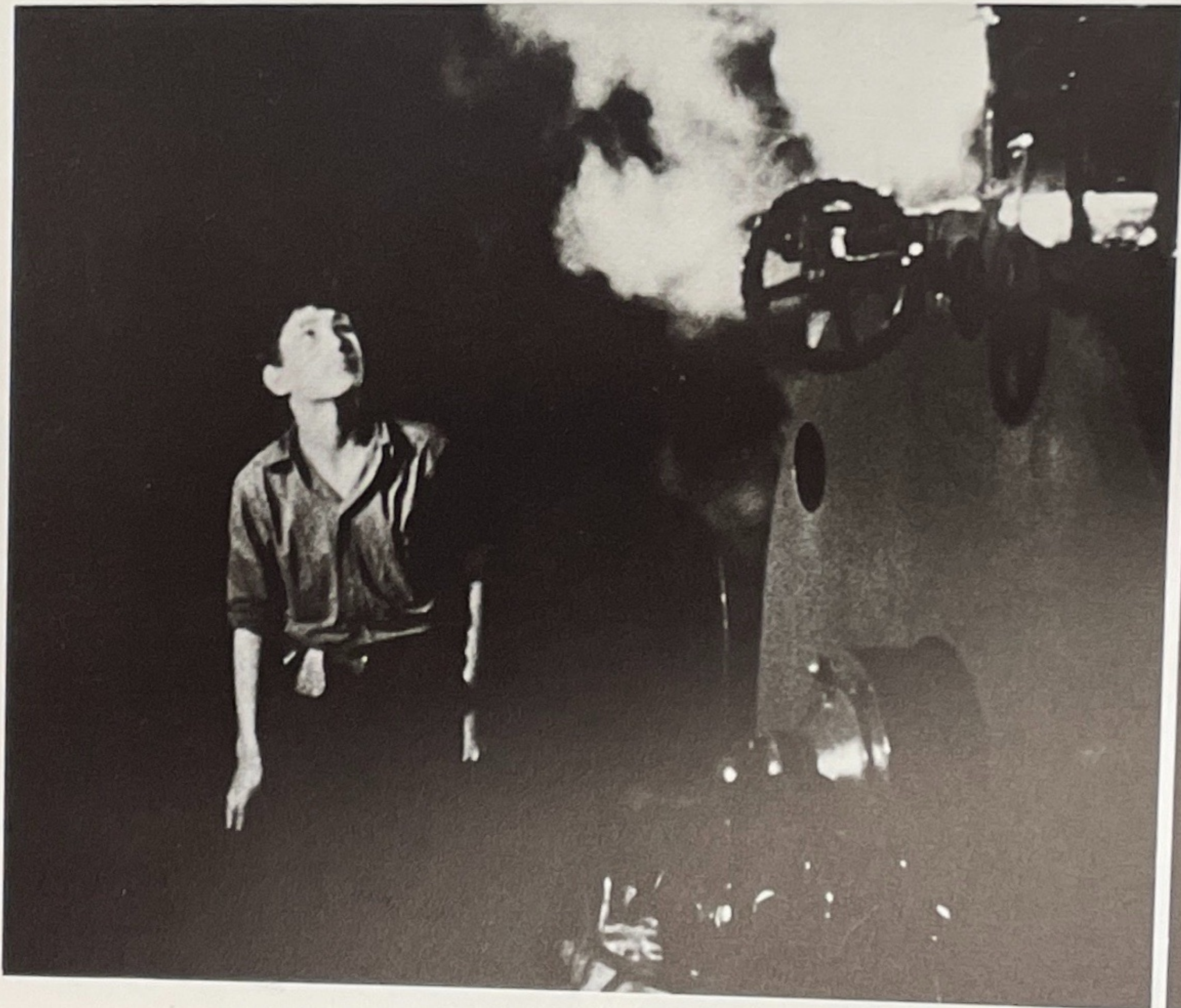
35 minutes 16mm sound Color Available in English or Spanish.



Louisiana Story

A classic documentary, "Louisiana Story" is the last and greatest film of the renowned writer and director Robert Flaherty. Flaherty tells the story of a young Cajun boy, living a simple, almost primitive life, who encounters an oil-drilling operation in his native Louisiana bayous in the late 1940's. The boy is both fascinated by and skeptical of the towering oil derrick, with its clanking metal and belching steam. The oil men are amused by the boy's naivete and amazed at his resourceful-

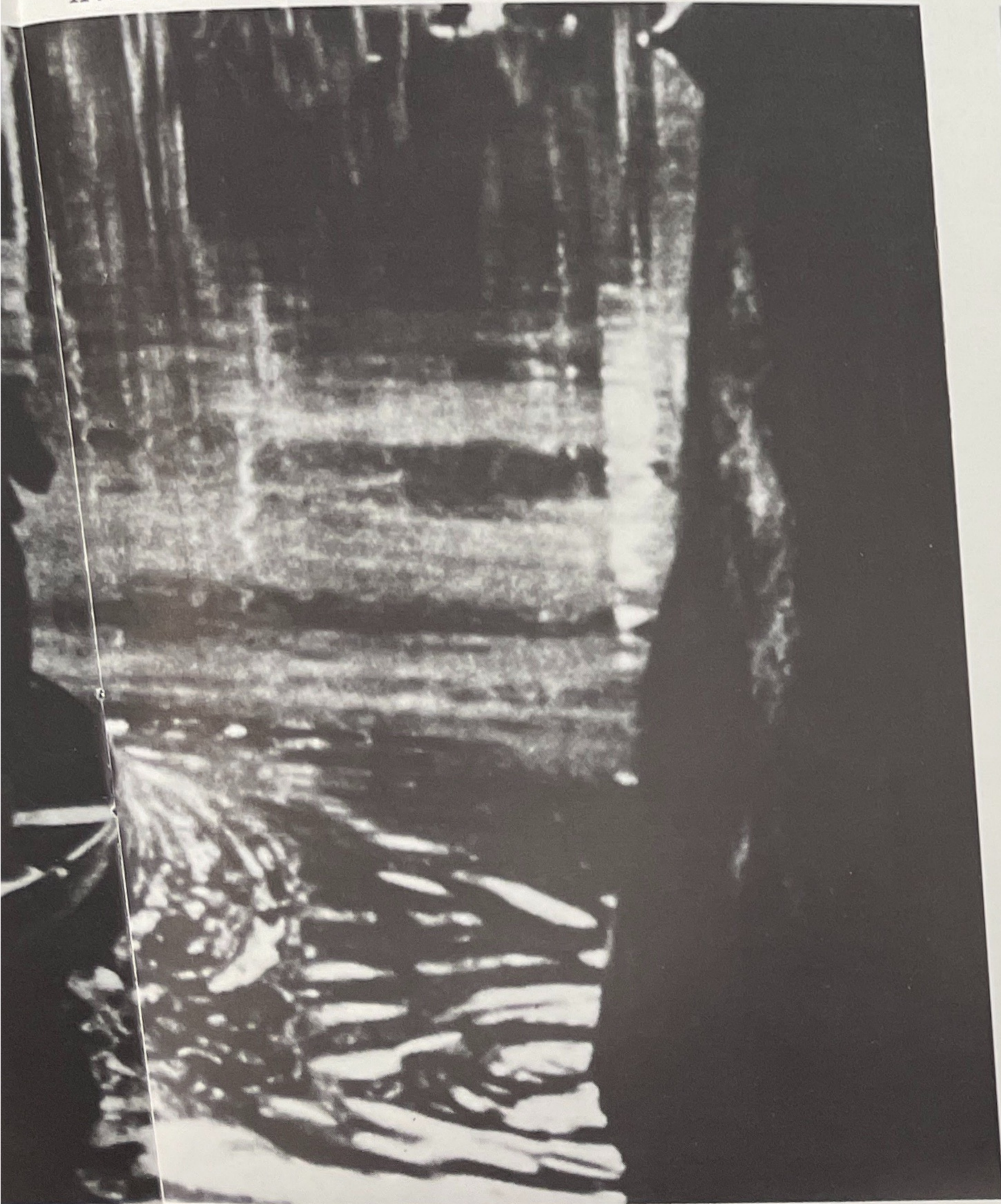
ness, especially when he kills and skins the alligator that he thinks ate his pet raccoon. When the wildcat well runs into trouble, the boy secretly pours a pouchful of salt into the hole. Meanwhile, the oil men prepare to use a different drilling technique. When oil is struck, the boy believes his magical salt was the catalyst and the oil men believe it was their technology. Accompanying musical score by Virgil Thomson.
77 minutes 16mm sound Black and White



