40th Anniversary of Encyclopedia Britannica Films and its Predecessor Companies 1928-1968

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Chapter One: Early Beginnings 1928-1933

For twenty years James A. Brill could drive audiences of elementary school teachers wild by reading excerpts from the 1937 film The Adventures of Bunny Rabbit. The narration drove them wild, not because they thought it cute, nor because they recognized Jim Brill's even, fatherly tones as "The Voice" in hundreds of instructional sound films, but rather because the teachers knew what Bunny Rabbit could do to five and six year olds. They had seen children spellbound as the fox chased Mother Rabbit, fascinated as they learned with Bunny about the other animals' different diets, and delighted as the farmer "plumped" Bunny down into a doll house. And they knew, too, how those same children profited from the ten-minute film. The teachers used it as a springboard to expression. The dullest child and the shyest, as well as the brightest and the most talkative, all had their own ideas about what Mother Rabbit was telling Bunny. Teachers who had once used the film showed it year after year.

But it was not always that way. The teachers, their principals, and school boards had required a lot of convincing. When Bunny Rabbit was produced, only a negligible fraction of America's schools were well equipped to use it, even if they had been inclined to buy it. ERPI Classroom Films, the company that made it, had not even begun in 1937 to try to convince the schools that its films were superior to its competitors. ERPI had been too busy, in its nine years, selling the general idea that talking pictures could be a valuable tool for classroom instruction.

The film The Adventures of Bunny Rabbit was the first educational film to speak to the child in his own language without attempting to impart information directly. The sound track and the visuals captured the child's imagination and made it possible for learning experiences to follow under the teacher's direction. The final sequence in the script suggests the flavor of Bunny Rabbit and all subsequent films for the primary grades:

He nibbles and nibbles and chews and chews. My, how good the lettuce is!

(Sound: wheelbarrow) But what is that? The farmer is coming out of the barn to water his plants in the greenhouse.

Will he find Bunny? Well, he sees something down under the glass, but Bunny is so busy eating he doesn't hear a thing. Very quietly the farmer opens the window and grasps Bunny by the neck. "You pesky little rabbit! I'll put you where you'll do no more harm!" And he plumps him down into the doll house.

Even though he is frightened, Bunny is still hungry, so he hops on the chair and samples the doll's food.

It tastes good. But now he thinks, "I'd better get out of here. The farmer may come back. Can I get out through this window?" Now Bunny wants very much to go, but he can't open the window.

"Ah! Right through the door – this is the way. Now I wonder how to get back to the woods. I wonder if it is this way! No, it must be this way. Yes, there are the trees of the woods!"

How good it is to be back in the cool, green woods again.

And now Bunny is once more with his mother. What do you think he is telling Mother Gray Rabbit – and what do you think Mother Rabbit is telling Bunny?

II

It was in 1928 that John E. Otterson, President of Electrical Research Products, Inc., first conceived the idea of an educational department to explore the potential of the sound motion picture in schools. ERPI owned all the patents then in existence for quality sound film recording and projection equipment, and the company was determined to investigate every possible new market. But something more altruistic was involved. Otterson knew that his new products had a potential for communicating information more powerfully and effectively than had ever been done before. ERPI was doing a $20,000,000 annual business in leasing equipment to theatres; the company could afford to experiment. It was natural to look for ways of making good some of the boasts that had been made about the talkies.

The story really begins earlier. It is difficult, in the late sixties, to imagine what a stir the new talking pictures created. Probably no invention in the field of communications will ever again be able to astonish us and thrill us so much, because after the talkies we could believe that anything was possible. An over-exuberant witness hailed them as "the nearest thing to a resurrection!" A sense of the excitement that was produced in 1926 when the Warner Brothers presented the first talkie is conveyed by a contemporary account of the premiere. It took place on Broadway on August 6, 1926, a series of musical shorts followed by John Barrymore in Don Juan:

Eight-thirty arrived. The lights dimmed; babble of voices hushed. A white beam shot overhead and splashed upon the screen; the beam from the movie projector. But it fell first on the draped curtains on the stage, revealing a subtitle. The curtains parted on a conventional cinema screen. The title gave way, familiarly, to a photograph…a man…Will H. Hays. He advanced to the foreground and there was a little sound. It penetrated through people's minds that they had "heard" him clear his throat.

Then, suddenly, the picture began to speak.

The audience hung on its every word, half expecting something to happen…that the machinery would break down. In the first trial of every machine there is a good chance that it will break. One lacks confidence in it.

The phenomenon was like watching a man flying without wings. It was uncanny. The shadow of Will H. Hays was true to life. His lips moved and the sound came forth. His was a short speech; when it was done and he stood there, people found themselves clapping unconsciously. As if he had heard them, he bowed. He seemed to be present, and yet he did not seem to be present. No wonder a scientist the next day called it: "The nearest thing to a resurrection!" [1]

In a way, it was a resurrection, of two phenomena that had been around for some time. Edison had shown his first moving pictures in 1894, and the telephone had predated that by eighteen years. It was inevitable that a process combining the two principles would be perfected eventually, and it was equally inevitable that the Western Electric Company of the Bell System would be the perfectors. By the end of 1924, when the Western Electric Engineering Department was incorporated as Bell Telephone Laboratories, most of the development work in sound-film synchronization had already been done. In June 1925, Sam Warner had been invited to the American Telephone and Telegraph Corp. headquarters at 195 Broadway in New York. What he saw, he had called "the greatest thing in the world," and he and his brothers had boldly sunk a million dollars into the contract rights and another million into the production of the first films. On August 6, 1926, the first-night audience told them it was a good investment.

It was not the first time that telephone research had led to the development of new products unrelated to the telephone business. But it did promise to be the most profitable new product the research organization had come up with, and as such it presented a problem. The word "monopoly" struck terror in the hearts of AT&T executives. It was decided that Western Electric should form a subsidiary, which would handle marketing of unrelated byproducts whose patents were owned by the parent company. The new subsidiary, ERPI, with offices in AT&T headquarters in New York, retained the Bell Telephone Labs as its research staff and Western Electric as its manufacturer. Its general manager, John E. Otterson, turned to the problem of selling sound to a skeptical industry. Hollywood was doing successfully enough with silent films; they were easier to film, cheaper to distribute, and long-proven popular. If the industry giants began making talkies, how could they be sure that enough of their theatres would be able to install Western Electric's projectors profitably? It demanded a huge upheaval. But if ERPI could get at least one of the other giants to go into competition with Warner Brothers, the rest would have to follow.

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1 Greer, Fitzhugh, The Film Finds its Tongue, New York: Putnam, 1929

The Warner Brothers' first attempt had avoided the difficulty of recording sound directly on the film. The sound was on regular disc records, which were synchronized with the moving pictures. This presented another difficulty: synchronizing the record and the film at the theatre each time the film was shown. William Fox of the Fox Film Corporation had passed up the chance to be the first with talkies, so that he could refine ERPI's sound-on-film process and adapt it to the particular techniques of Hollywood. Together with the Case Laboratories, Fox developed a system he called "Movietone," and in April of 1927 Western Electric licensed him to use it.

Meanwhile, Hollywood had other problems that prevented its enthusiastic acceptance of the new medium. Box office sales for individual pictures showed that the motion picture industry had grown too large too fast. While this partly indicated a need for a new box office attraction, like the relatively new air-conditioning and the brand-new talkies, it also indicated to all the major studios that it was time to cut back production, Camera and stage crews were laid off, some studios were boarded up, and no one was interested in new investment. This was the atmosphere when Fox premiered his first "Movietone" picture and when the Warner Brother made their second debut in sound. Their picture "The Jazz Singer" opened at Warner Theatre on Broadway in October, 1927, creating almost as much excitement as the first attempt more than a year earlier. This time, in addition to the musical numbers, there was a small amount of spoken dialogue.

"The Jazz Singer," with Al Jolson, broke all box office records at every theatre in which it played, and ERPI made it clear that it was ready and eager to equip other theatres for sound so that they could show the film. This, coupled with Fox's success at putting sound on film, was evidence too big for the other studios to ignore. In the early months of 1928, ERPI granted licenses on behalf of Western Electric to Paramount, Metro-Goldwyn, United Artists, First National, Universal, Christie Comedies, Hal Roach, Victor, and Columbia. By the end of 1928 there were 35 sound stages in Hollywood. By the end of 1929 every star on the silent screen had either made it in talkies or found himself talked out of a career.

III

ERPI was ready to place projection equipment in any theater in the world that was willing to make the investment. Unfortunately, there was more involved than simply making the equipment and sending it out. The company had to install it, train projectionists and set up servicing centers all over the world to guarantee the equipment's performance. This meant a rapid growth in personnel, expanding from 200 to 1200 in 1928 alone. But the increased payroll and the expense of establishing a network of field offices paid off for ERPI. A couple of dozen other inventors soon entered the market, once it was evident that the producers were all going into sound.

But their devices were inferior and not much cheaper than ERPI's, and none of them could match the leader for reliability and for speed of servicing.

The public relations staff was headed by Howard G. Sokes, who had come to ERPI from Western Electric. Capitalizing on the glamour of Hollywood and the heroism of repairmen who braved the elements and dark of night to assure that the show could go on, he also organized several demonstrations which were publicized in newspapers all over the country. On October 26, 1929 he set up a theatre in a railroad car of the Los Angeles Limited. The film shown was "The Virginian," with Gary Cooper and Mary Brian. The L.A. Times pronounced the experiment a success: "'Why, I forgot that I was on a train,' declared one of the passengers, 'except for the whistling of the engine for a station.'" ERPI was thus the father of the in-flight movies shown on long-distance airplane flights today. A few weeks later, P.W. Campbell of the Hollywood office telegraphed to Stokes in New York that talkies had made their successful premiere on street cars in San Francisco.

As if all these feats were not enough, Otterson began as early as 1928 to give Stokes other newsworthy material. He began to talk about the potential of the talking film in education.

IV

John Edward Otterson was an Annapolis man (1904) who had left the Navy in 1925 as a Naval Constructor. As part of his service he had taken an M.S. from Massachusetts Institute of Technology, in 1909. Our of the Navy, Otterson turned to defense industry, starting as general manufacturing superintendent of the Winchester Repeating Arms Company and leaving – after nine years – as President. Western Electric hired him as general commercial manager. Two years later, in 1926, Edgar Bloom moved from a vice-presidency in AT&T to the presidency of Western Electric. He picked Otterson to manage the proposed subsidiary, ERPI. By the end of 1927 Otterson's title had changed from General Manager to Vice-President. A few months later it was President. He served for seven years as ERPI's president and as a director of Western Electric, and then in 1935 he became president of Paramount Pictures, still retaining a directorship in many of Western Electric's foreign companies.

