

“SOMETHING DIFFERENT IN SCIENCE FILMS”

MARSHA ORGERON AND SKIP ELSHEIMER

**The Moody Institute of Science
and the Canned Missionary
Movement**

Surely, here is evidence of an intelligent
planning: Whose intelligence would this be?
the plover's? the bat's? the grunion's?

F. ALTON EVEREST, ASSOCIATE DIRECTOR,
MOODY BIBLE INSTITUTE

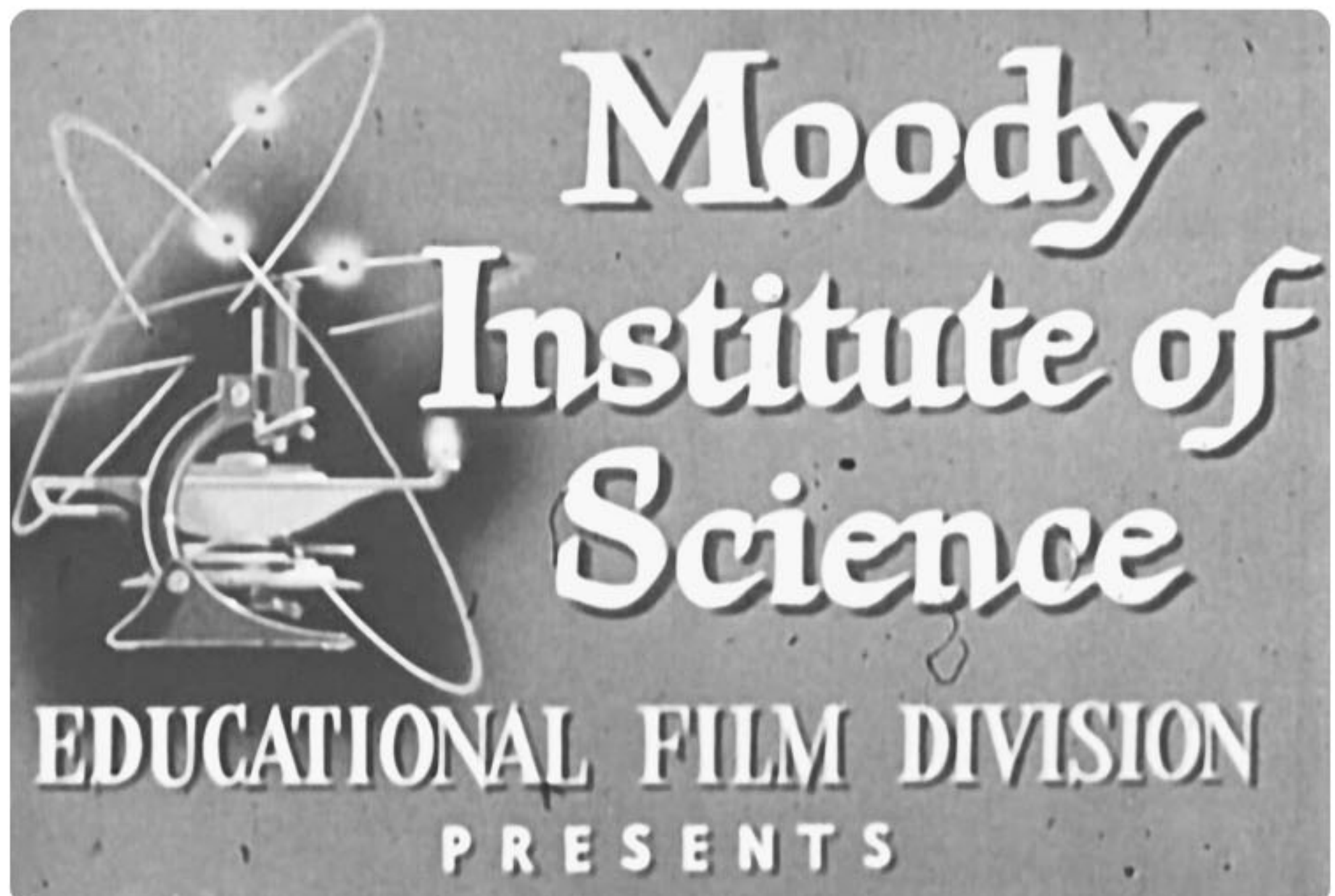
The Moody Institute of Science (MIS) was founded in 1945 by the Moody Bible Institute and Irwin A. Moon as an evangelical group that used science demonstrations to preach to the masses. A California pastor who had been using science experiments in his sermons since the early 1930s, Moon believed that the marvels of science provided visible evidence of a divine plan of creation. In the late 1940s, MIS—with Moon as their director—began producing a series of technologically innovative, often riveting, and always religiously motivated science and social studies films. As James Gilbert in *Redeeming Culture* and Heather Hendershot in *Shaking the World for Jesus* demonstrate, these films provided a religious interpretation for science, offering their viewers—in the church as well as in the American military, the public school system, and industry—a glimpse of a natural world so complex that it could only be explained, according to the films' narrators, through the existence of a higher power or an intelligent designer.¹ In fact, MIS's first films—like *The God of Creation* (1946) and *God of the Atom* (1947)—were conceived of precisely as “Sermons from Science,” a concept Moon developed in the late 1930s while conducting live scientific-evangelical demonstrations, the most famous of which included running a million volts of electricity through his body.²

Although Gilbert and Hendershot both offer compelling and useful histories of MIS and of Moon's career as a technologically savvy Christian filmmaker, much of the MIS film catalog remains unexplored and the nature of MIS's infiltration of the mid-century secular classroom has been especially obfuscated.³ The Moody Bible Institute still circulates some of Moon's films in video format, largely for use in home-schooling environments, and it is these films that have been the primary focus of previous scholarship, largely, we suspect, due to the difficulty, until recently, of accessing reference copies of the vast majority of MIS's educational films that were marketed to mainstream educators in the 1950s and beyond.⁴ Although their specific impact on recent ideological and litigious battles over the teaching of evolution and the introduction of intelligent design into the classroom may be difficult to surmise, evidence certainly attests to the staggeringly wide circulation of MIS films in the postwar era of across-the-board escalation in classroom film usage.⁵ Gilbert notes that MIS records for 1947 and 1948 indicate an audience of 2.5 million for its three circulating films.⁶ In 1950 Ken Hughes, writing for *The Chaplain*, comments that “here and abroad, almost a million people during one short year crowded into high schools, universities, and military bases as well as churches to glimpse the [MIS] films,” and Hendershot claims that “by 1956, MIS films were used in 389 school systems in 46 states.”⁷