Louisiana Story Study Film

A collection of out-takes from the nearly 18 hours of processed film from which "Louisiana Story" was cut. The study film will be of interest to serious students of cinematography because it allows analysis of Flaherty's methods. Commentary by his widow, Frances Hubbard Flaherty, and by cameraman Richard Leacock, who produced the study film for the Museum of Modern Art. "Louisiana Story" is a free-loan film. "Louisiana Story Study Film" is a rental film.

114 minutes 16mm sound Black and White



Vibrations Encore

An entertaining series of seven programs which looks at and listens to the different styles and approaches that singers, instrumentalists, and composers bring to their work. The programs draw an analogy: successful performers in any field are individuals who have developed their talents into a specific form of self-expression. "Vibrations Encore" has been edited from a longer series which originally appeared on the Public Broadcasting Service. A teacher's guide is available. Each program is 25 minutes long. 16mm sound Color



Programs

Three Women
The Electric Lady
The Brubecks
Evelyn Lear and Thomas Stewart
Cathy Berberian
Charley Pride and Micki Grant
Music For A While

Artists

Micki Grant, Shirley Verrett, Carol Hall
JF Murphy @ Salt
Dave and Chris Brubeck
Evelyn Lear and Thomas Stewart
Cathy Berberian
Charley Pride and Micki Grant
Jazz Musicians, a Chamber Music Group



Educational Materials Intended for Classroom Use/Part 2

For rent or sale

bread and butterflies

Inside/Out

Alternatives for Learning

Louisiana Story Study Film

Cousteau Society Filmstrips

These five offerings are described briefly in this catalogue. For more detailed information, please fill out and mail one of the cards.

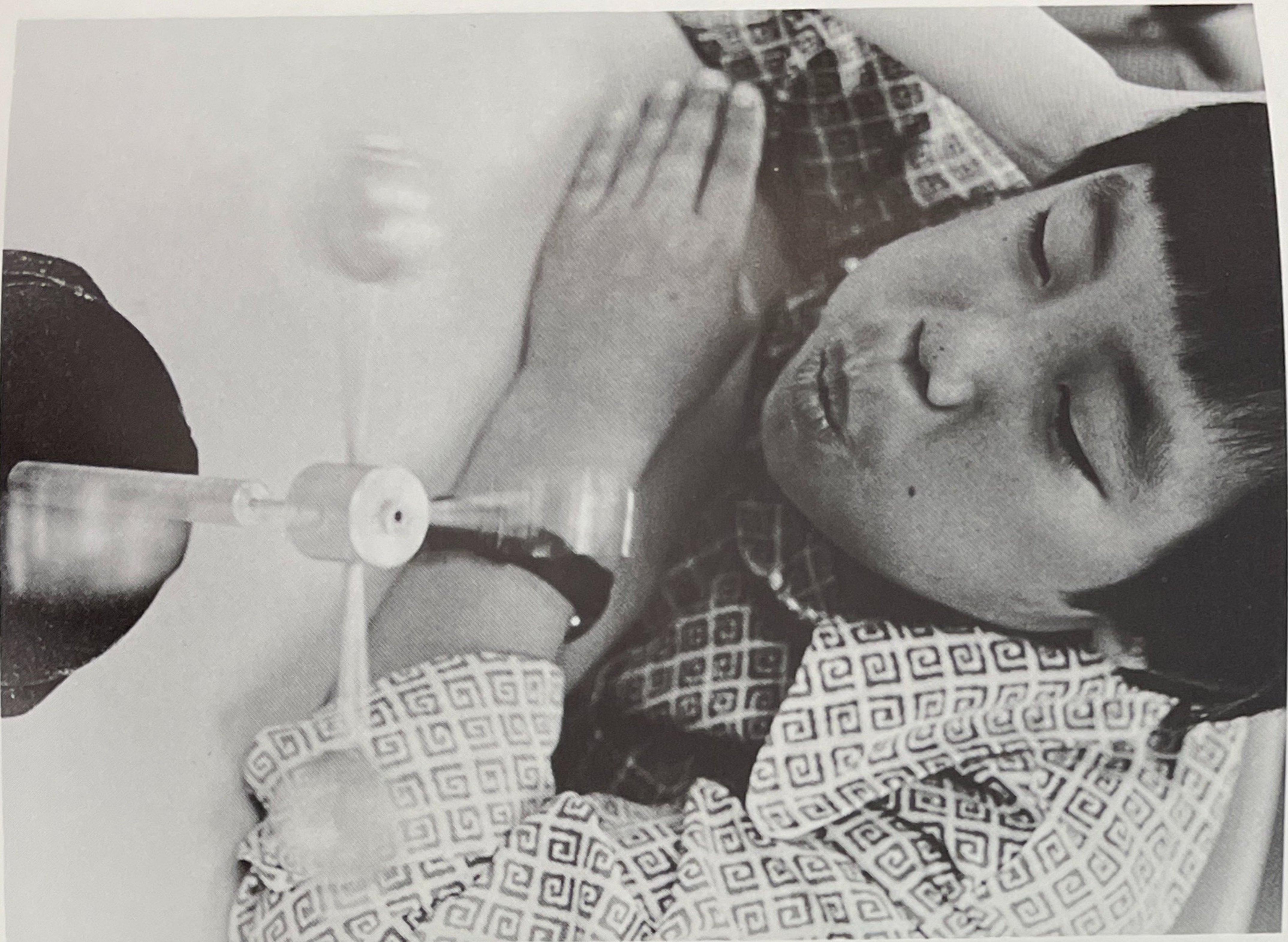
bread and butterflies

A series of 15 career education television programs to help 9-to-12-year-olds understand who they are and what they can become. The series focuses on people reacting to everyday situations: three friends try to earn \$8 in two days; bickering on a motion picture set stops production; a son becomes curious about what life would be like with other parents; a boy builds a soapbox racer that crashes on its test run; an older child

matures by helping a blind five-year-old; two youngsters help a sow deliver 14 piglets; a school's adult power structure is taken over by a rebel gang, and a young female engineer must learn to deep-sea dive to test her laboratory theory. "bread and butterflies" makes the point that both stability (bread) and metamorphic change (butterflies) are necessary for a satisfying life. "bread and butterflies" was produced for the