Otterson's years at Western Electric had taught him the value of playing up the Bell System's public service angle. He spoke with conviction about the contribution to American art and entertainment made by his company's equipment. But he had even greater contributions in mind. He knew that these contributions would reflect well upon his company. Far more important, he believed that the talkies had potential to revolutionize contemporary instruction. He had been familiar with the research going forward at the Bell Telephone Laboratories since long before it was revealed to the public. He had heard the scientists discuss possible applications of the equipment, and as soon as it was shown on Broadway, Otterson, Bloom, and President Gifford of

AT&T had received letters from creative people who had seen ways in which the sound film could make an improvement in existing methods of communicating. It seemed sure that in a very short time all sorts of groups would begin making talkies for purposes other than entertainment.

But nothing happened. When he saw that the makers of instructional materials, the religious organizations, and the industrial giants were slow to experiment with the new medium, Otterson took it upon himself to sell them on the idea.

In November 1928, John Otterson made a prediction: a statement which represents, as accurately as any one statement can, the founding of the audio-visual industry:

Were I to enter the field of prophesy, it would be to speak of the application of talking pictures to the fields of advertising, politics, education, and religious teaching.

I visualize the use of talking pictures to deliver the message of factory executives and sales managers to their employees, to their conventions, to prospective customers in sales and demonstration rooms throughout the world.

Political campaigns in which Governor Smith and Secretary Hoover will speak in screen person to thousands of audiences throughout the country in place of submitting to the limitations of their physical endurance to withstand the hardships of speaking tours.

Schoolrooms where children are privileged to listen to the lectures of great teachers and national leaders and to receive the inspiration of their speaking personalities.

Small churches where the shrinking congregations may be replenished and awakened to a new interest in spiritual life by the opportunity of hearing and seeing the really great ministers and religious leaders.[2]

To help set up lines of communication between ERPI and the groups who would soon be making films for advertising, religious teaching, and education, he established three separate departments within the company. (Because of its sensitive position as a sprawling public utility, AT&T stayed clear of politics, the fourth part of Otterson's vision.) To head the Educational Talking Pictures Department he picked Frederick L. Devereux.

Devereux, much like Bloom, had come up the hierarchy of regional phone companies. But his educational background was exceptional. He had both a law degree and a Ph.D. from Georgetown University and he had served in the World War, in the quartermaster corps and later in the general staff corps, leaving the Army in 1918 with the rank of lieutenant-colonel. From 1922 until Otterson asked him to join ERPI, Devereux was sales manager and then vice president of the Bell Telephone Securities Company in New York. He knew all phases of the Bell System.

"Colonel Devereux," John Otterson said, "all I want you to do is to start the ball rolling. Put together some clips from newsreels that our men can use to demonstrate the new portable projector – get some footage that is really educational. Interviews with Lloyd George, Hoover, Mussolini – anything that will impress schoolteachers with the value of using our equipment in their classrooms. But don't spend much money for them."

V

It was indeed quite evident to Devereux that only a minimum effort should be necessary to sell schools on the idea of talking pictures. The silent film had been used to teach for over twenty-five years, and sound was nothing more, nor less than a vast improvement. Obvious as this was to him, however, it was less obvious to educators. He sooned learned that there were extremely good reasons standing in the way of their immediately accepting the new medium. The best reason was money.

It had taken schools a long time to invest in silent films and the equipment necessary to show them. Only a handful of schools were equipped to make use of the films in the first catalogue, a 336-page book published in 1910 by a New Yorker named George Kleine. His Catalogue of Educational Motion Pictures included 1,065 titles organized into thirty main topics. Each film was summarized in a few sentences, and in many cases there were lists of individual scenes. But most of Kleine's listings, with the exception of some of those made by Edison, were educational only peripherally – there was hardly enough of a school market to make it worth anyone's while to produce films specifically for classroom use, And as long as the films' contribution remained in doubt, the number of users remained small. Besides, the film and the projector were both so cumbersome that they could be used only in an auditorium, and the danger of fire from the highly flammable nitrate film stock frightened away many potential users.

The arbitrary width of 35 millimeters dated back to Edison's first projector. It was necessary that filmmakers standardize their widths from the very beginning, and therefore the size Edison happened to pick for convenience has endured as the standard size of all films shown in theatres. But he himself envisioned the wide use of motion pictures elsewhere than in theatres. And the film itself had to be improved before that could happen. Thomas Edison had been optimistic about the future of his invention:

I introduced the use of motion pictures in schoolrooms and prepared educational pictures which, as I promised, would teach everything from mathematics to morality. Lessons were rendered so vivid that children would really want to go to school. Perhaps, some day, such methods could be perfected and all knowledge taught through motion pictures.

* * * *

I consider that the greatest mission of the motion picture is first to make people happy, to bring more joy and cheer and wholesome good will into this world of ours. And God knows we need it. Second – to educate, elevate, and inspire. I believe that the motion picture is destined to revolutionize our educational system, and that in a few years it will supplant largely, if not entirely, the use of textbooks in our schools.[3]

Eastman Kodak and Dupont, the two chief film manufacturers, both solved part of the problem by developing acetate stock that would not burn. About the same time, in 1917 Alexander Victor of the Victor Animatograph Company began work on a portable projector that would use slightly smaller film. In 1918 Willard Cook of the Pathescope Company teamed up with Victor to try to standardize the 28mm width for portable projectors. In October, 1919, Victor introduced a continuous optical reduction photographic printer, which made it possible to reduce 35mm negatives to 28mm prints. Nonetheless, Victor and Pathescope, a firm which specialized in high-quality industrial films and pictures for the well-to-do to show in their homes, never quite achieved standardization and universal satisfaction with the new width. The issue came to a head in 1922, when George Eastman announced his new "reversal" stock for amateurs, by which the negative itself could be developed into the positive print. If amateurs were now going to be buying cameras, they would want them small and easy to handle/ At the annual meeting of the Society of Motion Picture Engineers, Bell and Howell proposed simply splitting the theatrical width in half, to 17 ½ mm. But Victor argued that some unscrupulous laboratory man might cut down 35mm nitrate stock, which was less expensive than the acetate, and make easy profits by ignoring safety factors. Eastman suggested 16mm as a width which afforded both safety and economy, and Victor immediately went home to Davenport, Iowa and designed the first 16mm camera and projector, which his company placed on the market in 1923. It worked by a hand crank.

VI

There were two great projects undertaken in the field of educational silent films. The first, launched in 1918 by the Yale University Press, was too early to take advantage of the smaller standard size, though its productions were reduced to 16mm much later. Yale had lent its name to a series of comprehensive works covering American history since Columbus, ten volumes of which were completed when the publishers got the idea to produce films for schools using the resources of the massive work. The films, like the books, were to be called the Chronicles of America, and each one was to present in ten or fifteen minutes scenes from the life of one of America's heroes. Since the book publishers knew nothing about producing films, they hired someone who knew everything about it. Arthur Edwin Krows had been continuity editor for the Vitagraph Company of America, one of the major studios of the pre-Hollywood era, and he had done everything from writing the scripts to directing and film editing. His first observation was that the Chronicles would have almost nothing in common,

in terms of their scripts, with any film he had ever made. He had to depart from the techniques he and others had invented, what he called the "tried-and-true Garden of Eden formula," (boy meets girl meets snake) and seek particular educational aims for the first time. The Yale Chronicles of America were the first films made with the goals of an entire curriculum area in mind.

The second great project to be undertaken was a case in which the film experts had to go to a book publisher for help. By 1926 when 16mm film was a few years old, George Eastman had spent considerable time researching the school film market. As early as 1923 the National Education Association had appointed a committee to study the availability of appropriate reels for schools, and the committee's headm Dr. Charles H. Judd, the University of Chicago's director of education, had contacted Eastman for information. Now, three years later, Eastman was ready to move, and in March of 1926 he invited a group of noted educators to his office in Rochester to consult with them – and also to gain the endorsement of the N.E.A. The group suggested some areas of the elementary school curriculum in which Eastman could experiment, and he engaged one of their members, Dr. Thomas E. Finegan, as president and general manager of Eastman Teaching Films, Inc.

Under Finegan, Eastman turned out fifty films in time for the opening of the 1927 school year. These were used in an experiment financed by the company, in which the films were used in classrooms throughout the country. The findings were reported in 1929 in a book by Dr. Ben D. Wood of Teachers College, Columbia, and Dr. Frank N. Freeman of the University of Chicago. Their report proved conclusively that 16mm had so many advantages, especially in its accessibility for classroom use, that it was bound to replace 35mm. School superintendents who had finally gotten around to making huge investments in 35mm equipment were faced with a shift to 16mm. Companies that had formed 35mm film rental libraries or had sold 35mm equipment to schools were now caught by the change. As if this was not already an expensive proposition, the Wood-Freeman report happened to come at a time when the prosperity of the twenties had just crashed to an abrupt and shattering end, and a company called ERPI had begun promising to put sound on film for schools. The film they were talking about was 35mm wide, and would mean completely re-equipping the schools with even more cumbersome and expensive systems.

To cope with this threat, Eastman had to turn to a book publisher. The venerable G&C Merriam Company of Worcester, Massachusetts had been successful in its sales of Webster's Dictionary to schools. Its salesmen knew the way to approach librarians and superintendents, and all were well trained in the ways of various state school systems were organized. Eastman hired away a sizeable group from Merriam, headed by W.H. Maddock, who became sales manager of Eastman Teaching Films. Shortly after Finegan's death, in 1933 the company was absorbed by the Eastman Kodak Company and Maddock became manager of the parent company's Teaching Films

Division. He did so well despite the growth of sound pictures that the division continued to produce silent films for a few years and marketed them until 1943.