The wide circulation of these films was at least in part inspired by a larger political context: motivated by anxieties over both communist educational trends and the

perceived needs of the atomic age, films entered science classrooms at unprecedented rates in the post–World War II era, which found a surplus of audiovisual equipment making its way into public schools.⁸ Articles in *Educational Screen* (which became *Educational Screen & Audio-Visual Guide* in September 1956), the industry's leading trade publication, attest to the sense of urgency that inspired the proliferation of film use in the 1950s classroom. An October 1956 article by Henry Chauncey, "Film Is the Answer," proclaims in bold: "Competition for new graduates in science and engineering is tremendous. Even more serious is the very rapid rate at which Communists may be gaining on us in technological fields." Chauncey's answer? "The use of sound films and educational television to take over the basic instructional part of the teacher's task would seem to afford the most satisfactory solution to this problem."⁹

What follows seeks to expand the discussion of MIS beyond the ten or so films that have received scholarly attention by looking closely at three of the films MIS specifically marketed for primary and secondary public education during the 1950s. These rarely discussed films were edited down from the longer MIS films intended for church and general audiences, which are central to Gilbert and Hendershot's scholarship and which Moody Video still distributes. According to both Gilbert and Hendershot, the shorter educational films were carefully edited for content to downplay the Christian message for secular public school systems; however, our encounters with these shorter films suggest that their religious messages are far from minimized.



The image on the MIS educational film title cards merges atomic, scientific, and Christian symbols.

What we find by looking at these films is a fascinating and frequently contradictory engagement with the hierarchies of nature, divine and otherwise, and with an ardent desire to find rationality in a world made increasingly irrational by scientific progress and even by mankind itself.

Close examination of *Fish Out of Water!* (1954), *A Fish Family* (1957), and the nonaquatic *The Mystery of Time* (1957) suggests an evolving narrative in which we see Moon grappling with the scientific, philosophical, and humanistic implications of what the microscope and the camera reveal in nature when filtered through the lens of Christianity. Moon uses science to support the logic of the family, a central concern of the Cold War era, and to tout the related logic of a morally righteous and religious American body politic, equally important in the nuclear age. Although the Moody Institute of Science advertised their film series for use in science curricula, these films, while filled with demonstrations and concepts akin to a traditional science lesson, aren't science films in the strictest sense. Instead, they use scientific concepts—a kind of semiscience—to support an evangelical agenda.

“WHAT’S THE PURPOSE OF ALL THIS?”¹⁰ THE CREATOR’S PLAN IN AN AGE OF HUMAN INTERVENTION

A pair of MIS films—*Fish Out of Water!* (1954) and *A Fish Family* (1957)—offer a fascinating glimpse into MIS's ideological universe as it was constructed across the body of their 1950s educational films. Although Gilbert contends that the “religious message grew even more muted” in the 1950s MIS films, our survey of the educational films from this decade finds that these films consistently and overtly invoke God or the Creator as a means of offering an explanation, such as it is, for phenomena of the natural world.¹¹ As we will see, MIS did work to shift their image away from associations with “gospel-science” in the secular trade press during the 1950s, but their educational films repeatedly suggest that science and technology can only take us so far; a divine plan offers the only viable—in fact, the only acknowledged—explanation for natural phenomena. In terms of the films' content, there is little in the way of attempts to conceal the religious and moral frameworks into which these biological studies contain the knowledge they present, reminding us of the degree to which nondenominational religion was integral to the larger educational mission of American society in the 1950s.¹²

These films also stand as bookends, of sorts, to a crucial decade in MIS history: *Fish Out of Water!* was released the year that MIS launched its school program, turning its

attentions to producing films that had the potential to reach a wide audience of the unconverted, and *A Fish Family* was released just prior to the passage of the 1958 National Defense of Education Act (NDEA), a bit of Eisenhower-era legislation that opened the floodgates of school funding for AV equipment and film purchases, especially in the sciences.¹³ United States Public Law 85–864, popularly known as The National Defense Education Act of 1958, received significant coverage in *Educational Screen*, starting with the September 1958 editorial “Our Greatest Opportunity,” which notes,

funds in large quantities are going to be available for the purchase of audio-visual materials and equipments. For the next four years, hundreds of thousands of dollars are to be used for the “acquisition of laboratory and other special equipment including audiovisual materials and equipment . . . suitable for use in providing education in science, mathematics, or modern foreign language.”¹⁴

Evidence of the significant impact of NDEA on the educational film industry in general, but particularly on MIS film production and distribution in a secular classroom environment, can be found in MIS science film advertisements, which from 1959 on included a variation of the following sentence: “MIS material qualifies for purchase under provisions of the National Defense Educational Act of 1958.”¹⁵ Amid these institutional changes, MIS was actively pursuing the public school market and shaping its secular image, while also keeping a foot in the waters of church education.¹⁶

Fish Out of Water! is, according to a January 1955 MIS advertisement from *Educational Screen*, intended for elementary, junior high, senior high, and college audiences. The advertisement briefly describes the film without any reference to religious content: “The grunion comes out of the water to lay its eggs on shore. The eggs are gathered and the development of the grunion is studied in the laboratory.”¹⁷ The description of *Fish Out of Water!* as with the nine other films promoted in this two-page advertisement, makes no mention of anything beyond the literal subject matter and the technology used to capture it. Whereas the late-1940s and early-1950s MIS advertisements—which often refer consumers to the Moody Bible Institute and not to MIS—frequently touted the degree to which their films “show how the wonders of science prove the existence of the God of the Scriptures” or “illustrate God’s wisdom and power and man’s dependence upon Him”—there appears to be some effort to move away from promoting the religious aspect of MIS films at the middle of the decade.¹⁸

As late as 1953, MIS advertisements referred to their product as “gospel-science films”; by the end of 1954, the advertisement of the films’ religious content

became more subtle, if not absent altogether, and MIS films would occasionally appear, without any reference to religion, in the “General Science” column of the *Educational Screen* “New Materials” section.¹⁹ In fact, the aforementioned January 1955 advertisement seems at pains to emphasize the entire film series’ use of “factual material,” replete with “accurate, scientific facts” presented in a “logical, understandable form” over the rather vague “overtone of reverence” that reinforces “the moral values of the science curriculum” and the equally ambiguous-sounding “evidence of design in nature.”²⁰ By the time of their December 1956 full-page campaign—which brags of the MIS “I-A Factor,” translated in an asterisk note as “INTEREST AROUSAL”—there is absolutely no indication that these films contain any religious content, merely that they provide a “never to be forgotten lesson in science.”²¹

Despite what may have been a strategic *promotional* move away from religion, the content of the MIS films did not sway from the religious course. And if MIS advertisements increasingly disavowed the religious nature of their science films, *Educational Screen* reviewers did not. A February 1957 review of *Food Getting Among Animals* integrates a direct quotation from the film about God in the first paragraph of its description, foregrounding that which the MIS advertisements now avoided.²² Although the review does not comment one way or the other on the film’s religious content, there are two other references to the film’s invocation of “the creator” and to the grand finale, in which God is explicitly designated as the originator of nature’s wonders. The review even includes the film’s scriptural conclusion: “Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God.”²³ The decision to emphasize these religious components in the review, as opposed to detailing only the scientific and biological wonders that are the advertised focus of the film, suggests the degree to which this reviewer sought to, at minimum, alert the reader/consumer to the film’s ideological orientation. The tide, it seems, had shifted both in terms of MIS promotion and in terms of industry evaluation.