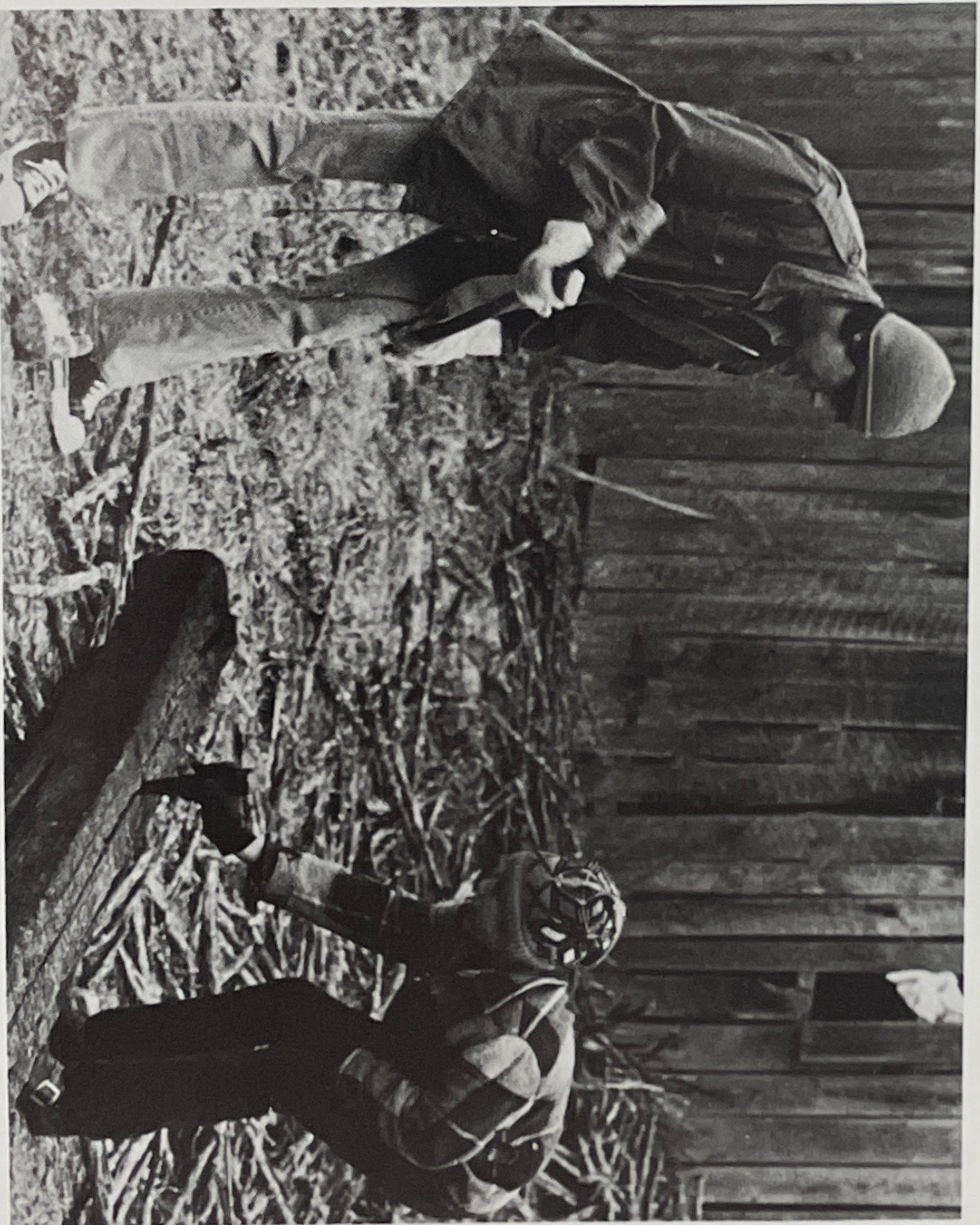


Agency for Instructional Television through the resources of a consortium of 34 educational and broadcasting agencies, including state departments of education, educational television networks, educational television commissions, and local educational agencies. Extensive supplementary teaching material is available. Each program is 15 minutes long. Each is available in 16mm sound-color or videocassette.



Programs

- Treasure Hunt
 - Work Means...
 - Me, Myself & Maybe
 - Decisions, Decisions
 - School & Jobs
 - Taking Care Of Business
 - I Agree,... You're Wrong!
 - Success Story
-
- The Way We Live
 - Planning Ahead: The Racer
 - Things, Ideas, People
 - People Need People
 - Our Own Two Hands
 - Power Play
 - Choosing Changes



Inside/Out

A unique, award-winning series in emotional health education for 8-to-10-year-olds. Youngsters meet real-life characters in real-life situations in the thirty 15-minute programs. Each uses "slice of life" vignettes to take children through experiences they will encounter as they grow—loving, hurting, enjoying, fearing, choosing, hating—to help them deal with the intense feelings that accompany such crises. "Inside/Out" was produced for the National Instructional Television Center through the

resources of a consortium of 33 educational and broadcasting agencies, including state departments of education, educational television networks, educational television commissions, and local educational agencies. Extensive supplementary teaching material is available. Each program is 15 minutes long. Each is available in 16mm sound-color or videocassette.



Programs
Because It's Fun
Breakup
Brothers And Sisters
Bully
... But Names Will Never Hurt?
But They Might Laugh
Buy And Buy
Can Do/Cant Do

Can I Help?
Donna (Learning To Be Yourself)
Getting Even
Home Sweet Home
How Do You Show
I Dare You
I Want To
In My Memory

Jeff's Company
Just Joking
Just One Place
Living With Love
Lost Is A Feeling
Love, Susan
Must I/May I
A Sense Of Joy

Someone Special
Strong Feelings
Travelin' Shoes
When Is Help
Yes, I Can
You Belong



Cousteau Society Filmstrips

Operating from the ship Calypso, Captain Jacques Cousteau and his marine research teams have studied all of the oceans of the world. After more than 39 years of such expeditions, Cousteau has accumulated a vast library of fascinating information and photographs. He narrates portions of these on two series of 35mm color filmstrips, produced by the Cousteau Society.



Undersea Explorations: These four filmstrips explore all facets of undersea investigation, from why women are better "water creatures" than men to how a bathyscaph works; from why oceanographers go aloft in balloons to study whales to how oceanauts eat, sleep and work deeper than the average diver can safely venture.



The Life of Fishes: These six filmstrips portray many sea animals — their habitats, their surprisingly complex societies, and their success and failure in surviving time and particular ecological hardships. Included in each set are filmstrips, cassette tapes and a comprehensive teacher's guide. Cassette tapes have both audible and inaudible advance signals.



Alternatives for Learning

This color documentary explores seven significant innovations in undergraduate education to help students from diverse backgrounds meet their vastly different educational needs. Among the innovations are easy-to-use computer systems; a floating campus; students from around the world spend a semester at sea, doing course work between ports; a university without walls; 20 institutions pool their resources and eliminate prescribed curricula and course accreditation; the open

university; teachers join broadcasters to produce lively programs to teach part-time students at home through national television and radio. This film should be a catalyst for discussion on how teachers teach and how students learn. A teacher's guide is available. "Alternatives for Learning" was produced by the Center for Improvement of Undergraduate Education, Cornell University.