VII

The expense of shifting back to 35mm equipment, even more expensive because of the sound apparatus, was one of the reasons Devereux would have problems with the new medium. The report by Freeman and Wood, recommending the use of portable projectors in classrooms, was another. And there was a third. The educators who had taken an interest in visual aids to instruction, the men with influence at the country's normal schools and teachers' colleges, each had personal preferences among the various media. Some preferred lantern slides, others concerned themselves with wall charts, and many were firm believers in the efficiency of silent film. All had sound scientific data to support their claims that their particular choices were uniquely effective. In a sense, each had staked his reputation upon one or the other of the aids. As soon as the press began to report Otterson's speeches about talking pictures, Maddock had no trouble whatever rustling up professors who insisted that being approached through two sense "gates" at once was both confusing and emotionally disturbing to children. In addition, many teachers did not like the fact – pointed out to them by Maddock's salesmen – that they would no longer be able to talk while a film was in progress.

"Why don't we get some scholars of our own?" Devereux suggested. "Why don't we put a few more open-minded Ph.D's on the payroll and really prove the effectiveness of these talking newsreels?"

Otterson was not sure. He did not think that was necessary. "Those narrators are trained radio announcers," he protested. "Anybody knows their voices are better than a schoolteachers's. And besides, they have the facts. They're like newspaper reporters."

"Sometimes it takes years before these schoolteachers will accept what 'anybody knows,'" Devereux replied. "They like to have everything documented. I guarantee that if we send our salesmen into a school – even if you get the portable projector on the market – the school won't buy unless a couple of professors have endorsed it."

"What about Dr. Kitson, who worked with us last summer" Wasn't he enough of an endorsement?"

"No," Devereux said, "he was merely endorsing the potential of the talkies. We hadn't prepared any really effective materials at that time. And in any case one professor is hardly enough. The presence of the man's name is only a part of what we need. We need advice more than anything else. I haven't been inside an elementary school, except to attend a PTA meeting, in thirty-five years."

"Whom would you suggest?"

"I'll start with the Superintendent of our Bronxville schools, Alex Stoddard. He is doing some research at Teachers College. Between him and Dr. Kitson, we ought to be able to make some contacts."

It was September, 1929. Prof. Nickolaus L. Engelhardt and two of his associates, Drs. Paul R. Mort and Alexander J. Stoddard, were delighted to come to ERPI offices at 250 W. 57th Street to look at some of the film clips Devereux and his assistants had made. They were impressed. All three agreed to serve on an advisory board to help Devereux set up standards for selecting films that would make a significant contribution to the classroom.

A few weeks later, Mort was called to Engelhardt's office. "I just got a call from Co. Devereux," Engelhardt told him. "He wants us to suggest someone with the proper background to serve as a full-time research director. I can't think of anyone. Can you?"

VIII

Varney Clyde Arnspiger, at the age of 33, had already acquired more different kinds of experience in the field of education than even Engelhard and his associates could boast of. In 1917, fresh out of the University of Texas, he had been appointed high school principal in the town of Whitewright, Oklahoma. A year later he moved to the oil town of Drumright, where he taught biology and headed the science department in the high school for five years. In 1927 he was appointed superintendent of schools in Drumright. That summer he went to Teachers College at Columbia to work on a Master's Degree. While there he worked with Engelhardt and his associates, and he also became familiar with _____ work in the Eastman experiment. HE was fascinated, and when he returned to Drumright he brought with him some of the new Eastman films. But he was dissatisfied. The films did not seem to him to be made with the needs of the schools in mind. It ought to be possible, he thought, to design a film like a lesson plan – with a specific educational goal, main concept and supporting facts, summary, and implications. He thought of writing to Eastman and making the suggestion. He was still considering the problem in October of 1929, when Engelhardt called and told him of the job offer from ERPI.

While Engelhardy talked, Arnspiger ticked off the advantages on his fingers. Here was a chance to go to New York. To participate in the most important new idea in education: just the problem he had been thinking about for over a year. And he had already gone as far as he could in Drumright. He interrupted Engelhardt: "Do you suppose I'd have a chance to start working part time on a Ph.D?"

"Why not? There's important research to be done in this field."

"I'll be there in two weeks," Anspiger said, and he was – the day of the stock market crash on Wall Street.

IX

Devereux was a quiet man of 47, famed among his fellow Ardsley Club members for the elegance of his dress. Co-workers in the Bell System had long grown used to seeing him arrive in the morning in spats and white gloves. Arnspiger was a talkative, active 33, a man who could communicate equally well with Syrian drilling hands' children, with distinguished professors, and with businessmen like Devereux. Despite their different appearances, the two men liked each other at once.

About a month after his arrival in New York, Arnspiger sat in Devereux's office. "Schools will never buy the portable projector," he said, "if they can't get anything better to show on it than these Hollywood newsreels."

"Why not?"

"Because they aren't produced with the needs of the teacher in mind," Arnspiger explained. "A lot of them are good supplementary material that clever teachers can integrate with their lessons, but even in the best film clips at least half of the footage is wasted on pretty girls or brass bands. And the worst mistake of all is that they don't make maximum use of sound, which is the whole idea we're trying to sell."

"Do you suggest that we should go into the business of making teaching films for schools?"

"I think we ought to make a few just to demonstrate what can be done with this medium. We believe it is the greatest invention for the classroom since the printing press. Let's prove it conclusively by making the best demonstration films we possibly can."

Devereux smiled. This was exactly what he had been thinking of when he set out to hire a man with Arnspiger's background. The next day, the two men went to see John Otterson and reminded him of his desire to "start the ball rolling." Arnspiger repeated his arguments, and Otterson suggested that the three of them should take it up with the Advisory Board. The board met the following Saturday morning, and began by reviewing the films that had already been made for the school market.

Stoddard had seen some talkies that supposedly had been produced expressly for schools. He was disappointed, he said, because the filmmakers' idea of an educational picture seemed to stop short after the selection of an educational subject. He agreed with Arnspiger that a film made with the needs of the classroom teacher in mind would be vastly superior to a series of disjointed, unplanned scenes. The other experts, too, felt that an educational film should conform with a given lesson as taught by successful teachers and that, in accordance with Aristotle, it should have a beginning, a middle, and an end clearly defined.

Otterson described the "road show" which had traveled to summer schools at leading teachers' colleges the previous summer. ERPI salesmen had shown a film featuring Dr. Harry Kitson of Teachers College, who was billed as an "educational talkie impresario" and who introduced segments of Hollywood productions selected by Devereux and his staff for their educational value. The project had attracted a great deal of attention but few sales. Otterson spoke of setting up permanent educational salesmen in each of the regional offices, and supplying them with actual first-rate teaching films with which to demonstrate their equipment. Could Arnspiger handle the job of choosing collaborators, getting scripts written and approved, and making a few films in time for the salesmen to begin showing them in March? Arnspiger said he could.

X

Two weeks earlier, Pathe Exchange, Inc. had announced that its newly-formed Educational Department was cooperating with Harvard University in the production of two series of films, one on "Regions of the United States" and the other on "Commerce and Industry." The eminent Harvard geographer, Professor Kirtley F. Mather, and the Chairman of the Board of Pathe were reported by the press to be the first to use sound in motion pictures produced for educational uses only. The Pathe chairman was Joseph P. Kennedy, whose family's association with Harvard proved to be a long and distinguished one.

The name Harvard aroused even more competitive spirit in the Teachers College professors who comprised the Advisory Board than the name Pathe generated in the ERPI men. The two Harvard-Pathe series would not be ready in time to be shown during the current school year, and it was highly unlikely that the college-level insights of Kirtley Mather would anticipate the problems of school-oriented instructional materials as accurately as the professors of education could do. All were agreed that ERPI should produce a few well-conceived films that would establish the company as a dedicated organization with a firm understanding of modern methods of education.

The men came up with three film subjects at three different grade levels. The first was to be a junior high or upper elementary school film on American government, narrated by an important public official, such as the Commissioner of Education, whose presence would give the film a great deal of added prestige. The second would be a high school or college film on child development, a field in which Engelhardt's colleague, Dr. Charlotte Buhler, who was visiting Barnard College from the University of Vienna, had urged the use of the talking film. The third was to be a teacher-training film showing elementary teachers at work in Bronxville, where Devereux lived and where Stoddard had been Superintendent.

Devereux observed that the national press had lately given a great deal of attention to news releases dealing with the talking as a teaching medium. Howard Stokes had given him two clippings from magazines which had come out during the week preceding the meeting. Both were skeptical. An editorial in the November 9, 1929 issue of Judge had mentioned that H.G. Wells was making a talkie on the history of civilization and that William Fox had offered to give one quarter of his fortune, or $9,000,000 to put projection equipment in every classroom in the country. The editorial went on:

We are all for the plan. At least it ought to cut down the amount of damage done by dub teachers and preachers. Canned foods are a great improvement upon the half-bakes, unappetizing cookery of the average home kitchen. Canned education will be a great deal more digestible and nourishing than the old variety. But the tidbits of knowledge it can bring will be largely factual. For the transference of ideals nobody has ever been able to build a better machine than the traditional log with a student sitting on one end and Mark Hopkins on the other. The igniting spark of education will continue, as it has from Socrates down, to spring only from the impact of personalities present in the flesh.

The New Yorker of November 9, 1929 had mixed feelings about the vision of John Otterson, William Fox, and their allies:

We have read, very solemnly, Mr. Fox's plan for introducing talking pictures into schools, hospitals, and churches. It is an exciting prospect, and one we're not sure about. It means that children will hear the guns of Bunker Hill and see the whites of the Redcoats' eyes. It means that medical students everywhere will be able to watch major operations. It means that country people will go to church to hear not the local parson, but Harry Emerson Fosdick. On the face of it, this seems like good news, and important news. Yet it scares us to death. What's going to happen to science and religion when the cinema people begin to glorify them and whip them into shape? We've never yet seen a talkie in which the director could resist having one of the characters break out in song. The last picture we saw, they were so hard up for a little sound they dragged in a jew's-harp and an ocarina. We doubt if any director could photograph Bunker Hill for the kiddies without stopping the fighting at least once for Major Pitcairn to sing "Sonny Boy." We doubt if any director could photograph a major operation without interrupting it for a mandolin solo by one of the surgeons. Also, we are troubled by the haunting dread of living in a completely canned civilization where everyone will look like Clara Bow and talk like Eddie Leonard. Without doubting Mr. Fox's honorable intention, we are none the less anxious to know whether the talkies are going to approach science and education the way they have approached life. We want to know whether they intend to give truth a happy ending!

The six men were dedicated to meeting the challenge posed by these articles and by others like them. They were already convinced that the day foreseen by William Fox, and by John Otterson a year earlier, and Thomas Edison thirty years before that, was inevitably to come true: a projector in every classroom.