Unlike many of the MIS films, neither *Fish Out of Water!* nor *A Fish Family*—which perhaps only coincidentally concern the biological life of a heavily laden Christian symbol—feature Moon onscreen. Although Moon frequently appears in other MIS films, often wearing a white lab jacket while engaging the viewer with scientific evidence and questions that point to the divine wonders invoked by whatever subject is at hand, Moon’s presence in *A Fish Family* is in voiceover alone. In *Fish Out of Water!* another narrator, frequent Moody Bible Institute actor David Wisner, supplies the narration. In the beginning of the film, Wisner alerts us to the southern California phenomenon of grunion fishing. Images of evening beachgoers roasting marshmallows over bonfires suggests the festive

To Arouse NEW Interest in Science Subjects...

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Films and Filmstrips

Audio-Visual Aids

with the "I-A Factor"*

An aid to more effective teaching, MIS films captivate attention and motivate desire to learn. This is accomplished by creative and artistic treatment of the facts presented—the employment of the newest techniques for communicating ideas.

The process begins with the simple recognition that the world around us is fairly bursting with wonders and treasures of nature, awaiting discovery in the search of science; also that the seemingly insignificant object may have startling value and provide new knowledge to ever widening horizons of learning.

For example, the excavation pictured to the left may merely depict a power shovel digging away at a hillside, but in the MIS film **WORLD OF LITTLE THINGS** the deposit leads to the unfolding of the dramatic story of the diatom and a never to be forgotten lesson in science. Thus the class session begun as just another science lesson becomes a rich learning experience—stimulating a desire for more.

*

"I. A. FACTOR"—INTEREST AROUSAL. The MIS subjects are rich in this important factor.

Consult your A-V source concerning MIS Educational Films subjects, or for immediate list of subjects and sample guide write to:

Educational Film Division

MOODY INSTITUTE OF SCIENCE

Dept. ES-56-562, LOS ANGELES 25, CALIFORNIA

This advertisement reflects MIS's mid-1950s move away from associations with gospel science.

mood in which “the strangest sport on earth,” fishing without poles, transpires. The jovial opening images, however, run counter to the film’s remaining narration, which marvels over the risk taken by male and female grunion when they come out of water into a “foreign, hostile environment” to mate and lay their eggs. This “desperate struggle for survival” is, according to an early comment in the film, “no accident either,” the recurrent phrasing used to invoke the higher power orchestrating these wonders. The narrator’s rhetorical strategy here does not immediately reveal the design or the designer, except through implication; the film later suggests that a “mysterious wisdom” guides the humble grunion, a fish out of water that seems to bear a near-allegorical relation to the MIS educational films themselves.

Unlike the nocturnally marauding grunion hunters, a Moody Institute scientist is shot haunting the beach in the light of day, not for dinner but for grunion eggs, which he digs up and whisks away to the ultimate MIS mise-en-scène, the laboratory, signaled by a close-up of a sand-and-grunion-egg-filled Pyrex beaker. Our narrator informs us, “In the laboratory, and with the aid of a microscope, one can actually watch the embryonic development. Normally this development takes place while the eggs are buried under the sand. But these eggs were fertilized here in the laboratory only seconds ago.” Following this frank acknowledgment of the scientist’s capacity for doing what amounts to God’s work—the kind of work that Moon later, in *The Mystery of Time* (1957), compares to the doctor’s



The scientist in the lab intervenes in nature’s course for the grunion. In *Fish Out of Water!* the narrator tells us, “Normally this development takes place while the eggs are buried under the sand.”

disastrous pursuits in Mary Shelley's *Frankenstein* (1818)—the film provides a series of images of the various technological marvels of the lab: from simple microscopes to complex dials and flashing lights that enable the camera to capture the embryonic development of the tiny grunion. What becomes most striking in this unfolding scientific experiment is the dissonant vocabulary with which our narrator explains what is transpiring: "Within this tiny egg a miracle is about to take place. With the aid of the lapse time photomicrographic equipment, which compresses days into seconds on the screen, we'll be able to witness this amazing spectacle: the magical unfolding of life through cell division."

Miracles, magic, and photomicrography coexist in Moon's universe, the former revealed by the latter.

However, this process of bearing witness is complicated by the degree to which science is sacrificed in the name of magic, the ultimately unscientific faith that is required of an audience if they are to follow the narrator to his conclusion.

Indeed, despite the fact that the film shows us the grunion cells dividing, eyes and heart forming, and the like, the narration insists that the fish is generated "in some mysterious, unknown way." Like so many of the MIS 1950s educational films, *Fish Out of Water!* seems only to see what it wants to see through the scientific observational framework, asking its audience "where is the mold or the pattern that is shaping these cells into a living creature?" This is not, however, a question that might be answered with the tools provided by science. Instead, the narrator attempts to persuade the viewer of the "mysterious" nature of this entire affair, explaining that "there has to be a plan," as images of complex tidal and lunar charts are accompanied by discussions of the seemingly impossible circumstances that the grunion requires to successfully mate, lay eggs, return to sea, and produce offspring. The suggested "plan" is MIS's attempt to rupture the scientific explanation of the fish's adaptation to its environment, an important component in the theory of evolution. In fact, many MIS nature films rely on this trope of subtly challenging evolution by questioning how an unintelligent animal possesses a fantastic physical trait, such as the sonar used by bats in *Blind as a Bat* (1954) or the electric pulses generated by an electric eel in *The Electric Eel* (1954). MIS examines these animals' traits, comparing them with recent human innovations like radar and battery technology, but only to compel the viewer to wonder: since we are surely the most intelligent species on the planet, how is it that a lesser animal has efficiently engineered a technology that we have only just recently discovered? MIS and, more recently, intelligent design advocates would tell us that only a supreme intelligence could have orchestrated such a thing.



Grunion hunting in southern California: "the strangest sport on earth."

It is, then, precisely the complexity of the natural world that acts as a kind of brick wall in MIS's cinematic logic. *Fish Out of Water!* is at pains to present the complexity of grunion reproduction, both in the field and in the laboratory, but the film's intent is to suggest that such complexity "must be a part of the Creator's plan for the preservation of the grunion," the message with which the film concludes. This concluding message, however, is greatly at odds with the films opening images of the dozens of happy grunion hunters whose recreation interrupts the divine plan that the remainder of the film so effectively dramatizes. It is perhaps surprising, then, that the film appears little more than amused by this interruption of God's work. Both hunter and scientist so easily thwart the Creator's plan in a fashion that raises questions regarding human responsibility that this particular MIS film does not ask but that later films — such as *The Mystery of Time*, which includes serious meditations on the atomic age and man's role in it — seem at pains to confront.