52 minutes 16mm sound Color



Order Card for Free-Loan Films

Playdates

Film Number and Title

1st Choice | 2nd Choice

#4879 Refinery		
#4876 Sea Venture		
#4880 Offshore		
#4901 World Beneath the Sea		
#4877 Through the Northwest Passage		
#4900 The Three E's		
#4878 Hometown		
#4881 Louisiana Story		
Vibrations Encore Series		
#30658 Three Women		
#30659 The Electric Lady		
#30660 The Brubecks		
#30661 Evelyn Lear and Thomas Stewart		
#30662 Cathy Berberian		
#30663 Charley Pride and Micki Grant		
#30664 Music For A While		

NAME

TITLE

NAME OF ORGANIZATION

STREET ADDRESS

CITY

STATE

ZIP

Order Card for Free-Loan Films

Playdates

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#4879 Refinery		
#4876 Sea Venture		
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#4877 Through the Northwest Passage		
#4900 The Three E's		
#4878 Hometown		
#4881 Louisiana Story		
Vibrations Encore Series		
#30658 Three Women		
#30659 The Electric Lady		
#30660 The Brubecks		
#30661 Evelyn Lear and Thomas Stewart		
#30662 Cathy Berberian		
#30663 Charley Pride and Micki Grant		
#30664 Music For A While		

NAME

TITLE

NAME OF ORGANIZATION

STREET ADDRESS

CITY

STATE

ZIP

1980

Photo Library
Copy

The Exxon
Film
Library



Alternate Energy Sources



Coal: Bridge to Tomorrow #12875

28 minutes, 16mm sound and color

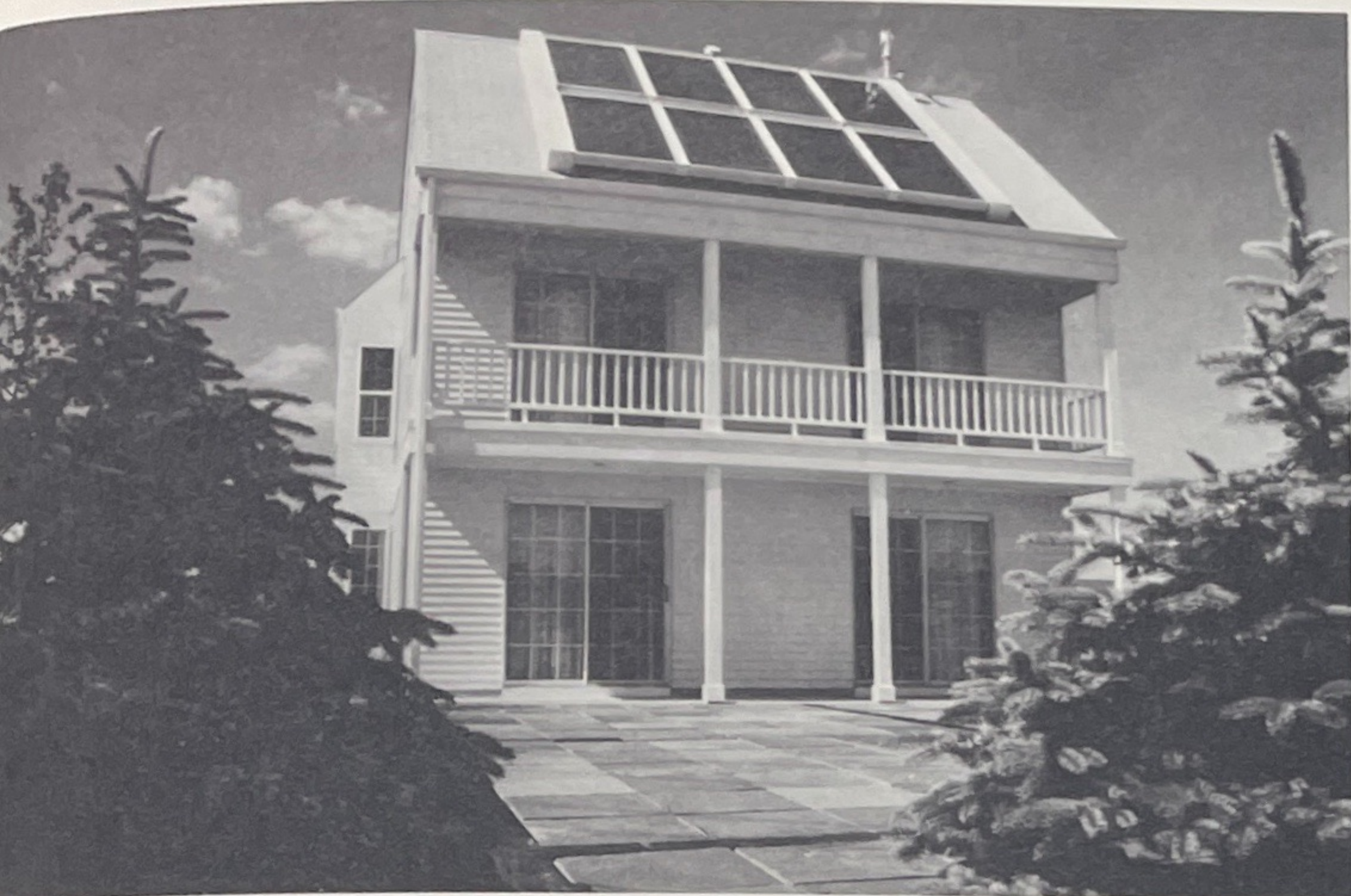
There is renewed interest in the use of coal to meet a part of our energy needs. The film shows how this traditional fuel is mined, processed and used today and how it may become an economical source of liquid and gaseous fuels in the future.



Nuclear Energy – Power for Today and Tomorrow #4884

28 minutes, 16mm sound and color

A free discussion kit accompanies the film. The film follows the development of nuclear power from the hunt for uranium to the production process, to the installation of nuclear fuel in a reactor's core.



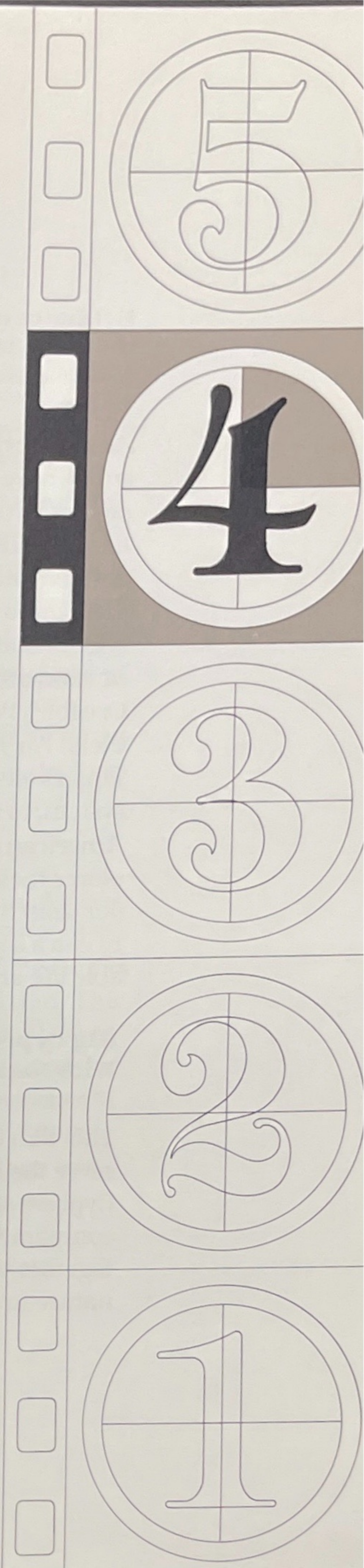
Energy from the Day Star # 31806

20 minutes, 16mm sound and color

Solar energy is recognized as a valuable new source of energy, particularly for homeowners. This film examines the passive use of solar energy and its relationship to the environment. Solar installations in existing homes as well as new solar homes were filmed in many parts of the United States.



The Environment



Evidence of Progress #4882

28 minutes, 16mm sound and color
A free discussion kit accompanies the film.

As our world grows smaller and smaller, we find ourselves ever more dependent upon each other. With pollution threatening us all, it becomes imperative that nations work together in the fight to clean up the earth. And that is just what is happening—as EVIDENCE OF PROGRESS vividly illustrates. From Oregon's Willamette River, to the British Clean Air Act...from Kawasaki, Japan's electronic pollution monitoring system, to the reclamation of North American mining regions, the film explores the different roads open to us in our search for that delicate balance between a sound ecology and a comfortable life-style.

Big Cypress, Partnership

With Nature #4936

17 minutes, 16mm sound and color

This film describes the efforts to preserve the ecosystem of the Florida Cypress area. Environmentalists and companies exploring for oil work together to ensure that the balance of nature in the area is not disrupted.