XI

The first chore was the recruitment of researchers to assure the accuracy of the scripts. Arnspiger was not satisfied with sending the scripts out to collaborators for approval. He envisioned a research staff that would carefully investigate the schools' needs before any film was produced. In the months that followed the meeting at which the first three films were envisioned, Arnspiger added more film subjects to the list of proposed titles. As he did so, he added specialists to his department: Edgar Stover, a young graduate who was to conduct research in the use of films; Howard Gray, an experienced teacher with a Ph.D., who was to head the department's work in the social sciences and in teacher training; Max Brunstetter, who had just received his Ph.D. at Teachers College in the field of vocational guidance; Miss Laura Kreiger, an attractive Ph.D. whose field was testing and measurement; and two men who were to stay with the company for more than a quarter-century.

Dr. Melvin Brodshaug had worked with Engelhardt at Columbia. A former principal from North Dakota, his field was natural science, and he was brought in to help plan some productions in this area immediately after the first set of films was completed. He and Brunstetter parted their hair straight down the middle.

James A. Brill had been one of Arnspiger's co-teachers in Drumright. At 39, he was an accomplished musician and artist in his own right, and he had taught both subjects at all grade levels. Arnspiger called Jim Brill "the most artistic man I know."

Artistic as he was, he was soon disappointed by the education experts, who advised that art was still only a "frill" subject and that school administrators would not buy teaching aids for it. They did, however, suggest a series on the symphony orchestra for music classes, and Brill very quickly found that his artistic talents were in demand not only for these films but for everything ERPI undertook.

XII

With the research department staffed, Arnspiger began systematically to build a library of films which would be helpful to ERPI salesmen in demonstrating their projectors. By the end of the first year it was generally conceded by even the most fiscally conservative ERPI executives that money had to be allocated to producing a good many films beyond those originally commissioned. When Arnspiger first got approval to produce a few "samples," he and Devereux had thought that other companies would take over the bulk of the production. A few did, but the number remained so small that school superintendents were afraid to buy the equipment lest

they have nothing to use it with. To the regret of all except Arnspiger and his staff, ERPI found itself taking the lead in the making of teaching films.

Melvin Brodshaug undertook fourteen reels in elementary science, with the collaboration of Dr. Clyde Fisher of the American Museum of Natural History. The films consisted of silent footage purchased from a company in England, British Instructional Films, to which narration was added. With each of the films – most of which were devoted to plants and insects – Brodshaug published a 20-page brochure stating the unit's objectives, contents, suggested activities, outcomes and bibliography. It was the first time any attempt had been made to correlate an instructional motion picture directly to a specific lesson – and yet the suggestions were listed in such a way that the teacher retained complete freedom. In order to make this clear, and in order to reassure teachers who feared that big business was "telling them what to teach," ERPI treated the handbook as a separate and optional item with a price of twenty-five cents – though it was supplied free with every reel sold.

In selecting the topics to be treated in the films, Brodshaug and Fisher considered two factors. The obvious question was whether a given topic was normally covered in a majority of science classes. But equally important was the choosing of subjects that would lend themselves to special treatment by the use of slow motion or time-lapse photography, animation, microphotography or close-up work. These techniques were unique to the film medium and were strong selling points. Teachers instantly realized that the scene showing the development of a frog's egg, shot through a microscope with the action speeded up, was an indispensable tool for introducing developmental biology.

These same techniques were useful in nearly all of the other films ERPI produced. Slow motion and stop-action photography and animation made possible a series of four reels on "The Fundamentals of Football" starring the University of Pennsylvaia team and nine well-known coaches, including "Biff" Jones of West Point and H.E. Von Kersburg of Harvard. Close-up work, which is taken for granted today, was actually a raging issue among filmmakers and educators until the late 1930's. Many believed that children would be confused by an image on a screen which appeared much larger than the real object it represented. There were some who said that a child did not recognize even the most familiar objects when they were distorted by the camera. Although this was contradicted by everyone who had experimented with motion pictures in schools, the early silent filmmakers had tried to make concessions to the theory. Standard technique required approaching objects gradually, beginning with a distance shot and then using a medium shot before moving the camera close. Brill, Brodshaug, and Arnspiger were unanimous in their scorn for this procedure. They gained an important ally in one of the technical experts brought to

ERPI by Howard Stokes, newly appointed production director. The expert was Arthur Krows, who had supervised the filming of the Yale Chronicles of America.

The first films to be made without fear of shifting rapidly from distance shot to close-up were the series on the symphony orchestra. During the week when the films were being shot, Brill told Arnspiger "we couldn't have possibly made these films for $20,000 if we'd insisted on medium shots every time we went in for a close-up." The reason was that in addition to his crew Brill had 62 union musicians on his payroll; he could not afford to pay them to run through the music an extra time while his cameras shot the same scenes from a different location. As another money-saving measure Brill shot all the scenes requiring the full orchestra on the first day, cutting down his cast until by Saturday, five days after shooting began, only the conductor needed to come to the studio. For $20,000 Brill was supposed to deliver four films, one on each of the four major sections of the orchestra. Without any additional money except for developing and printing costs, Brill was able to put together a fifth film on the whole orchestra from the footage he had made for the other four films.

From the very beginning of ERPI's operation, production was characterized by an uneven budgeting policy. If a topic required enormous expense to send a photographer abroad, or to the top of a mountain, or to hire an airplane, the money was somehow made available. If such expenses were not necessary, the producer usually found that his budget was cut in the middle of production in order to provide funds for someone else's film. Brill and Brodshaug very quickly grew used to inventing ingenious ways of saving money. They were not above begging union representatives to consider them as a non-profit public service group; the unions were usually – but not always – sympathetic.

XIII

Howard Stokes became director of production, taking charge of the business matters and overseeing budgeting. Arnspiger and his associates, when shooting and editing, had to operate as frugally as possible for only one reason: they were determined to spend as much time and money in the research that preceded each film as was necessary to assure accuracy, thoroughness, and effectiveness. They chose collaborators whose standards they knew were high, and they strove to meet those standards. Here, too, of course, they were acting with shrewd business sense. The better the reputation of the collaborators who approved the films, the more sales they would have. But Arnspiger and his assistants were educators themselves. What primarily moved them was the desire to make a unique contribution to their field.

Professor Harry D. Kitson of Teachers College, the "educational talkie impresario," helped make two more films on vocations. This time the films were specifically geared to the students themselves rather than to their teachers and superintendents. Kitson produced handbooks similar to those Brodshaug had done for

the science series. Other Teachers College collaborators included Dr. David Eugene Smith, famed geometrician; Dr. William H. Kilpatrick, outstanding exponent of the philosophy of John Dewey; Dr. Arthur I Gates, expert on reading improvement; and an expert in testing and measurement, Dr. Ina C. Sartorius. "Accomplishment Tests for Babies," made by Dr. Charlotte Buhler of Vienna, was accompanied in the teacher training series by two reels on infant behavior made at the famed Yale psycho-clinic of Professor Arnold Gesell. Gesell had earlier used the silent film in his experiments and ERPI now used the same footage with his own narration.

Also in the teacher training series were two films made with the collaboration of school administrators. One of them was the film originally suggested by Devereux, featuring an experienced elementary teacher from the Bronxville schools. Stoddard had by this time moved tot eh superintendentcy in Providence, Rhode Island, and his assistant there, Dr. Richard Allen, was an authority on guidance programs in public schools. Allen's two-reel production showed the administrative set-up necessary for an efficient guidance program like that of Providence, which was nationally recognized as a leader in innovation. Two more films on elementary teaching, both expounding the philosophies of education which had made their authors controversial leaders in the field, were made with Professors Hughes Mearns of New York University and Boyd Bode of Ohio State. Distinguished as these individuals were, however, none of the faculties ERPI tapped – with one exception – could compete with the reputation of Teachers College among schools of education. That one exception, the University of Chicago, yielded a film on individual differences in arithmetic, made with Prof. Guy T. Buswell. Erudite, handsome, and authoritative, Buswell made a lasting impression on teachers and students alike. But he was only the first of a long line of Chicago faculty members who lectured before ERPI cameras.

Of the three pilot films originally suggested by the Advisory Board consisting of Engelhardt, Mort, and Stoddard, the most successful was that in which Commissioner of Education William Cooper had cooperated. He had sat in his office and answered the questions put to him by two junior high school students, illustrating his explanation of the workings of the Cabinet and its departments by frequent film clips and by animation. Cooper became an important advocate, and immediately began making speeches praising the new medium and urging other educators to enter the field.

XIV

Gradually the film library enlarged. By mid-1930 newspapers across the country were carrying articles about demonstrations held by ERPI salesmen. Parent-teacher associations, civic clubs, summer classes for teachers and principals, any group that was interested received a free two-hour program in its auditorium. The films – three dozen by the end of 1931 – were the main attraction, but it was the

projectors that the men were trying to sell. There were two of them, completely different, and both so new that they could be featured anywhere as "the first such demonstration in the Northwest," or in the state, or the county, or the town.

One of the projectors ERPI was offering to the educators was its 35mm "portable" model. It was like the projectors used in theatres in every respect except that it could be packed up into four trunks and moved from place to place. Providence, Rhode Island had been able to set up a regular rotation whereby eight schools used one of these portable models. Unfortunately the four trunks were each of the approximate size and weight of steamer trunks, and the total weight of 900 pounds required the use of a truck to move them. This increased the cost to considerable more than the $5000 which ERPI charged. In a few years the name was changed from "portable" to "mobile."

The second projector offered the advantage of being able to be used in the classroom rather than an auditorium. It used 16mm film. Since no one had yet devised a way of putting the sound on the film as was done in 35mm, ERPI supplied disc records which were synchronized – if teachers started them in synchronization – with the pictures. Clyde Arnspiger was determined that someone could find a way to put sound on 16mm film, but the engineers insisted they could not. "We can't get far," he told Devereux, "showing the horse talking and the farmer neighing." But meanwhile 16mm had the advantage of lower cost and lighter weight, and proved far more attractive than 35mm to most purchasers. Each production was printed on both sizes of film.

In 1933 the technical difficulties involved in using the sound-on-film method with 16mm film were finally eliminated. The problem had been simply that the 16mm projector was too small for the flywheels that kept the film moving in jumps across the projection lens but at a constant rate across the sound drum. When a better projector was designed, a major obstacle to sales was eliminated. But ERPI still had thousands of 35mm projectors in warehouses, and thus continued to market both types.