Because of the peculiar nature of the grunion's breeding patterns, *Fish Out of Water!* also fails to engage with a central MIS thesis that recurs in a number of their educational films: that devoted parenting and the education of children is both evident



American kids carefully observe the acara in their home...

...but the scientist and his camera provide the "scientific" lesson.



in the “primitive” natural world and in a superior (one hesitates to use the term “evolved,” although this often seems to be the unlikely implication of the films themselves) fashion in the “developed” modern world. Three years after *Fish Out of Water!* MIS released *A Fish Family* (1957), which stands as a kind of corollary aquatic cousin that more than compensates for this earlier omission. Instead of encountering fish in nature—the “foreign, hostile environment” of the southern California beach—*A Fish Family* takes as its subject fish (blue acaras) in the artificial and totally controlled environment of a fish tank, both in the home where it serves as an educational tool for children and in the laboratory where it may undergo painstaking, technologically mediated observation.

According to the “MIS Educational Film Utilization Guide” that accompanied this film about fish “famous for the care of their young,” the film was aimed at a primary school audience, and was marketed as a science and not a social studies film.²⁴ However, the “relentlessly anthropomorphic” nature of MIS films that Gilbert comments on, and which is notably absent from *Fish Out of Water!*, is more than amply demonstrated in *A Fish Family*.²⁵ As the “Utilization Guide” tells us, “The devotion, teamwork, and mutual relationships that go to make up a family of fish are so vividly portrayed that they seem to suggest an ideal human family.” Young viewers are, in other words, encouraged to see in the behavioral patterns of the acara reflections of their own family life, at least to a certain degree.

Irwin Moon, our off-screen narrator, begins the film by asking a question: “Did you know it is possible to be a scientist even when you are very young? One of the most important things is to learn how to observe, that is, to learn how to watch things closely and carefully to see how they are made and how they work.” Of course, this is the elusive promise of all MIS films: that observation will lead to an understanding of the how and why; that the eye—and its enhancing aids the microscope and the camera—will offer us answers that follow from scientific inquiry; and ultimately that observation is science, even when assertions that follow from those observations are based on bewilderment and marvel. Our narrator goes on to note how “wonderfully made” fish exist in their watery world, before leading us to what the film terms the “most fascinating thing about these little creatures . . . their family life.” So far, the images we’ve seen have been strictly of life inside the tank, but at this moment the camera reframes to show us that this tank is in the living room of an American family, whose two curious children peer at its contents as Moon asks, “have you ever watched a father and mother fish raise a family?” Unlike the questions discussed in *Fish Out of Water!* this is a purely rhetorical inquiry, and one that results in a change in setting from the family room to the MIS laboratory, where a scientist and his camera carefully document this fish family’s existence.

In voiceover, Moon claims that at the Moody Institute of Science the photographer's "pictures tell us a very interesting story," but it is a story that has only a moderate grounding in biological science. Revolving around truly fascinating images of the "mother" and "father" acaras' preparation for mating and "child" rearing, these pictures tell a particularly timely American story of the "perfect team" who are devoted to "taking care of their young." With the repeatedly emphasized importance of the faithful parents guarding first the eggs and then the tiny acara hatchlings, *A Fish Family* speaks clearly to the need for a fortified family structure in the face of Cold War-era threats. The overarching irony of this, however, is that the film depicts fish life in an aquarium, safe from anything but scientific meddling and the occasional demonstration of a non-acara fish's curiosity; this in comparison with the ill-fated grunion we encounter in the "real world" opening sequence of *Fish Out of Water!* For the acara fish family science is, in fact, the only real threat: an object that looks like a thermometer is thrust into the tank to show the parents in guardian mode, attempting to defend their nursery from this alien intrusion.

If we are to take this film—indeed this pair of films—as a parable, of sorts, about contemporary life as filtered through the MIS lens, they reveal an ideological pattern reflected by several of MIS's own questions in *A Fish Family*'s "Utilization Guide": "8. What would happen if the eggs were left unguarded? 9. Do you think the parents were devoted to their babies? Why? 10. How did the baby fish show their obedience to the parents?" If *Fish Out of Water!* illustrates, perhaps in spite of itself, the dangers wrought by unthinking human intervention in the Creator's plan, then *A Fish Family* offers a highly moralizing corrective in which children are obligated to obey their parents not only for their own safety but for the survival of the species. Moon's narration also elevates the human obligation above the animal, noting that "the love of parents for their children is different and far more wonderful" than that of the acara, suggesting an urgency to perpetuating ideals of domestic well-being.

The final moments of the film, however, greet us with a rather abrupt shift in tone from the admiring and wondrous observation of what has preceded it as Moon tells us that the acaras aren't simply an example of what children might do, but rather that "God requires that children obey their parents." From the perspective of the film's circulation in the secular classroom, this statement begs the question of the film's context as science/social studies. However perversely, this moment hearkens back to an earlier and somewhat awkward moment in the film during which we see one of the acaras eating some of the eggs that they had been so diligent in protecting. Moon guides our viewing of this cannibalistic scene, telling us that "the white eggs are eaten because they'll never become fish anyways." Without any explanation beyond this, the moment is shocking



precisely because of the anthropomorphism that the film so ardently pursues elsewhere. What message might the primary school mind take from this moment, one that is — not surprisingly — absent from the discussion questions that follow in the “Utilization Guide”?

The blue acara’s “courage, faithfulness, and devotion” in the face of “strange monsters.”

What that guide does not neglect, however, is a one-sentence explanation of the film’s “Moral and Spiritual Values”: “The courage, faithfulness and devotion of the parent fish and the obedience of the young ones demonstrate very graphically the importance of these God-given things, when put into action, in making a happy family.” These films may have been marketed in the context of science education, but a reframing of this conception is in order: it is more to the point that science — and the sense that American schools desperately needed engaging, technologically innovative ways to teach it — provided the MIS a structure and a guise in and by which they could compel young people to, oddly enough, abandon the logical conclusions of science. The laboratory, the family room, and the southern California beach all provide a setting for MIS films to dramatize the wonder of nature only to lead their viewers to a point of incomprehension, literally using science and technology to awe their spectators into believing in a divine creator.

Key to these films and to MIS’s rhetorical method more generally is the creation of a very particular kind of spectator, and our use of the term *creation* here is quite deliberate.