South from Valdez #12876

20 minutes, 16mm sound and color

A voyage on the tanker *Exxon North Slope* from Valdez, Alaska, to San Francisco. We meet the crew carrying vital Alaska crude and see how they maneuver this supertanker safely and swiftly to its destination. We travel on the bridge, in the engine room and in the galley, getting glimpses of the electronic engineering that make this ship a modern marvel of the seas.

Cleaner Tankers—Cleaner Seas

#31800

15 minutes, 16mm sound and color

From the fields to the refineries, Very Large Crude Carriers (VLCC's) transport the oil we need. They deliver their cargo safely, efficiently, and in an environmentally acceptable manner.

CLEANER TANKERS—CLEANER SEAS is the story of the VLCC and its advanced method of washing waste from cargo tanks. A method that, like the ship itself, is clean and economical and that conserves petroleum.



World Beneath the Sea #4901

28 minutes, 16mm sound and color

The film addresses itself to the day-and-night vigil of the oil companies to protect the environment as they drill for oil and gas beneath the sea. Discussed are technological developments—from camouflaging a drilling platform as a high-rise apartment, to computerized controls, underwater television cameras for inspection and drilling systems that operate on the ocean floor.

Edge of Evolution #4883

28 minutes, 16mm sound and color

A free discussion kit accompanies the film.

EDGE OF EVOLUTION is a unique motion picture. It traces life back some 20,000 years by looking at a remarkable organism—muskeg. Part peat and part living plant, this vast boggy deposit occurs both north and south of permafrost. Muskeg is a living reminder that man is but a recent visitor to the earth. It is an amazing story, one that will bring audiences closer to the “Edge of Evolution.”

Rig Fishing the Gulf #4902

28 minutes, 16mm sound and color, high school to adult (restricted to distribution in Northeast)

Sport fishing in the waters of the Gulf of Mexico is documented in this film. The story focuses on the fishing that takes place around some of the largest and most expensive lures in the world—offshore petroleum platforms. Filmed at Grand Isle and other Louisiana locations, the film shows scenes from the Grand Isle Tarpon Rodeo. It also includes some striking underwater scenes around the platforms.

Educational
Films
and Materials



Production of the films described on these two pages was supported in part by contributions from Exxon Corporation.

Bread & Butterflies

Fifteen 15-minute sound and color programs

BREAD & BUTTERFLIES gives children a clearer understanding of successful work behavior and the connection between school and the real world. It also encourages each child to develop his own special capabilities and goals.

Inside/Out

Thirty 15-minute sound and color programs

This interdisciplinary series, developed by health educators and learning specialists, is designed to help eight-to-ten-year-olds understand and cope with their emotions by developing skills that can serve throughout adult life.

Measuremetric

Twelve 15-minute sound and color programs

This is a series for middle- and upper-elementary students that uses the metric system in dealing with the process of measurement. The programs employ engaging characters and a variety of production techniques to help students understand better the process of measurements, accurately employ measuring instruments, and report and interpret measurements using metric units.

Self Incorporated

Fifteen 15-minute sound and color programs

This series is designed to help young adolescents cope with the problems that arise as a result of the physical, emotional, and social changes they are experiencing. The programs deal with topics like peer-group pressure, dating readiness, cliques, privacy, achievement, and ethical decision-making.

Thinkabout

Sixty 15-minute sound and color programs

THINKABOUT is designed to help develop and strengthen students' reasoning and study skills and to improve and extend their mathematics and communication skills. The series blends skills from various subject areas in the fifth- and sixth-grade curricula and presents them within a framework based on the reasoning process.



Trade-offs

Fifteen 20-minute sound and color programs

TRADE-OFFS is designed to help students think their way through economic problems and increase their understanding of economics. Using dramatization and special visuals, each of the fifteen programs considers a fundamental economic problem relevant to the daily life of the child, emphasizes the economic principles and reasoning processes involved in dealing with the problem, and introduces similar unresolved problems to stimulate classroom discussion and follow-up activities.

The Heart of Teaching

Five 15-minute sound and color programs
One 30-minute sound and color program

THE HEART OF TEACHING is an in-service series designed to meet a specific need identified by teachers: to understand themselves and their own emotional responses to the daily experiences of their professional lives. The open-ended dramatizations focus on teacher reaction to the isolation and loneliness of teaching, professional change, the frustrations of teaching, individual differences in the classroom, and difficulties of communication with parents and others.

Programs listed on these two pages come with teacher's guides and other support materials. For complete information write The Agency for Instructional Television, Box A, Bloomington, Indiana 47401 for their Catalogue of Television and Audio-visual Materials.

Three films on the free Enterprise System.

The System #4905

15 minutes, 16mm sound and color, senior high level, available with teacher's guide

What do students think about the free enterprise system? How do they compare it to other economic systems? This film is an open-ended and wide-ranging discussion by high school students who explore the assets and liabilities of free enterprise. It provokes debate and should be used as a prelude to a classroom discussion on the subject. The guide offers suggestions as to how the film can be used.

The Individual in the System #4907

14 minutes, 16mm sound and color, senior high level, available with teacher's guide. This film is a sequel to THE SYSTEM.

What does the future hold for today's students? Can the individual still make it in the system? This is a candid, frank discussion by a group of articulate high school students of the opportunities available to the individual for success and personal fulfillment in our private enterprise system.



Is There Competition in the System?

#4908

14 minutes, 16mm sound and color, senior high level, available with teacher's guide. This film is a sequel to THE SYSTEM.

Is there real competition in the marketplace? How well does it work? Are manufacturers really responsive to the needs of the consumer? This film features a group of high school students asking these questions about our private enterprise system and how effectively the system serves the individual and society. The students explore why people buy, the power of consumers and whether some businesses can stay small and succeed.



Films listed on this and the following pages were supported in part by grants from the Exxon Education Foundation.

Project TEACH

Seven $\frac{3}{4}$ " videotape cassettes.

Dr. David Brooks of the University of Nebraska has developed a set of videotapes to help train teaching assistants in chemistry. While the materials were produced for graduate assistants, many instructors will find them useful in their analysis of the teaching process. By the same token, although the tapes use examples from chemistry, their usefulness is not limited to this subject matter.

Introduction

An overview of the entire series (8 minutes).

Interaction Analysis

A training tape which demonstrates the kinds of communications that occur in various teaching environments and their implications for learning (15 minutes).

Micro Teaching

A tape demonstrating a training procedure which provides practice in specific teaching skills (8 minutes).

Questioning

A demonstration of the use of different kinds of questions to evoke student learning and classroom response (20 minutes).

Reinforcement I

A demonstration of the effects a teacher has on students when using positive and negative feedback (12 minutes).

Reinforcement II

A continuation of the demonstration of the effectiveness of a professor's feedback on students (9 minutes).

Tutoring

A demonstration of different techniques to be used in tutoring a student (11 minutes).

These tapes are available for purchase through:

Project TEACH
Department of Chemistry
227 Hamilton Hall
University of Nebraska—Lincoln
Lincoln, Nebraska 68588

**Laboratory Materials
for Introductory Chemistry—**

A set of nine $\frac{3}{4}$ " videocassette tapes demonstrating various chemical phenomena.

Dr. Paul Rasmussen of the University of Michigan developed a set of videocassette tapes to introduce students to experiments in introductory chemistry. The tapes are designed to familiarize students with the use of various types of equipment and to demonstrate some of the chemical phenomena which can be observed.