The growing battery of salesmen in ERPI's district offices often had the benefit of demonstrations by education specialists from Arnspiger's department. When a salesman had to present his pitch alone, he took with him a manual including dozens of "Typical Sales Resistance Questions" with answers provided by the specialists. A few of the questions and answers indicate the inertia against which salesmen fought:

Q. – What assurance can you give me that you will continue to produce pictures

A. – The amount of time, energy and money spent thus far in the program by an organization of such standing is in itself assurance enough that the program will be continued.

Q. – These pictures are very interesting, but the whole project is so new and relatively underdeveloped that I do not feel justified in spending the taxpayers' money on it until it has been tried, tested and proved thoroughly satisfactory.

A. – Appeal to his personal pride as a leader in his profession and community. Make him feel that he should lead in this movement instead of being a follower. Visual education is not new. It has been tested and approved. The newest feature is the talking picture which has this background of proven merit, and in addition its worth has been demonstrated in the government supervised test recently conducted at Washington, DC. Available materials are not limited to our pictures.

Q. – Are you paying the educators who are cooperating with you for their service?

A. – The compensation of any person or persons employed either directly or indirectly by Electrical Research Products, Inc. is unknown to his or her associates and is something that is never discussed in our organization.

XV

From the first installation of permanent equipment in the Hotchkiss School in Connecticut, the number of schools equipped for showing the talking pictures grew into the hundreds. From the first experimental program in a public school system, held in Newark, New Jersey in the spring of 1930, the number of innovating and experimenting school systems grew into the dozens. But the film library itself, the set of materials available for use with the projectors, continued to increase comparatively slowly. There was still no massive program for creating thorough coverage, even in one curriculum area. Such a program came in 1932.

One of Devereux's neighbors in Bronxville was Beardsley Ruml, a New York financier who spent part of his time teaching political science at the University of Chicago. On one of his brief vacations at home, Ruml chatted with Devereux. "I wonder if there isn't some way your company could tie in with President Hutchins' New Plan." He described the general courses in the freshman and sophomore years instituted by the University's young president, Robert Maynard Hutchins. "It's a way of giving our students an acquaintance with important fields of learning they might otherwise avoid in their pursuit of a major subject," Ruml explained, "and at the same time preventing the danger that they will resent being forced to take the courses. No student is forced to take them, but at the end of the first two years all must pass examinations covering the material taught. They can learn the material any way they choose, and of course most of them choose to learn it by taking the courses."

"What do the others do?" asked Devereux.

"They go to the aquarium, or the library, or the Encyclopaedia Britannica, or they stay in bed all morning. But at the end of the two years we hope all of them,

those that attend the lectures and those that do not, will have a feeling that they've really learned something and that they have a capacity to learn more."

Devereux wanted to know how the courses themselves were taught.

"In every case," Ruml said, "they are taught by the most distinguished men in the field, teaming up so that each man lectures only in his special area. There are large lectures and smaller discussion groups."

"So that we might produce films that would enable the lectures to present their material more effectively to the large audiences," Devereux suggested.

"I believe films like the ones you have shown me would make a great contribution if they were made specifically for our courses, and you might even be able to market them in other schools."

"We would have to," Devereux said, "or we couldn't afford to make them in the first place. Would Hutchins be willing to discuss such a project with me?"

"I'll mention it to him," Ruml said, and within a week he had outlined to Hutchins the history of ERPI and its Department of Education talking pictures. As it happened, Hutchins was already an advocate of teaching films, and he was familiar with the work done at Teachers College by Engelhardt, Mort, and Stoddard in testing the effectiveness of such films in the classroom. He needed no convincing as to the potential of the medium. At his request, Ruml arranged a meeting with Devereux and Arnspiger in Chicago. This was in January 1932.

Within a few months they had a firm contract: the film company would make twenty five films specifically for Chicago professors, and would then handle selling the films to other schools. No film would be released without final approval of the professor who narrated it, and royalties on future sales would be paid to the University. Hutchins had suggested that the best place to start producing films would be in the two largest courses, both in natural science. One of these ran for two years in physics and chemistry and the other for two years in biology. The telephone company, for public relations reasons, had long insisted that ERPI stay clear of the social sciences to avoid unpleasant (and unfair) charges that the phone monopoly was trying to brainwash youngsters. So Devereux and Arnspiger were glad to limit themselves to science films, and work began immediately.

"We are not going into the entertainment business," President Hutchins told the Associated Press, "and we are not trying to jazz up education. This will be the first organized attempt of any university to find out what talking pictures can contribute to classroom work. We expect to extend it to all branches of the university, to our courses in adult education and to many of the other institutions which use our new system of instruction."

A reporter asked Hutchins if he thought Chicago would find itself in competition with other universities seeking to produce similar films. "No, of course not," he answered. "We aren't in this for profit, and we don't expect to make any profit."

XVI

President Hutchins felt that the addition of sound films to the general courses was a natural and fitting step in "the experimental tradition of this university." He did not use the word "Experimental" lightly. Hutchins was talking about more than simply an experiment in education conducted by a university; that had been done before. He felt, however, that Chicago was experimenting with the very concept of what a university was and what it could be, and that the various new methods of teaching which his professors tried were merely an adjunct to the wider experiment.

When Hutchins became President of the University of Chicago in 1929, every course in the undergraduate college was taught as if every student in the course were going to go on for a PhD in that particular subject. There were no courses that seemed to be taught for the sake of the knowledge conveyed, and often students were unable to take courses that interested them for the knowledge's sake because they were kept busy satisfying the requirements of graduate and professional schools. Indeed the pressure from these higher institutions was so great that Hutchins began to feel that a liberal arts college could not be conducted successfully on the campus of a university. His "New Plan" was an effort to prove himself wrong.

The films could help if they enabled the professors to get across a great deal of basic factual and conceptual information in a relatively short time, so that they had much time free for discussion and for stimulating their students' curiosities. This created a dichotomy between the films and the live lessons. To the films would be assigned the dry, dull material, while the live lectures would present the excitement of the professor personally involved in his research and in teaching his individual students. This division of task conformed perfectly with the theory of educational filmmaking as practiced since the very earliest silent productions. Because the word "movies" conjured up all the inherently glamorous and exciting popular images of Hollywood, the suggestion that the movies might have a practical application in the classroom brought initial resistance from educators. Children would not take their lessons seriously if they began to think of school as an entertainment. So the films that were produced for schools, well into the 1940's, were uniformly dull in format – no music to counteract the drone of the projector, no color, no personalities in the animated sequences, no humor whatever to relieve the boredom of teachers and students alike. In fact, the only thing exciting about them was the subject matter itself, and the thrill of its more effective presentation.

But even as dull as the first Chicago films appear by modern standards, they did a number of revolutionary things in the teaching of sophisticated material. Chief among these was the pressure on the lecturer to rehearse and to review in advance the meaningfulness and the effectiveness of every word he was going to say. It was not unusual for a professor to change his entire approach as a result of the camera's scrutiny. One cause of this was the medium of animation. It was impossible to animate a diagram illustrating a physical process unless the professor was perfectly clear in his description of that process. During the making of the film on static electricity, the animator complained to Arnspiger that he could not understand the instructions for a particular sequence illustrating the path of an ion through a condenser. They brought their animation cells to the physics collaborator, Professor Harvey Lemon. In his offices was Hermann Schlesinger, the great chemistry professor who made many of the other physical science films. Lemon joked, "What you need is a couple of real scientists doing your drawings for you. Give me that pencil." Schlesinger and Arnspiger looked over Lemon's shoulders as he traced the ion's path. "It starts at this point and moves to this point; from there to this point; from there to here…..wait a minute. It starts at this point and moves to this point; from there to this point; from there to here….." he was silent for a few minutes. Finally Lemon and Schlesinger looked at one another. "Do you know, Hermann," the great physicist said, "I've been teaching this incorrectly for twenty years."

Nor was it unusual for a professor to make important discoveries in the course of production. For the film on the solar system, which remained one of the classics of educational filmdom long after many of the others were obsolete, astrophysicist Dr. Walter Bartky spent three months doing the necessary mathematical computations to describe the movement of the planets and their satellites and to prescribe their paths for the production crew. In the course of this work he made three separate original discoveries which were reported in the astrophysical journals.

Just as important as the accuracy of the teaching was the creation of new means to illustrate concepts that were never available to teachers before. One lecturer was accustomed to tying a rope around a doorknob and wiggling it to show the motion of a sound wave. "Of course," he would point out, "sound waves really travel in all directions at once." In other words his demonstration was next to useless. With animation he was able at last to improve upon his rope-and-doorknob example. For these reasons the Chicago faculty soon became enthusiastic about the medium.

XVII

For the University, however, the principle benefit from the alliance had been less a learning experience than a public relations opportunity. For the film company it had been both: the films could not have been made without the faculty, and their sales were multiplied enormously as a result of the University's name. But the University had profited, too, from having its name spread throughout the country's school

systems. Not only were potential students impressed, but also potential donors. The press followed the progress of the experiment with great interest, and it clearly established Hutchins' institution as an innovational leader in the field of higher education. As the films began to be used in more and more classrooms – even in elementary schools – the Board of Trustees realized that ERPI Classroom Films was a very important part of the University's public image.

In 1935 that image suffered a severe crisis. Drugstore magnate Charles Wagreen had withdrawn his niece, Lucille Norton, from the college on the charge that she had been subject to "subversive teaching" and "Communist influences" in her social science general courses. One of the books on the reading list had been the Communist Manifesto. Within a few months a special state senate committee cleared the University of all Walgreen's charges, but the damage had already been done to the school's reputation. Three of the four Chicago daily newspapers were hostile. By early 1936 it was apparent to Hutchins that something had to be done. In the spring of that year he found his answer. William Benton, a classmate at Yale, had announced his retirement from the advertising business. In less than seven years, he and his partner Chester Bowles had increased the annual billings of their agency, Benton and Bowles, from $40,000 to $18,000,000. Now Benton was ready for new worlds to conquer. Hutchins called on him in New York and suggested the world of university public relations in general and the University of Chicago's problems in particular. Benton went to Chicago and in four weeks of intense interviewing and reporting he produced a full-length book, privately printed and sent to the University's trustees, analyzing the present position of the school and its potential for improving that position. The book was called, simply, The University of Chicago's Public Relations. One of the points Benton stressed was that the University was in an unequalled position to take advantage of promotional opportunities from both broadcasting and motion pictures. He recommended that radio programs should deal with "everything we do here at the university" and should be aimed at adults; motion pictures in schools would take care of the image-building in the eyes of young people. William Benton in his report on The University of Chicago's Public Relations discussed why so little progress had been made in persuading schools to adopt the instructional film as a standard classroom tool:

First, the failure of producers knowing the technique of production properly to correlate their knowledge with the knowledge of educators. This failure has resulted in the production of films unsuited to the schools.