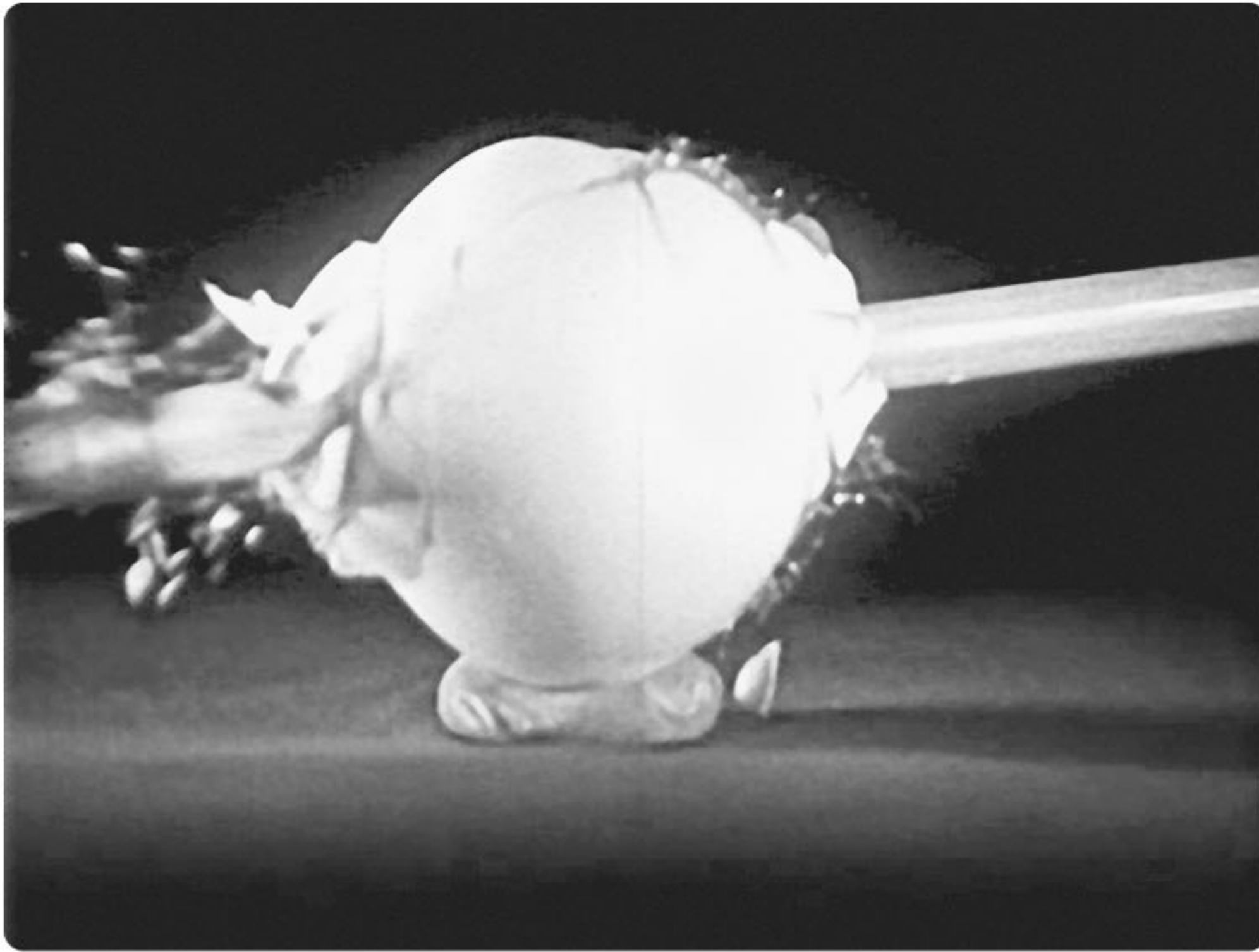
More than an entrée into the magnificent and magnified world of science, more even than a series of lightly scientific morality lessons, MIS's films from the 1950s adopt the values they promote as they very intelligently design viewers whose questions stop where the scientifically assisted eye tells them to stop.

In a world where observation *is* science, the unobserved (though its absence might itself be the work of the film's creator) remains inexplicable (which science tells us is wholly unsatisfactory) or explainable only by the existence of God.

"THESE VERY FACTS CONTAIN POWERFUL MORAL AND SPIRITUAL IMPLICATIONS"²⁶

As the prior section demonstrates, MIS turned to the animal kingdom to provide the viewer with justification for the God-fearing nuclear family and to subvert Darwin's theory of evolution, largely by avoiding engagement with it altogether and by positing an alternative, unverifiable faith in a higher power. But Moon also looked to a less likely arena for evidence of an omniscient Creator and a lesson on moral accountability: the world of astrophysics and Einstein's theory of relativity. *The Mystery of Time* (1957) was a film edited down from an earlier Moody film, *Time and Eternity* (1955), for distribution to public schools. *The Mystery of Time*, which runs less than thirty minutes, covers the same subject and has much of the same footage as *Time and Eternity*, except for the scenes where Irwin Moon quotes from the New Testament. Although the original film's overt scriptural Christian message are removed, the conclusion of *The Mystery of Time* still contains a series of fundamentally religious points that affirm the degree to which the MIS films consistently upheld their evangelical purpose even when intended for use in a secular, educational environment. In spite of what Gilbert and Hendershot claim, these shortened educational films truly fulfill the MIS's "canned missionary" goal of offering a special message of God's wonders and guidance for living a moral life.

Like previous MIS films, *The Mystery of Time* uses a variety of special cameras and lenses to demonstrate the basic concepts of the film, illustrating that, according to Einstein's theories, time and space are not constant and can change as the observer approaches the speed of light. Moon shows us how time can be slowed down and observed with a high-speed motion picture camera, a "time microscope," which shoots thousands of frames of film per second. In fact, much of the film appears to be a celebration of the technology used to make the film itself. Moon shoots an arrow through an egg, providing



MIS's "time microscope" captures an arrow flying through an egg.

us a dazzling shot of slow-motion photography. He then uses a time-lapse camera—a "time condenser"—to show us "the movement that we never see because we are locked up in our own time compartment," to speed up time by taking one frame of film every so many seconds or minutes. We are treated to a long interlude—Moon calls it a "two day vacation"—of time-lapse scenes of clouds moving across the sky, bustling traffic in a busy city, a college football game, and the sun setting. All of these scenes illustrate the physics concept of frame of reference, which Moon never mentions. In fact, Moon does little to pursue the scientific context of the theory, instead concentrating on revealing and explaining the technology used to capture the fascinating footage. Fourteen minutes into the film, Moon has only skirted around the issues of physics that are at the purported center of the film.