Laboratory Techniques

*Physical Properties and
Molecular Structure*

Oxidation-Reduction

Precipitation Equilibria

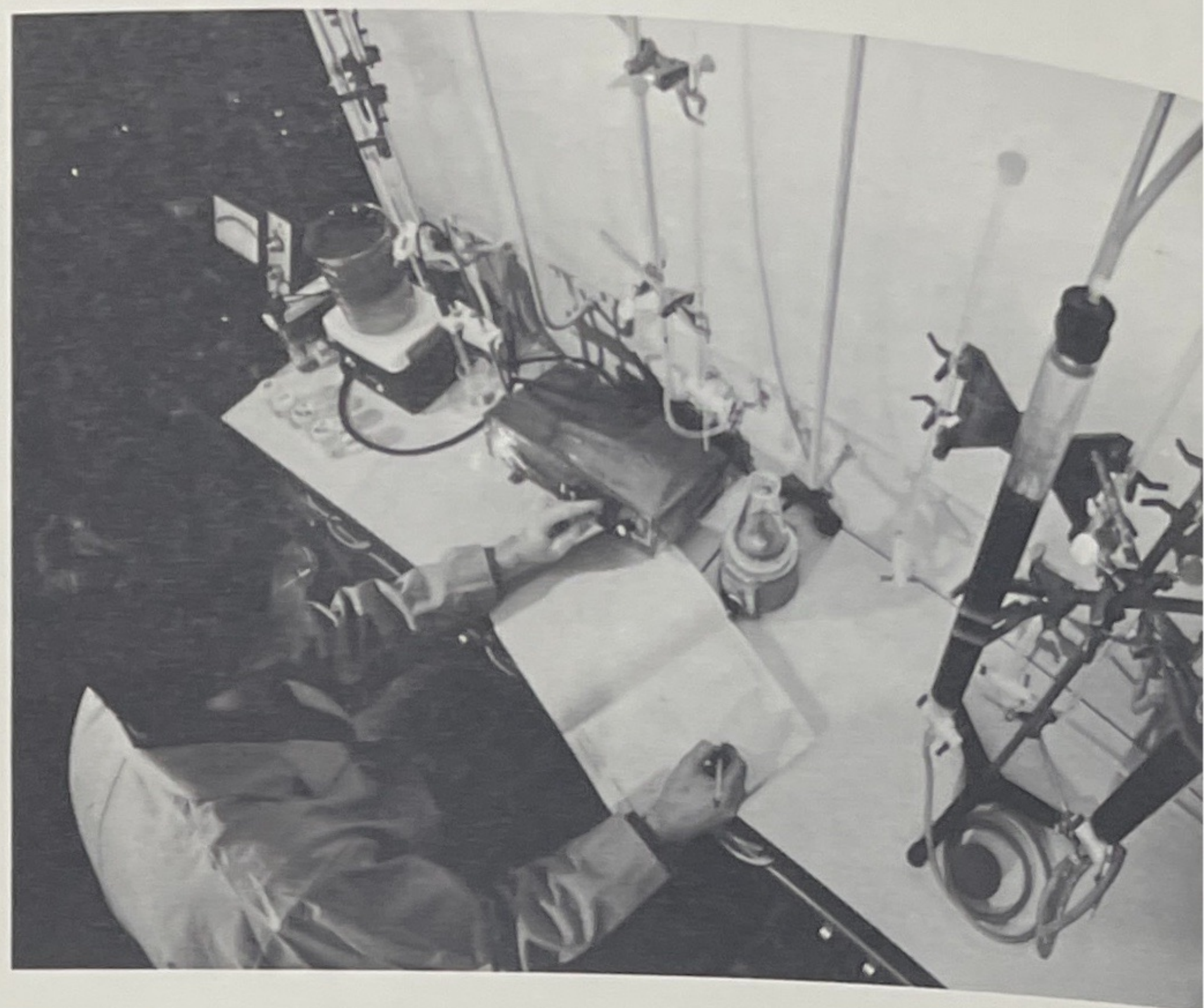
Spectroscopy

Acid Base Equilibrium

Chemical Kinetics

Bomb Colorimeter

This set of tapes plus written materials are available through the Chemistry Department, University of Michigan, Ann Arbor, Michigan 48104.



**Program Overview, Management
Development and Training Program
for Colleges and Universities**

A series of tapes and written materials developed as training and planning exercises for colleges and universities is described in this overview $\frac{3}{4}$ " cassette tape. Available from:

High Education Management Institute
American Council on Education
One Dupont Circle
Washington, D.C. 20036

Physics Instructional TV Programs—

A set of seventeen $\frac{3}{4}$ " videocassettes illustrating various laboratory experiments in physics.

A team at Rensselaer Polytechnic Institute headed by Dr. Harry Meiners has developed a series of demonstration tapes to supplement standard physics laboratory work. Using specialized equipment, they demonstrate commonly studied physical phenomena such as:

The Behavior of Dipoles

Brownian Motion

Centripetal Acceleration

Conservation of Energy

Diffusion of Gasses

Faraday's Law

Magnetic Forces

Microwave Diffraction

Standing Waves

Thin Films

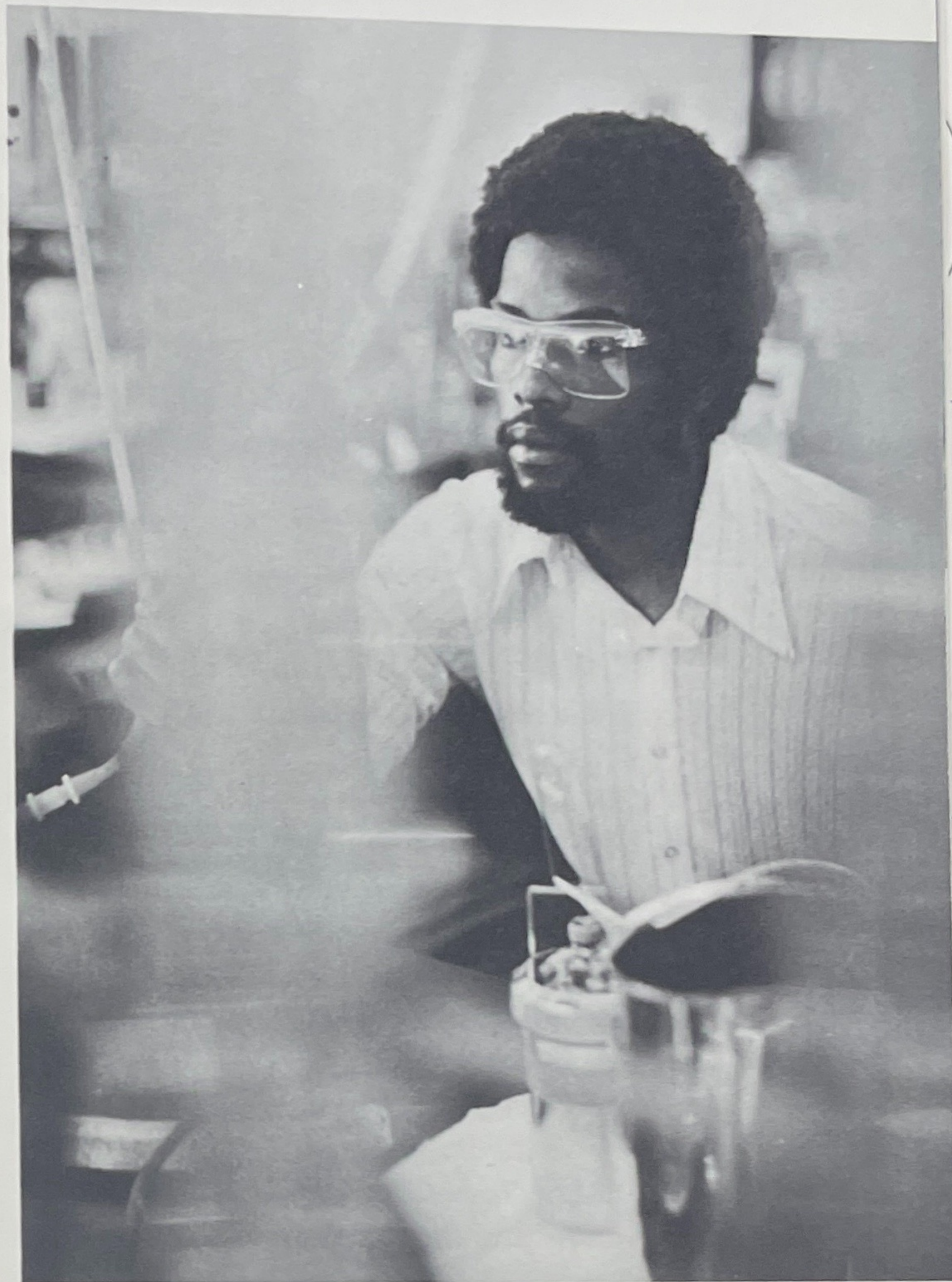
The cassettes are available for individual or full set purchase from:

Dr. Harry F. Meiners

Department of Physics

Rensselaer Polytechnic Institute

Troy, New York 12181



**FIVE FILMS ON
NEW METHODS OF TEACHING**

Guided Design #31864

25 minutes, 16mm sound and color

Guided Design, developed by Dr. Charles E. Wales of West Virginia University, is a teaching method combining principles of programmed instruction with open-ended problem-solving. It is based on the conviction that students, working in groups, can be brought to acquire whatever factual or technical knowledge they need as they work their way through an ascending order of well-designed problems, each carefully broken down into sequenced stages or steps. The film shows the operation of several Guided Design classes at West Virginia University and the reactions of some of the students and faculty members who participated in them.

TIPS #31863

10 minutes, 16mm sound and color

Teachers conducting large undergraduate classes have long been concerned with their inability to deal with faltering students in time to be helpful. This film offers an introduction to TIPS, a promising way of solving this problem. TIPS (Teaching Information Processing System) is a computer-assisted method of monitoring each student's progress, of identifying specific weaknesses and strengths in his grasp of the subject matter and of prescribing corrective study procedures. This system was developed by Dr. Allen C. Kelley, who is now Chairman of the Department of Economics at Duke University.

EXPER SIM #10357

15 minutes, 16mm sound and color

This film demonstrates the classroom use of EXPER SIM, a system for teaching research and strategy through computer simulation. Under the EXPER SIM approach, the computer serves as a replacement for actual data collection, saving time and obviating the need for costly laboratory space, equipment, and supervision. Students design their own experiments, formulate their own research strategies, and perform their own analyses of "raw data" received from the computer. EXPER SIM was developed by Dr. Dana Main, a professor of psychology presently with the West Virginia College of Graduate Studies.

Intensive Language Instruction

#12778

25 minutes, 16mm sound and color

The Dartmouth Intensive Language Model is a dynamic approach to teaching foreign languages that is aimed at making the student feel comfortable in and with the target language in as short a time as possible. Cornerstone of the Dartmouth approach is the use of trained undergraduates, known as "assistant teachers", whose role is to provide review and reinforcement of content presented in the "master classes" by the professor. This film demonstrates the essential features of the Dartmouth method as well as the procedures employed for training and selecting the undergraduate assistant teachers. The Dartmouth Intensive Language Model was developed by Professor John Rassias out of his experience in training Peace Corps volunteers.



Student-to-Student Counseling

#10356

25 minutes, 16mm sound and color

Student-to-Student Counseling, a systematic approach to training students as academic counselors, was developed by Dr. William F. Brown at Southwest Texas State University as a solution to the problem of how to provide new students with individual attention and guidance over an extended period of time. This film gives an overview of the methods and materials of the Southwest Texas model of peer academic counseling and also shows adaptations of the model on three other campuses.

3037

*You are cordially invited to
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THE HUMAN ELEMENT

*This film documents the role of
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man's worldwide struggle
to improve his environment.*

*Produced by
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Johnny Victor Theater,*

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March 27, 1963, at 5:30 P.M.

R.S.V.P. PL 7-3000, Extension 7114

THE AMERICAN FILM INSTITUTE
 UNDER A GRANT FROM EXXON CORPORATION PRESENTS
IN GLORIOUS BLACK AND WHITE
 NEW 35MM PRINTS OF FILMS BY

GREAT HOLLYWOOD CAMERAMEN

Today, when such films as *Lenny* and *Paper Moon* are of immediate interest merely because they are in black-and-white, it is difficult to remember a time when color itself was a novelty, when cinematographers were nominated for Oscars in a separate black-and-white category and when cameramen could spend hours perfecting the lighting without throwing the studio into a state of bankruptcy.

Later, economic hard times *did* overtake the movie companies, and they could maintain financial solvency only by selling their old and later their new films to television networks in a period that coincided with the boom in color TV sales. Suddenly the networks determined that black-and-white was obsolete, that even grainy, washed-out color was preferable to an entire *style* of photography that had taken decades to perfect. And the film industry, now dependent on the TV sale for economic survival, acquiesced.

Now that the pendulum has swung back to where television stations find it commercially feasible to run old black-and-white films once again, audiences have at least been able to study some of the classics for their content. Style, however, is another matter, and watching a photographic masterpiece on television (or even in 16mm) is like studying still photography reproduced on newsprint; there are no shadows, shadows or subtlety.

The eight masterpieces of black-and-white cinematography that make up "In Glorious Black-and-White: A Tribute to the Art of Great Hollywood Cameramen" are presented here in brand new 35mm prints, all taken from the best printing material available and most from the original negatives.

Lee Garmes's work on

Shanghai Express won him the Academy Award for cinematography, but all the films in this collection brought distinction to the men who photographed them. The gritty black-and-white of *Winchester '73* (shot by William Daniels 25 years after he photographed *Greed*) helped make that film one of the all-time cult Westerns, while *Letter From an Unknown Woman* is one of the most lushly photographed love stories because cinematographer Franz Planer collaborated with Max Ophuls, a director whose own camera eye was legendary. James Wong Howe's stark black-and-white photography of *Sweet Smell of Success* captured the seamy side of New York City in a way that color never could, and *Gilda* is one of the greatest time capsule films of the Forties because of the way Rudolph Maté captured Rita Hayworth at the peak of her beauty.

Gregg Toland's photography of *The Long Voyage Home* so successfully evoked the feeling of loneliness aboard ship that Eugene O'Neill preferred it to all film versions of his works, and *The Night of the Hunter* is a one-of-a-kind horror film because Stanley Cortez uses

shadows so skillfully that Robert Mitchum becomes an object of sheer terror. *Touch of Evil* is almost in a class by itself; it begins with what many call the greatest opening shot in film history and climaxes with a photographic *tour-de-force* that includes seemingly every shot in the cinematographers' book.

The late John Ford, describing cinematographic standards in Hollywood's Golden Age said, "We'd wait for the light—instead of the way it is nowadays where regardless of the light, you shoot." These eight films prove that these eight cameramen waited—and waited long enough to get it right.



Notes by Michael Clark of the American Film Institute. Grateful thanks are due to Bob Gitt, Henry Weller, Ernie Kirkpatrick, David Parker, Larry Karr, John Kuiper, Dominic de Mercurio, Joe Trentin and Marsha Kesselman. Stills courtesy of The Museum of Modern Art and Culver Pictures, Inc.