Second, there has been much scattering of shot due to confusion in the minds of producers between educational films for theatre distribution and those required for schoolroom use. This confusion of objectives has resulted in mediocrity, in films unsuited to either purpose.

Third, the failure of educators and of school boards to realize, due to lack of information as well as to lack of suitable films, how much moving pictures can assist in the educational process. Educating the educators is perhaps the longest of all educational jobs.

Fourth, the red tape in buying schools supplies; the limited budgets of the schools; the entrenched position of the textbook companies; high distribution costs in trying to operate in this field – these and other handicaps hamper the development of a sound business in producing and selling educational films.

Fifth, just as many of the foregoing seemed to be breaking down, silent films gave way to sound; and this radical innovation was almost immediately followed by the depression, which greatly set back both producers and the school systems.

He then outlined the University's involvement with the one high-quality innovator in the classroom film field, now called ERPI Picture Consultants. He revealed to the Trustees that AT&T had three good reasons for wanting to sell the company: it had already made an investment of seven million dollars which was not paying off; it had stopped manufacturing projectors and thus had lost its original motive for spreading the use of films; and it feared the accusation that the Bell System was trying to propagandize the schools – an accusation that could be dangerous in the forthcoming Federal Communications Commission investigation of AT&T. Benton reported that a number of potential buyers had expressed interest in ERPI Picture Consultants during the past two or three years, and that an anonymous person or company was currently employing the consulting firm of Ford, Bacon, and Davis to study the subsidiary. He added that he himself had been looking into the advisability of investing in it.

With all this turmoil over ERPI, Benton pointed out, it was difficult to assess the permanent promotional value of the company for the University. "If the right people take over ERPI," he wrote, the best relationship for the University would be a contractual arrangement on a straight royalty basis. It could thus continue to improve its indirect benefits in the form of publicity while building up some direct and significant benefits in the form of royalties. But this was not automatically in the offing:

Colonel Devereux claims that it now takes "five times too long to make a picture." Although the men at the University are essential to the proper production of pictures, the University itself may not be essential. Unless the Administration takes advantages of its previous farsightedness and of the head start its experienced men give it in the field, production companies may employ the faculty members and forget the University. Colonel Devereux says that the group at the University is "the only group of educators in the world with experience in developing real educational pictures." Much more dramatic than a textbook from the pen of one teacher is the fact that fourteen scholars collaborated in the making of just one picture.

Benton had only begun to involve himself in the subject. Hutchins had other plans for him. But even at this stage, in his conclusion, "If the University and its Faculty endorse school pictures, I believe they can be sold," he was committing himself – whether he knew it at the time or not – to attacking that aggravating problem he had stated so succinctly: "Educating the educators is perhaps the longest of all educational jobs."

Chapter Two: 1933-1943

In the early thirties, ERPI Classroom Films acquired a hallmark and a slogan. The hallmark was Jim Brill's even, fatherly voice, which was to narrate every film the company produced for nearly twenty years. Whether you were a teacher or one of the taught, if you were exposed to classroom films even as late as the fifties you were sure to be able to identify Brill's semi-mellow tones just as accurately as you could the more emotional and grammatically less correct patter of the similarly faceless Mel Allen or Amos 'n Andy. The slogan, too, was easy to remember: ERPI FILMS BRING THE WORLD TO THE CLASSROOM. And it was true that the company saw as it principle aim the filming of places, people, events, and concepts which could not be adequately presented to children through any other medium. Unfortunately, however, only a small minority of America's classrooms had the world delivered to them by ERPI, because the number of schools outfitting themselves with films and projectors continued to increase only very slowly.

There were many reasons for the slow acceptance of the new medium: it was still regarded as being in the experimental stage; educational institutions were normally slow to change and slow to adopt innovations; there were complications and red tape involved in making the necessary purchases under the existing systems of school budgeting; and the nation was in the grip of the Depression.

The effects of the 1929 crash had not been felt as suddenly as Hollywood and history books have since led us to believe. Over a period of months and years, however, the economy's agonized grinding to a near halt had affected school budgets and made superintendents more wary of unprecedented expenditures. Even with the introduction of smaller, more portable 16mm projectors with sound printed directly on the film, both the initial expense and the $50 cost per ten-minute reel were prohibitive for all but the big-city school systems. It was also due to the Depression that ERPI remained the only company in the field and the only major voice in the movement to replace silent classroom films with sound ones. Such a new and unproven market would have been too daring an investment for anyone with capital – and besides, there was very little investment in capital to be had. It is no surprise that virtually no one

entered the field of educational talking pictures. What is surprising is that ERPI itself did not drop out of the field.

Fortunately, the company's Hollywood operations were unbelievably lucrative. So AT&T was not losing money on ERPI. The question was how much the rich subsidiary was willing to lose on its tiny Classroom Films division. The Depression dictated frugality and a cutback in all the less productive areas of the Bell System. But thousands of the clumsy "portables," manufactured in a moment of optimism, filled warehouses; ERPI was determined to unload them, and that meant continuing to produce films as incentive to purchasers. In addition, some schools had already made purchases with good faith that films would continue to be made available. Therein lay the public relations problem that beset AT&T for the next decade. The company had been reluctant to produce any films at all, and had only done so to start the industry rolling. Since it had failed at that goal, but had succeeded in generating a great deal of interest in the press and in a number of school systems, it could not quit at this point without giving itself a bad name. And public relations aside, men like Otterson and Arthur Page, AT&T's vice-president, were unwilling to give up their conviction that sound films could revolutionize classroom instruction if they ever got going on a large scale. So while Western Electric employees were being laid off by the thousands during the Depression, the Bell System continued to support ERPI Classroom Films. Arnspiger did not know from one month to the next whether he and all his staff would be allowed to go on with the expensive projects at hand. Their spirits ebbed; they were embarrassed when they met old friends who had worked in other divisions in the same office building; they all took voluntary salary cuts rather than have their own division reduced. And things slowly improved. The Bell System never lost faith, investing well over three million dollars in the cause during the 1930's. Roughly half that money was in worthless projectors, the rest in an unprofitable but steadily growing library of top-quality, well-respected, no-nonsense classroom films.

II

Besides their continuous battle against the economic forces of the Depression, Arnspiger, Brodshaug, Brill, and all the other specialists were battling to get their films out of the experimental stage and into common use. This meant improving upon their initial efforts, and it also meant setting their own standards both for film quality and for the areas of curriculum they would cover. After the first effort at producing a few selective demonstration films the educational staff and consultants had to turn to the task of systematically analyzing and providing for the schools needs. With the exclusion of controversial subjects like sociology and civics, they ventured into almost every area and every grade level in which it seemed to them that films could make a unique contribution.

One of the first series of films the company had put together had been the elementary science series made by adding narration to the silent footage bought from

British Instructional Films. Although the footage was technically excellent, Brodshaug was limited, in planning the films, to the particular scenes he had at hand. It soon became apparent that he would need to hire photographers to go out and shoot special nature footage to meet the needs of the curriculum. It happened that a highly successful nature photographer, Lynwood Chace of Massachusetts, submitted to ERPI a silent production he called The Adventures of Bunny Rabbit. He wanted ERPI to make it into a talking picture for elementary schools. Brodshaug and Brill, along with Laura Krieger the elementary specialist, recognized that Chace's work had possibilities both for nature study and for language arts, as a story-telling experience. They retained him for Bunny Rabbit and for a set of other films that would use nature photography to enrich communication skills; over a period of many years Chace produced some of the company's award-winningest and money-makingest classics, notable Gray Squirrel and Snapping Turtle.

Both Jim Brill and Mel Brodshaug continued to be closely involved in this series, beginning the friendly rivalry and efficient working partnership which characterized their joint career for the next twenty years. Bunny Rabbit, though it was the first film distributed in the series, had been sent to the company in an advanced state. Gray Squirrel really was the first such film planned and executed by ERPI.

The Adventures of Bunny Rabbit was a turning point for ERPI, demonstrating graphically to collaborators and pedagogical skeptics alike that the sound film as a medium had its own set of conventions which schoolchildren would accept just as adults were willing to accept the dramatic conventions of the theatre.

At the adamant insistence of the collaborator, an apologetic prologue had been tacked on to the beginning of the film: "OF COURSE THIS IS JUST A FANTASY. ANIMALS DO NOT REALLY TALK TO ONE ANOTHER." Jim Brill had violently insisted to Arnspiger, "Let's can this guy," although the collaborator was a leading expert on reading whose name added considerable prestige to this title. Arnspiger coolly calculated that the response from teachers would more than justify removal of the offensive caption without alienating the collaborator. The film's release was met with immediate praise, but true to their prediction Arnspiger and Brill were universally begged to remove the silly statement. Hundreds of teachers were in agreement: "The film is great, but children fully appreciate that it is a fantasy. We are surprised that your distinguished collaborator allowed you to make that ridiculous apology at the beginning of the film." It was quietly edited out. But it was in the adaptation of Chace's Bunny Rabbit that the team first established the pattern subsequent productions for children would take, and the way that pattern emerged from intelligent discussion and insightful self-criticism is illustrative of the creative process that pioneered audio-visual education.

Much to the disgruntlement of Jim Brill, who was always suspicious of specialists with talents less varied and diverse than his own, the job of writing a script

for Bunny Rabbit was handed over to Laura Krieger (who shortly becamse Laura K. Eads), the young and pretty PhD psychologist fresh out of Teachers College. Brill thought she was too stilted and professional in her language, and when the Educational Advisory Committee met to preview the finished film, with Brill reading the narration in the screening room, everyone had to agree that something was wrong. As poor little Bunny tried to jump over the fence and get away from the farmer, The Voice was saying to the audience, "You will notice that the rabbit's rear legs are five and one half inches long while his front legs are only two inches long." When the film was over Brill came over and, citing that passage in particular, suggested concisely to the staff and its advisors that what was wrong with the film was that the picture on the screen, in all its emotional impact, proclaimed one message visually which conflicted with the more pedagogic message of the narration. The children who saw the film would be open-mouthed and gasping, wondering if Bunny would get away. So the film was revised, and from that point on the company always made films whose sound and picture combined to make an integrated and useful whole. And they also humanized the scripts of children's films.