This appears to be an odd, but not an unprecedented diversionary tactic. Gilbert observes a similar technique in an earlier MIS film, *God of Creation*: "what is most unusual about this film is its self-conscious preoccupation with the technology to enhance ordinary vision."²⁷ Indeed, in *The Mystery of Time*, Moon delights in telling us about the "time microscope," "time condenser," and a special Panavision lens that simulates the distortion of space that takes place as one approaches the speed of light. However, the film consistently fails to reinforce the footage with further discussion of the subject of time

and space dilation. The use of these cinematographic devices certainly made this film popular in the educational film industry (it won a National Film and Filmstrip Award in 1961) and popular with teachers who, even today, show the film to their students.²⁸ But Moon appears to be trying to dazzle us with technology that reveals a complexity and beauty with the primary aim of priming his audience for a climactic sermon that pursues what is ultimately a moral and not a scientific lesson.

Clearly, MIS knew how to create visually dynamic films, which resulted in their wide adoption in public schools throughout the nation. And *The Mystery of Time* does eventually, fifteen minutes into the film, tackle the fascinating but often confusing concepts of time and space (the film, in many ways, makes them even more so) that were theorized by Einstein and his contemporaries: "A number of years ago in Germany a man gave to the world a new concept. It shook the scientific world from top to bottom, changed the course of human history and gave us the atomic age." The film proceeds to touch on concepts of time, its relationship with space, Einstein's theories of relativity and special relativity, atomic energy, and astrophysics. However, Moon uses these concepts to make a point not about science but about God's omnipresence and the moral accountability of man. Moon, in fact, includes what might be considered an explanation for the film's relatively obtuse treatment of science. Regarding the theory of relativity, he explains that "a concept such as this is almost impossible for the human mind to grasp. It's so far beyond our normal experience." Assuring the viewer, presumably a student



Irwin Moon mentions Einstein's theory of relativity.

who is being asked to try to understand these difficult concepts in a classroom environment, that their incomprehension is “normal,” Moon sets the stage for introducing a decidedly less complex, more familiar, but equally “fantastic” way to understand atomic-age science.

But first the film proceeds through a series of what we might term “logical breakdowns,” the first of which purports to demonstrate “relativistic effects.” Moon deliberately obfuscates the science here, as the film shows us a graphic of physics equations that pile on top of each other on a chalkboard. The equations overlap to the point that they are jumbled and unclear; it would be hard to imagine a trained physicist making sense out of the formulas contained in this image, let alone a high school student. Moon, in other words, seeks not to clarify these formulas, but rather to confuse and perhaps even intimidate his viewer into wanting a more understandable — a more “normal,” to use the film’s earlier phrasing — explanation for relativity. Moon explains that “fantastic as they may seem, these are the formulas that gave us this.” The “this” Moon refers to is revealed through a cut to atomic test footage as an example of the theory of relativity. But instead of explaining the connection between relativity and the atomic bomb, Moon echoes MIS’s concerns about the morality of science by directly addressing the viewer:

Has the knowledge that we’ve been discussing created a Frankenstein monster which is about to destroy us? Has science somehow become an evil thing? No. True science is a body of facts. And facts are not in themselves immoral. They become good or bad merely as the use to which we put them.

As with the fish films discussed earlier, Moon is willing to show us the visual components of science, but only to touch upon the concepts as a foundation to discuss morality and the role religious beliefs play in maintaining a moral social order. While not at all condemning science, which was, after all, the portal through which MIS could proselytize, here Moon asks perhaps the most compelling and direct question of the entire film series, a deeply philosophical question that cuts to the core of the MIS mission. If, indeed, science is a body of facts, then the MIS films, which rely so heavily on spiritual speculation, fall short of science within even Moon’s own parameters. Where science and man are implicitly seen as intervening in the natural world in the previously discussed “fish films,” albeit with no discernable negative implications, here MIS seems to suggest that science has the potential for more pernicious consequences depending precisely on its human uses.

Indeed, this is the exigency of MIS’s science films: children must receive a moral education so that their use of science is in the name of good (perhaps also in the

name of God) and not in the service of evil (be it communism or some other unfamiliar, destructive force). At this point in the film Moon walks around his desk and sits on it, reframing himself in a medium close up and still looking straight at his viewer. Moon tells us that "the very formulas and facts which gave man the ability to blast himself into eternity, these very facts contain powerful moral and spiritual implications which just might keep him from doing it." Intercut within this sentence is a return to the image of the screen filled with the jumbled physics equations. To Moon, the formulas are no longer mathematical descriptions of the interaction of matter and energy, but parables for righteous living.

Next, Moon tells us that when we look to the night sky we are looking to the past; this is true since light from distant stars can take thousands or millions of years to reach us. "But what does this have to do with morality?" Moon asks as he segues into the religious climax of the film. He takes this opportunity to tell us that, in most cultures that accept the concept of a Creator, it is agreed that God is all powerful, all knowing, and everywhere at once. He states this as a fact with the same weight as he earlier presented facts about physics, albeit with more clarity given Moon's earlier insistence on the confusion created by attempting to understand physics. How do we know that God is omnipotent? Moon tells us: "Well, he'd have to be to create the universe." No further explanation, no further proof: Moon simply states that "God is omniscient." In other words, Moon uses the parallel universe of physics to legitimize and make factual the theory of religion; this circular logic is certainly presented as more comprehensible and logical than the science that leads up to it.

Finally, Moon combines the concepts explored early in the film with these declared "facts" about God: "If time and space are inseparably linked together, then a God who is not limited by space cannot be limited by time. To Him every point in space is 'here' then every moment of time is 'now.'" Moon builds on this to claim that if someone from a distant planet looked at the Earth, he or she would be looking at our past environment and actions, which would thus live on for eternity. While it is a widely held scientific belief that light and radio waves from our planet's past could be intercepted by distant observers in a faraway galaxy, Moon confuses the light from action with the action itself. For example, the light from striking a match could travel for an infinity throughout the universe, but that does not mean that the match is being struck for an eternity. However, Moon pursues this flawed analogy to conclude the film with a final postulation, also stated as fact: "Every act good or bad lives on and on. We are forever accountable for our actions. But responsibility is the stuff of which character is made. And accepting a full measure of responsibility is the highest challenge before any young person today."

Responsibility trumps science here; the challenges of physics pale in comparison to the moral challenges facing the atomic age youth in the MIS universe.

A science teacher wanting to show a film about Einstein's theory of relativity might have been impressed by a printed advertisement for *The Mystery of Time* that appeared in a 1961 *Educational Screen*:

This award-winning film gives one a glimpse of what is beyond our own space-time continuum. High-speed and time-lapse cameras help free the viewer from the prison house of time. Yardsticks shorten, clocks and human heartbeats slow down as the laboratory is "accelerated" to nearly the speed of light in a unique audio-visual presentation of the elements of the theory of relativity.²⁹

The actual film touches upon this information in the beginning and certainly contains the scenes described above, but quickly turns the science lesson into a Sunday school lesson, albeit an important one given the concerns of the nuclear age. In *The Mystery of Time*, Moon describes science as a body of demonstrable facts, and yet MIS, here and elsewhere, routinely mixes scientific facts with religious instruction. *The Mystery of Time* is ultimately less a film about relativity and more like the films from Moon's early career, a sermon from science.