SHANGHAI EXPRESS

Photographed by Lee Garmes. Directed by Josef von Sternberg. With: Marlene Dietrich, Clive Brook, Warner Oland. 1932

Lee Garmes photographed four von Sternberg films in the early Thirties, and *Shanghai Express*, their final collaboration, was the photographer's personal favorite, possibly because it won him an Academy Award. The highly atmospheric sets, coupled with Garmes's famed soft-focus shots, give the film a dream-like quality which is highly appropriate for a film about China that was filmed largely in San Fernando Valley. Sternberg himself said, "I thought the canvas of China as evoked by my imagination, quite effective. The actual *Shanghai Express*, when I took it out of Peking, was thoroughly unlike the train I invented." Dietrich, who on this train ride tells Clive Brook, "It took more than one man to change my name to *Shanghai Lily*," is captured in innumerable striking photographic compositions, many of which are staples of still photography books celebrating Hollywood's Golden Age. The difference here, however, is that the lucky viewer gets nearly an hour-and-a-half's worth. (80 mins. Courtesy of Universal Pictures.)

THE LONG VOYAGE HOME

Photographed by Gregg Toland. Directed by John Ford. With: John Wayne, Thomas Mitchell, Barry Fitzgerald. 1940

John Ford, who was a Rear Admiral, directed several films about men who gave their lives to the sea, but many of the better known ones (*Mr. Roberts*, *The Wings of Eagles*, *Donovan's Reef*) were filled with raucous, beer bottle-throwing types based on characters with whom he served in the U.S. Navy. *The Long Voyage Home* is strikingly subdued for Ford, and appropriately so, because the focus here is on the loneliness of a crew on a British tramp freighter sailing from the West Indies to London. The outstanding ensemble acting (including John Wayne as a Swede) is characteristic of Ford at his very best, but Toland's photography—done the year before he shot *Citizen Kane*—is the star of the show. As John Baxter said, the film is "an essay in pictorial counterpoint... To see *The Long Voyage Home* in a good copy, with bronze texture and deep blacks... is to realize that Toland was a supreme visual stylist of the cinema." (105 mins. Courtesy of TV Cinema Sales Corporation.)

GILDA

Photographed by Rudolph Maté. Directed by Charles Vidor. With: Rita Hayworth, Glenn Ford. 1946

Rudolph Maté, whose cinematographic credentials were established for all time by his work on Dreyer's *The Passion of Joan of Arc* and *Vampyr*, is also remembered for consistently capturing Rita Hayworth's beauty at its fullest—both in color extravaganzas (*Cover Girl*, *Down to Earth*) and in that black-and-white classic of *film noir*, *Gilda*. Hayworth plays the wife of a casino owner/tungsten baron (George Macready), whose former lover (Ford) is a gambler in her husband's establishment. This being *film noir*, her marriage is lacking in domestic tranquility, and the always prevalent sexual tension between Hayworth and Ford is visualized by the way Maté captures Rita at her most erotic—most memorably in her legendary "Put the Blame on Mame" number, described by Charles Higham and Joel Greenberg as a "barbaric dance," where Gilda is "peeling off her long black gloves, shaking back her shiny mane of hair while the hands of patrons reach out to her through the darkness." (107 mins. Courtesy of Columbia Pictures.)

LETTER FROM AN UNKNOWN WOMAN

Photographed by Franz Planer. Directed by Max Ophuls. With: Joan Fontaine, Louis Jourdan. 1948

A victim of respectable but somewhat patronizing reviews at the time of its original release, *Letter From an Unknown Woman* has achieved classic status during the past decade, both as one of the two or three best examples of what used to be called "the woman's picture" (Molly Haskell discusses the film at length in her excellent *From Reverence to Rape*) and as perhaps the most impressive showcase of the camera wizardry that distinguished Max Ophuls' direction. "Max and his tracks" were legendary, and the Ophuls tracking shot would follow the characters into rooms, out of rooms and through the walls of rooms as if the cameraman had the mobility of a ghost. Even beyond the camera movements, Planer's use of lighting provided the director with a look of opulence appropriate for this story of lifelong, unrequited love. (90 mins. Courtesy of National Telefilm Assoc. and Ivy Films.)



WINCHESTER .73

Photographed by William Daniels. Directed by Anthony Mann. With: James Stewart, Shelley Winters, Dan Duryea. 1950

James Stewart and Anthony Mann collaborated on eight films in the Fifties, most of them Westerns, and to many the best is still *Winchester 73*, the first of the series and the only one photographed in black-and-white. Stewart plays a frontiersman whose prized Winchester rifle is stolen, and he pursues it with all the intensity of John Wayne trying to find the kidnaped Natalie Wood in John Ford's *The Searchers*. Along the way he meets an assortment of young supporting actors who were then under contract to Universal and hoping for a big break—among them Rock Hudson and Tony Curtis, the latter when he was billed as "Anthony." Daniels' photography reminds one that not all Westerns called for Technicolor and that crisp black-and-white was often more appropriate when filmmakers wanted to de-emphasize the West's beauty in favor of its grittiness. (92 mins. Courtesy of Universal Pictures.)



THE NIGHT OF THE HUNTER

Photographed by Stanley Cortez. Directed by Charles Laughton. With: Robert Mitchum, Shelley Winters and Lillian Gish. 1955

Stanley Cortez has said he regards his work on *The Night of the Hunter* as one of the two most exciting experiences of his long career. Adapted from the Davis Grubb novel by James Agee (who died before the film was released) and directed by Laughton partially as a tribute to D. W. Griffith, the film pits a homicidal preacher (Mitchum, in perhaps his best screen performance) against his two small stepchildren, who will not reveal where their father hid the money he stole. Mitchum then begins to terrorize the youngsters, and his figure is all the more imposing because of the shadow effects Cortez achieves, which make the actor appear to be eight feet tall. (93 mins. Courtesy of United Artists.) Also on this program is a clip from Orson Welles' *The Magnificent Ambersons* (1942), an affectionate lament for the loss of grace and elegance of 19th century America, the film Cortez regards as his other "most exciting experience." (Courtesy of RKO General Inc., and Janus Films.)



SWEET SMELL OF SUCCESS

Photographed by James Wong Howe. Directed by Alexander Mackendrick. With: Burt Lancaster, Tony Curtis. 1957

A remarkable portrait of the American rat race as seen through the eyes of a leading British director, aided immeasurably by the stark black-and-white photography of the legendary James Wong Howe, who began his career in 1917 as an assistant to Cecil B. DeMille's cameraman and who only last year was Director of Photography on *Funny Lady*. The crackling script by Clifford Odets and Ernest Lehmen pits the subdued viciousness of a powerful New York columnist (Lancaster) against the calculated bravado of a third-rate press agent (Curtis) who will do anything to reach the top. Howe's camera captures the seamy side of Manhattan in the Fifties—the bars, the shoddy business offices, the comics who might just land a shot on *The Ed Sullivan Show* if they can generate some favorable copy in the news columns—in a film that seems even more fresh today than when it was made. (96 mins. Courtesy of United Artists.)



TOUCH OF EVIL

Photographed by Russell Metty. Directed by Orson Welles. With: Charlton Heston, Janet Leigh, Orson Welles, Marlene Dietrich. 1958

With the release of *Touch of Evil* (presented here in its uncut version) Orson Welles' career as a Hollywood director came to a halt (but hopefully not to an end), and symbolically at least, so did the Golden Age of black-and-white. To be sure, there were brilliantly photographed films until 1967, when non-color became commercially obsolete, but Welles' whole approach to filmmaking, with his low camera angles and expressionistic lighting, was probably more identified with black-and-white than any other director's. This melodrama about police corruption on the Mexican border begins with a continuous three-minute crane shot that follows the actors for *blocks* (certainly one of the most discussed single shots in film history) and climaxes with a scene where honest cop Heston stalks crooked cop Welles from every conceivable angle—with Metty (who soon grew accustomed to accomplishing the impossible every day) and his camera behind them. (105 mins. Courtesy of Universal Pictures.)