III

The other films made for the youngest grades were similarly fraught – in their production stages – with an experimental, trial-and-error character. And their production was attended by considerable challenges to the ingenuity of producers and cameramen alike. For a film on sunfish, for example, collaborator E. Laurence Palmer demanded that Lynwood Chace provide a scene showing the particular mating behavior of the species. Chace set up a series of aquaria in semi-circle, so that he could swing his camera around quickly to whichever pair of fish happened to begin to mate. After waiting in vain for a few days, he phoned Brodshaug in New York: "Mel, we can't get that scene." Brodshaug took the train up to New Bedford the next day and insisted that what the expert wanted must be provided. But after a few hours of sitting with the photographer, and a few apparent beginnings that turned out to be false alarms, he too was discouraged. They discussed various factors that might be discouraging the fish. Too much light? Wrong food? Every attempt at improving things had failed. Finally, two small boys wandered up and asked the men what they were doing. "Well," said Brodshaug, "we are sitting here waiting for these fish to mate so we can make a movie of them." He hoped he would not have to explain much further. He did not. "Why don't you come with us down to the quarry," suggested one of the boys. "There's sunfish mating all over the place down there!" They did, and there were.

Another series begun about this time, for children slightly older, were the "Children of Many Lands." Made with the collaboration of many of the leading experts on elementary education, including Arthur Gates and Celeste Peardon of Teachers College, these films were produced by hiring freelance producers who

would travel to Germany, Switzerland, South America, China, or wherever, and either single-handedly or with the aid of hired crews provide the footage which the scripts demanded. They also, of course, had considerable leeway to shoot scenes of their own choice, to which scripts could usually be adapted. The most famous of these freelance filmmakers was probably the explorer Amos Burg. For Children of China, Burg had to flee the advancing Japanese troops on the mainland, finally smuggling his undeveloped film out of China in a ship's ice box. Another explorer-photographer was a Commander Gatti, an Italian who went to Africa on a safari financed by contracts from ERPI as well as International Harvester (for promotion of their trucks) and a number of other companies. His films of native life in Africa are still noteworthy because he captured the different cultures of the "Dark Continent" in the last stage before they were adulterated by Western civilization. Gatti and others helped ERPI produce a whole series of anthropological films on primitive societies on every continent.

About the same time, Brodshaug and Brill began working with the National Parks Service on a series of geology films. They worked closely with Dr. Carey Croneis of Chicago faculty, covering special topics in the study of geography, geology, and meteorology. These related to a series of films on the United States which were especially significant, because they represented a whole new philosophy of teaching U.S. geography, created by the famed sociologist Howard W. Odum of the University of North Carolina. Up until that time, the standard method of teaching the subject in the elementary schools was by states. For example, a class would do a unit on New Mexico in relative isolation from the states surrounding it. Odum showed that this was unreasonable in view of the realities of American society: all the states within a region like the Southwest shared common needs and problems, heritage, customs, and means of economic support. The differences between various cities and states within a region properly emerged within the context of the more general similarities among them. Odum's six ERPI productions on the six main regions of the U.S. revolutionized geography teaching in a way that has survived to the present.

IV

One of the big problems ERPI faced was convincing school authorities that talkies in the classroom were more than just a fad, that they were a serious and efficient means of communicating information rather than an unnecessary luxury for teachers and students. It helped somewhat that ERPI's films were as unlike Hollywood's as possible – until after World War II there was not even background music during the opening titles. But the company sensed that more positive proof was needed, and by the middle thirties it sponsored and published a number of experiments done by others as well as by ERPI researchers.

In 1933, the University of Chicago press published The Educational Talking Picture, a book written by Frederick Devereux together with Engelhardt, Mort,

Stoddard, Arnspiger, Stokes, Brunsetter, and Eads. The book described how such pictures were made and how they could be used, as well as discussing the various tests that had been used to measure their effectiveness. In the three years since the first such experiment in Middlesex, England, one could trace a considerable degree of refinement and increasing sophistication, culminating in Clyde Arnspiger's doctoral dissertation of 1933. At first, the experiments had employed tests which were either low in reliability – they were not reproducible with another body of students in the same type of situation – or low in validity – they did not test more than a fraction of the actual results of the experimental situation. The Middlesex experiment simply asked teachers to fill out opinion questionnaires after using some films (which were not yet prepared with the needs of schools in mind, as ERPI's were). Overwhelmingly the teachers demanded that filmmakers get subject-matter and educational specialists to collaborate with them. Other experiments suffered from too much concentration on objective tests such as the True-False variety, which showed only that certain facts were known by more students after seeing a film than before seeing it, but completely neglected the question of what was the nature of the gain in knowledge and attitudes. Still others employed meaningless statistics because of a confusion in the use of mean and median scores. An interesting study by Phillip Rulon of Harvard's Graduate School of Education, done in 1932, found that a combination of film with printed material was 20.5 per cent more effective than the printed materials alone – but offered no explanation of why this might be the case. And even Arnspiger's experiment was directed at the percentage gain on arbitrary tests rather than at the qualitative questions we would ask today about such gains. But the greater variety of the objective and essay questions asked by Rulon and Arnspiger was at least a step toward more reliable and valid evaluation of the new medium.

From the beginning, the staff realized that teacher training in the use of talking pictures offered more hope for future sales of films than attempting to move education's Old Guard. An important feature of the company's promotional effort from 1928 onward was the summer demonstration at teachers' institutes all over the country. By 1933 the relationship with Chicago's faculty had been cemented, and together with this group and the Teachers College advisors ERPI mimeographed a fat document called Modern Trends in Education: Syllabus for a Teacher Training Course Utilizing Educational Talking Pictures. By 1937 this had developed into a full-length book under the authorship of Max Brunstetter, also published by Chicago, How To Use the Educational Sound Film. Nearly all of the basic techniques of audio-visual instruction had been perfected by this time: stopping the projector, turning off the sound for review while students recalled what the narrator had said, interjecting comments during the showing to direct students' attention at key features of the lesson, etc. It was notable that the intuitive and suggestive accounts of what the sound film could do in the classroom were still far more convincing than the attempts at quantitative analysis.

V

Carey Croneis, one of the University of Chicago's most enthusiastic advisors to ERPI, was in charge of the Science Pavilion at the Century of Progress Exposition in Chicago during the summers of 1933 and 1934. One of the exhibits in the pavilion was devoted to classroom films. In 1934 a prematurely retired executive named Edward Shumaker saw that exhibit and became very excited.

Edward Shumaker had been president of the Victor Talking Machine Company of Camden, NJ. When radio's skyrocketing sales began severely to threaten the phonograph business, Radio Corporation of America bought Victor. That was 1929, at the start of the Depression. Shumaker had a substantial savings of his own, fortunately, and after a few years he was able to retire from RCA Victor. He took his wife to Chicago, where they encountered the exhibit of classroom films. Inside they watched the films "Molecular Theory," "Plant Growth," and "Sound Waves and Their Uses." When they emerged from the darkened screening room Ed Shumaker turned to his wife and told her, "I am going to get into that business."

Back in New York, he stopped in at the AT&T office at 195 Broadway to see Arthur Page, the public relations vice-president who had kept track of all phases of ERPI's classroom films division and ERPI Picture Consultants, Inc. from the beginning. Page discouraged Shumaker, stating that the Bell System had no desire to build up the film company at all. "Quite the contrary, we'd like to close up the whole operation if we could find a respectable way to unload it. But every time we send in a man from the parent company with orders to reduce the production budget and gradually phase out the subsidiary, he comes back to us all inspired – and I must admit, I can see why – and he asks us for more money to expand." Page did offer Shumaker the chance to head another subsidiary, however, the World Broadcasting Company – which was not doing very well at the time. Within a year he had so impressed AT&T executives that they decided he was, after all, the man to help them with ERPI Picture Consultants. His job was to do what none of his predecessors had been able to do: somehow rid AT&T of its nemesis.

Six months later, when Shumaker sat in the office of the president of Western Electric asking for more money to expand the classroom film operations, he was met with a sigh of resignation: "Et tu, Brute?"

VI

But he got the money he wanted, and from that day on, though twenty years were to pass before it would climb out of the red, the company began to show a good prognosis. Shumaker, to change the firm's image from consultants to producers, renamed it ERPI Classroom Films, Inc. He was its president, with Devereux continuing as vice-president, the title he had held since the Educational Talking Pictures Department was separately incorporated. A few years later Col. Devereux

retired. So also did Howard Stokes. Max Brunstetter and Laura Eads left for other jobs, and Howard Gray died during the war. John Otterson went to Paramount as president in 1935, after the Hollywood firm had collapsed and submitted itself to a trusteeship under Western Electric. Arthur Krows, who had worked under Stokes in production after his trail-blazing work on the Yale Chronicles, also left for another job. That left Arnspiger, Brill, and Brodshaug, who called themselves "The Three Musketeers," as remnants of the company's founding. Harry Grubbs, Shumaker's sales manager, had been with some of ERPI's non-educational divisions earlier.

Although the ranks of those who had been with the company since its inception were thinning, in 1936 ERPI Classroom Films began picking up some of the men who were to stay with it for thirty years and more. The first such was Jim Eggert, a youngster hired by Brill, who was an expert on the technical side of film processing and handling. John Walker, who came to production two years later, had worked with Brodshaug as a photographer for the National Parks Service. And Warren Everote, who was to return after World War II when the firm bore the initials E.B.F., freelanced some scripts for ERPI while still a doctoral student at Teachers College. But the newcomer who was to have the greatest impact before, during, and immediately after the war was Dennis Williams.

VII

In 1936 Dennis Williams left his job as school superintendent in an Arkansas school system to join the Civilian Conservation Corps as district educational advisor for Arkansas. At once, and continuing after he shortly became state C.C.C. director, he pioneered in the use of films in the Corps's educational program. He had been approached by a man named Orton Hicks, whose Films, Incorporated rented 16mm reductions of Hollywood films to clubs and institutions for private entertainment. Hicks convinced Williams that he could buy an RCA Animatograph 16mm projector and finance the purchase by showing feature films and charging 10 cents and 15 cents a head. As state director, Williams bought fifty such projectors. Hicks sent him a dozen or so films at a time, which he circulated among his various camps. He actually made a profit on the showings, using the extra money to purchase some strictly educational films from ERPI. He saw particular value in such films in situations like the C.C.C. camps, because while many of his men were illiterate, the elementary school primers were too childish for them. Williams, an educational director, had begun using Sears, Roebuck catalogues as readers. They were illustrated, well written, and of genuine interest; he soon realized that the same things were true of ERPI films.