VISUALIZING DIFFICULT SUBJECTS

Although religious and moral education may have been considered essential in Cold War America's struggle against communism, it does appear that by the early 1960s the kind of sermonizing found in the MIS films was being challenged in new ways. Richard Gilkey's June 1961 review of the MIS film *Sense Perception* is the first MIS film review in *Educational Screen* to directly articulate this potential schism, which might speak equally to *The Mystery of Time*: "The inclusion of value-centered content in science films is questioned by some teachers but others see in such productions as this an opportunity to integrate the physical universe with which science works and the judgments essential to the intelligent use of science for the benefit of all mankind."³⁰ If the MIS films needed to tread somewhat carefully when it came to nonsectarian evocations of religion in their 1950s films, the 1962 Supreme Court Prayer Decision must have put them on alert. As Hendershot points out, MIS finances were significantly impacted by the drop-off in public school rentals and purchases following this decision, which lead to a new MIS emphasis on church rentals.³¹ An indication of this growing division between religion and science is

evidenced in an *Educational Screen* film listing from November 1961. Whereas MIS science films had routinely appeared under the "Science" or "Biology" headings in previous years—even when, as in the June 1958 listing for the *Science Adventures* series, the films are described as relating "science and religion by making God the ultimate reference for both"—MIS's *Voice of the Deep* appears under the "Religion" heading in the November 1961 issue.³²

Writing in 1953 for the *Journal of the American Scientific Affiliation*, MIS Associate Director F. Alton Everest discussed Moon's motivations for the live Sermons from Science demonstrations, motivations that bear upon the educational science films as well:

Concerned by the way the prestige of science was leading the world into a materialistic philosophy which left no room for the omnipotent God he loved, he used these scientific experiments to demonstrate the reliability of the Scriptures, the reality of God, and to provide a foundation upon which the Gospel of Christ was presented with great earnestness and sincerity.³³

Indeed, the battle between the "prestige of science" and the marginalized "omnipotent God" seems to be the recurrent narrative dramatized in MIS's 1950s educational science films. Where *A Fish Family* and *Fish Out of Water!* claim to teach audiences about the miraculous and perfect natural world designed by God, the science in these films seems consistently at odds with this aim. *The Mystery of Time* offers a similarly problematic glimpse at God's relationship to science, which seems, at best, to be headed in decidedly un-Godlike directions. Ultimately, faith prevails in MIS educational films.

A 1952 *Educational Screen* review of the Moody Bible Institute "Science Sermons" filmstrips offers a telling glimpse into how MIS products were viewed by at least some contemporary audiences, suggesting how these films might have been understood precisely as conversion narratives rather than scientific illustrations. This reviewer found that "the average pagan will find these presentations interesting but not very convincing. God is not seen in His Creation by those who do not believe in Him. He is seen everywhere by those who do."³⁴ Scientific methods offered a means by which the MIS could penetrate the secular classroom of the 1950s, enabled by nationwide anxieties that promoted technology in schools as a means of self-defense. However, for Moon and his colleagues there would be no pedagogical compromise: science proved God because MIS films said so, but there was little in the way of evidence for such suppositions beyond the leap of faith engendered in MIS narratives.

In August 1959, Moody Institute of Science employee Marjorie Clark wrote an article for *Educational Screen* in which she discussed the challenges facing MIS film

production.³⁵ These challenges are entirely technological, involving the complexities of time-lapse photography, variable aspect ratio lenses, and other means of providing visual access to the often intangible “relationships between time, distance, and matter,” the stuff that would dominate the narrative of *The Mystery of Time*.³⁶ Although Clark’s article, entitled “Visualizing Difficult Subjects,” makes no reference to religion or to a divine plan, anyone familiar with the MIS catalog of the 1950s would be aware that the most difficult of subjects for MIS to offer visual proof of was, in fact, God. Indeed, one might argue that the great pains taken by Irwin A. Moon to pursue technologically savvy interactions with the natural world ultimately failed to reveal little more than faith in that which he sought most vehemently to appear to prove. The repressed religious element in Clark’s article—that which is most obviously elided in its final sentence, which nods to the work of making “science exciting and understandable for the students in our schools”—alerts us precisely to the religious motivation that shapes the scientific content of all of MIS’s educational films.

NOTES

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1. See James Gilbert, *Redeeming Culture* (Chicago: University of Chicago Press, 1997), especially chapter 5, “A Magnificent Laboratory, A Magnificent Control Room,” and Heather Hendershot, *Shaking the World for Jesus: Media and Conservative Evangelical Culture* (Chicago: University of Chicago Press, 2004), especially chapter 5, “Putting God under the Microscope: The Moody Institute of Science’s Cinema of Devotion.”

2. There is a substantial FBI file on the Moody Bible Institute and Irwin Moon, which includes a request for FBI endorsement of the films *Voice of the Deep*, *God of the Atom*, and *The God of Creation*. Per FBI policy of the time, the request was denied. An April 28, 1949, office memorandum from M. A. Jones and Mr. Nichols of the FBI indicates that these films were “freewill offerings and had been shown at many colleges, universities and high schools throughout the country . . . inaugurated by Dr. Irwin A. Moon of Chicago who felt that the showing of these films would ‘bring people closer to God.’” A

handwritten note on a memo from February 14, 1952, notes that FBI agents actually viewed the Moody film *Dust or Destiny*, deeming it "excellent but not of any value to FBI." In addition to requests from MBI for FBI endorsements, the files largely contain questions about information and statistics regarding crime and delinquency that might be used to support MBI's effort to reintroduce religious morality into American life. However, there is one memo from March 13, 1958, that indicates Irwin Moon was hoping for a personal meeting with J. Edgar Hoover to discuss a new program, "Science for Tomorrow . . . in the American Way," which would make five hundred copies of four films (including *Living with the Atom* and *The Mystery of Time*) "available free on a loan basis to high schools throughout the Nation." The memo notes that Moon was hoping to procure "a short statement on the necessity for moral and spiritual values in education to be used in a brochure being prepared on the program."

3. It is worth mentioning a few other sources for historical information about MIS and Moon, although these emerge from within MIS's institutional framework: J. W. Haas Jr.'s "Irwin A. Moon, F. Alton Everest, and Will H. Houghton: Early Links between the Moody Bible Institute and the American Scientific Affiliation," *Perspective on Science and Christian Faith: A Journal of the American Scientific Affiliation* 43, no. 4 (December 1991): 249–58; and Robert Flood and Jerry Jenkins, *Teaching the Word, Reaching the World* (Chicago: Moody Press, 1985). The American Scientific Affiliation was founded in 1941 in an attempt to reconcile religion and science, with Irwin A. Moon playing an important role in its conception and development. See Gilbert, *Redeeming Culture*, 148.

4. See <http://www.moodypublishers.com/Publishers/default.asp?SectionID=B52F15D175DC433BA20DD62D3EF94C40> for a list of current MIS titles available on VHS and DVD from Moody Video. Skip Elsheimer's AV Geeks archive contains thirty MIS films, nine of which have been made available at the Internet Archive: <http://www.archive.org/search.php?query=moody%20institute%20of%0science>.

5. Both Gilbert and Hendershot note that Moon deliberately avoided any direct, hostile, emotionally charged confrontation with theories of evolution, part of a strategy Hendershot refers to as "soft-sell evangelism" (152). More recent challenges to teaching evolution in schools take a similar approach. The concept of intelligent design posits that the complexity of nature could only be designed by an intelligent entity. While intelligent design's proponents are careful not to state that the intelligence is "God," most scientists and, recently, a U.S. federal judge declared that the concept is not science but a thinly veiled religious jab at evolution.

6. James Gilbert, *Redeeming Culture*, 135.

7. Ken Hughes, "Religion and Science Join Forces," *The Chaplain* 7 (May–June 1950), 11; Hendershot, *Shaking the World*, 160. Hendershot also notes that "between 1945 and 1958 the air force screened [MIS] films over 200,000 times with attendance ranging from 200 to 1,500 per screening" (145).

8. F. Dean McClusky's overview of the golden anniversary of film's classroom applications, "A-V 1905–1955," notes that this boom in classroom

use followed from the observation that the military's use of training films was impressively efficient, something Moon was aware of as he pursued his educational film career. *Educational Screen*, April 1955, 161.

9. Henry Chauncey, "Film Is the Answer," *Educational Screen & Audio-Visual Guide*, October 1956, 340.

10. The quote is from *Fish Out of Water!*

11. Gilbert, *Redeeming Culture*, 135. Gilbert offers no specific evidence from the films to support this claim in his chapter.

12. Hendershot compellingly argues that "MIS productions were acceptable viewing in schools and the military because the films were only nominally more religious than the rest of popular culture. The existence of God was a given." *Shaking the World*, 152.

13. See Hendershot, *Shaking the World*, 160, for a discussion of the creation of the MIS new school program and of the research that led up to it.

14. Paul Reed, "Our Greatest Opportunity," *Educational Screen*, September 1958, 462. The December 1958 article "The Year of The Law!" proclaimed, "The National Defense Education Act is without doubt the most outstanding development for the AV world during the past twelve months." *Educational Screen*, December 1958, 612. Indeed, published financial figures illustrate the degree to which the NDEA flooded schools with funds for AV purchases: the United States made \$16,720,000 in funds (excluding administrative costs) immediately available for the acquisition of equipment and minor remodeling at the close of 1958. *Educational Screen*, October 1958, 513.

15. See, for example, *Educational Screen*, October 1959, 556.

16. Moody Institute "Bible Stories" and "Bible Backgrounds" film strips are noted in *Educational Screen* issues dated December 1955 (454), November 1956 (440), December 1957 (614), and March 1961 (143). It is interesting to consider the 1958–1960 gap in light of the NDEA, which may have encouraged MIS to emphasize their secular audience.

17. "New MIS educational film series for the science curriculum" advertisement, *Educational Screen*, January 1955, 24–25. An advertisement for MIS filmstrips from the February 1952 *Educational Screen* indicates that *Fish Out of Water!* first circulated as a fifty-frame filmstrip in which grunion "bear testimony to God's creative hand," which was itself produced by borrowing frames from *Dust or Destiny*, a 1949 MIS film that Hendershot notes "is the only MIS film that dares, somewhat gently, to attack evolution" (*Shaking the World*, 156). *Dust or Destiny* also circulated as a paperback authored by F. Alton Everest and published by Back to the Bible Publishers in 1949. It is also worth noting that *Fish Out of Water!* uses an exclamation point at the end of the title in the film itself but not in the advertising of the film.

18. See, respectively, "Something Different in Science Films," *Educational Screen*, June 1950, 235, and "For Unusual Programs Use Famous Science Films," *Educational Screen*, January 1952, 32.

19. "Moody Institute of Science Films and Film Strips" advertisement, *Educational Screen*, October 1952, 350; "General Science" films review of "Crystal Gazing," *Educational Screen*, December 1954, 429.

20. *Educational Screen*, January 1955, 24.

21. "To Arouse NEW Interest in Science Subjects . . . Use MIS films and Filmstrips" advertisement, *Educational Screen*, December 1956, 465.
22. "Food Getting Among Animals" review, *Educational Screen*, February 1957, 90.
23. Ibid., 91.
24. "MIS Educational Film Utilization Guide" from the AV Geeks Educational Film archive. The complete film and guide is available for download (http://www.archive.org/details/fish_family). The guide does list vocabulary that it considers "Science" and "Social Studies": the science terms are "propeller," "balancing," and "fertile," and the social studies terms are "obedience" and "devotion."
25. Gilbert, *Redeeming Culture*, 131. Gilbert discusses this anthropomorphism in the context of *God of Creation* (1946).
26. Quote from *The Mystery of Time*.
27. Gilbert, *Redeeming Culture*, 131.
28. While writing this article, we queried a North Carolina science teacher association to see if any teachers remembered using or still used MIS films. One high school teacher responded that he still shows *The Mystery of Time* to his students. He explained, "To be honest, I have not come across any other films that allow me to teach this information (operation of the time-lapse and high-speed cameras as well as basic relativity)." When asked about the moral and religious content of the film, he replied, "I do regularly talk about accepting responsibility but honestly do not use the film to discuss the topic further. I find Mr. Moody [Moon] to be a little to [sic] preachy about it for my tastes and so just ignore that part of the film."
29. *The Mystery of Time* blurb, *Educational Screen*, June 1961, 308.
30. Richard Gilkey, review of *Sense Perception*, *Educational Screen*, June 1961, 295.
31. Hendershot, *Shaking the World*, 170.
32. *Science Adventures* blurb, *Educational Screen*, June 1958, 302; *Voice of the Deep* blurb, *Educational Screen*, November 1961, 621.
33. F. Alton Everest, "The Moody Institute of Science," *Journal of the American Scientific Affiliation* 5 (September 1953): 10.
34. "Filmstrips" review of "Science Sermons," *Educational Screen*, February 1952, 283.
35. Marjorie A. Clark, "Visualizing Difficult Subjects," *Educational Screen*, August 1959, 396–98.
36. Ibid., 397.

FILMS CITED

All produced by the Moody Institute of Science.

Blind as a Bat (1954)

The Electric Eel (1954)

A Fish Family (1957)

Fish Out of Water! (1954)

God of Creation (1956)

God of the Atom (1957)

The Mystery of Time (1957)

Sense Perception (1960)

Time and Eternity (1955)

Voice of the Deep (1960)