As a result of such innovations, Williams was well known to Harry Grubbs through the local salesman. At this time ERPI Films were sold by franchised dealers who carried a variety of other equipment and materials, including projection materials of various kinds, mostly produced by other companies but some of which came from

different branches of Western Electric. Grubbs asked Williams if he would like the local salesman's job. Rather than do anything behind his friend's back, Williams attempted to find out whether the latter knew he was to be replaced. He got him into a conversation in which the salesman suddenly began to complain of how it was impossible to sell classroom films and how there would never be a market for them. It turned out that he had not been able even to gross the amount necessary to cover his salary and expenses, which were only $6600. Williams decided to give it a try.

He started off on a nine week tour of the Southwest, leaving his young family at home. He traveled by Pullman, by bus, and by car, carrying with him an entire library of forty ERPI films as well as a heavy projector. To go east or west trains were available, but when he had to go north or south the bus was the only means of transportation. Once he was standing by the side of the road with all his trunks full of films and equipment, and when the bus finally pulled up the driver looked at him with astonishment. "I ain't running no freight line," and he slammed the door in Williams' face. At the end of the long trip the exhausted, frustrated would-be salesman returned home to find his wife fed up with him for leaving her alone so long. Shortly after, a letter arrived from Grubbs reporting the total amount of orders received as a result of Williams' effort: one fifty dollar reel. But by the end of the 1938-39 fiscal year he had sold $66,000, exactly ten times what his predecessor had been able to do.

VIII

Soon Williams joined the main office in New York, where he and Grubbs tackled the central problem in sales: the franchised dealerships. They had first been instituted because ERPI's sales simply were not large enough to support a cadre of independent salesmen. But the franchised dealers presented many problems. In the first place, they never devoted much time or effort to the films because their other products were much better selling and thus more profitable to them. Williams visited one of his dealers once and found the man's children out in the back yard playing with an unwound spool of ERPI film from the demonstration kit. The dealers did not take the films seriously. A second problem was that they lacked the background necessary to sell instructional materials to educators. They had no sense of their audience and very little idea how their products could be used in schools. The best of them were excellent salesmen but even they were limited in what they could do with a strange new product about which every prospect shook his head and said, "Oh, yes, I know they're great, but we just aren't ready for them yet here in Peoria." This was why Williams could outsell any ten of them – not because he was a better salesman, but because he knew what he was talking about.

On the other hand, though the dealers on the whole were selling poorly, some of them were making a lot of money from ERPI. Under their agreements, they received 25% of all sales to schools at which they had demonstrated films. This often led to disputes when two dealers had demonstrated in the same school system, and

Williams had to settle such disputes arbitrarily. The final blow was his discovery that five men were collecting 90% of all the commissions, and that these five were making so much money that they did not even work full time and so did not begin to cover all of their territories. In the city of Chicago, for example, Kirby Ambler had the Board of Education and the University. Paul Cox had a comparable sinecure on the West Coast and a man named Stackhouse had the U.S. Army as a single customer.

The solution, it seemed to Grubbs and his staff, was to give the franchise exclusively to only one dealer in a region. Having films to show would give him a great advantage in selling his projectors, and in return he would be expected to devote as much time to the films as all the other dealers in the region had done, combined. This regional manager system was a first step toward establishing full-time ERPI managers who would have no other products to sell but the films. It was greeted with something less than joy by the dealers who lost their franchises, but several of the former dealers remained as exclusive regional dealers.

IX

Harry Grubbs was responsible for the idea that was to revolutionize not only ERPI's sales but that of the whole industry, as smaller companies quickly followed his lead. Realizing that a film library costing $5000 or so was an expensive proposition for a school system, Grubbs sought to reduce the impact of such a sum by spreading it out over a period of years. The problem was that school boards were not allowed to commit their successors to debts of this kind. The rent-to-own plan solved the dilemma by allowing school systems to rent films on a yearly basis. After paying rent for four or five years the system automatically owned the films. Thus if a superintendent were not satisfied with the films after a year's time he could simply return them. He had used them and paid for them for a year. Nearly all customers, of course, completed the payment and bought the films. Gradually the purchase of films under the rent-to-own plan mushroomed; the more teachers used the materials the more they wanted to use others from ERPI. Film budgets were increased until it became simpler just to buy individual films outright. But the rent-to-own plan remained an important means of purchasing larger packages of films.

Dennis Williams soon engineered a further twist. In Minnesota in 1939 he got thirty school districts to buy three films each on the rent-to-own plan. Each school paid $50 a year for three years and obtained the use of 90 films stored in a cooperative film library. He got a teachers' college to handle the distribution of the films as they were needed, in return for which the college got to use the films free. The cooperative soon became a well established institution all over the country, in some cases holding a formal position within the state education department and in other cases operating at the instigation of private colleges or individual school systems. Always the most important factor in setting up a cooperative was the transportation available between members – thus, in the Great Plains, thirty of forty participating school districts were

often ranged along a narrow east-west strip corresponding to the railroad. But everywhere there was some means of bringing together enough customers to make the cooperative film library possible. Sales began picking up almost at once, and by the beginning of World War II the annual volume exceeded $300,000.

X

Paul Mort used to say that it took an idea fifty years after the educators accepted it in principle before they accepted it in practice. When historians of education some day take the long retrospective view of the audio-visual movement, they will have to conclude that World War II considerably accelerated the practical realization of the principle that classroom films were a necessary tool in the teaching process. For Army planners, free of the inertia of educators and unencumbered by tight budgets, overnight created the largest library of training films ever assembled. Before they were through they had changed both the character of the educational film itself and the receptivity of the market.

The Signal Corps, with headquarters in New York, drafted the best Hollywood writers, producers, and technicians, along with several of ERPI's younger crew, to set up studios and begin the immediate production of training films. Arnspiger, Brill, and Brodshaug, all over forty, worked part time for the Signal Corps as civilians. Brill and Brodshaug helped produce electronics films for which ERPI had an Army contract, Clyde Arnspiger taught a mixed group of Hollywood writers and Army personnel, in a special class devoted to the particulars of educational script-writing. At first the class was bitterly divided, with no apparent hope of adjusting either the Hollywood formula, flashy and cute, or the ERPI formula, dull and dry. But eventually both the ERPI formula and the Hollywood formula prospered by the alliance. For the first time in audio-visual history, the Army films used background music, anathema to traditional educators, and as many filmmakers had predicted the music turned out to increase rather than interfere with attention to the relevant features of the lesson. Both the technical training films and the propaganda productions were systematically analyzed, and their effectiveness was tested by Army psychologists. After the war, the published report of their research represented a significant step forward in the development of techniques for evaluating the impact of such instructional materials.[2]

The most amazing aspect of the Signal Corps' work was its ability to distribute all its films rapidly to wherever they were needed, to train instructors in their use and to set up audio-visual centers on short notice all over the world. Dennis Williams had a leading role in establishing this system, first in the Eighth Service Command where he set up a regional and district distribution system, and later overseas. In the theaters

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2 Experiments on Mass Communication, Vol. III of Studies in Social Psychology in World War II. Princeton, Princeton University Press, 1949.

of war, the Army found, films like Sex Hygiene and morale-boosting propaganda films were even more necessary than in boot camp. So Williams created mobile audio-visual units that could be set up in a matter of hours wherever a fairly permanent base was established. The result was that 15,000,000 men returned home after the war with a keen sense of what instructional films could do – and some of them had also been trained in their use. Many of these veterans became teachers. Others were active parents, school administrators, state legislators, even Congressmen. They did not need to be convinced that films were a good way to learn. Nor were they suspicious of such things as music and cartoon characters in classroom films. As these men grew to hold positions of responsibility in American education, the audio-visual movement gradually acquired permanence and acceptability everywhere.

XI

When Everote, Walker, Williams, and the other former ERPI staffers who had been drafted returned to the company after the war, they found it had acquired a new name and a new owner. AT&T had finally found an appropriate means of disposing of its prodigy. Although Arthur Page had begun talks with William Benton in 1937, when the University of Chicago vice-president had become enthusiastic about ERPI's potential, Benton at that time was unable to help. But in the scheme which he developed at that time, he anticipated the type of corporate structure to which the Bell System would finally be able, six years later, to sell ERPI Classroom Films without fear of irresponsible lowering of the standards the company had created.

Benton had realized immediately that the University's prestige could be greatly enhanced by its further participation in the production of classroom films in the public service. He was also convinced that the audio-visual movement would eventually be a profitable enterprise if some foundation were willing to stay with it long enough – and it was very important that ERPI escape from the limitations placed upon its production staff by the Bell System's reluctance to enter the field of social science. He regarded the educational establishment's failure to embrace classroom films immediately as a challenge to creative salesmanship and courageous leadership – which latter quality he believed the University faculty could provide. Benton felt that ERPI's work up to that time had already indicated the validity of something he had sensed when he first pioneered in radio advertising – that broadcasting and the use of new technologt offered American education a world of opportunity that was still unexplored. For all these reasons he continued to plan ways of bringing ERPI and the University together in a permanent way. His report on the University's public relations had dealt with ERPI in general and mentioned that the industrial engineering firm of Ford, Bacon, and Davis had surveyed ERPI's assets and business potentialities. He next obtained a copy of that survey, and began to draw up an outline for a prospective corporation. Working closely with him were President

Hutchins; Beardsley Ruml, who had brought ERPI and Chicago together in 1932; President Ernest Hopkins of Dartmouth, a member of the Rockefeller Foundation's General Education Board; Wallace Harrison, the distinguished architect who later designed the United Nations headquarters; and Nelson and Laurance Rockefeller. Their plan was to get the General Education Board to finance the establishment of a corporation headed by a board representing the universities involved, the educational establishment, progressive leaders in education, and the Rockefeller Foundation. It would be modeled in some respects on the successful Rockefeller endowed corporation which had established Parents' Magazine. Benton wrote a concise 6,000 word memorandum signed by Hutchins, Hopkins, and Nelson Rockefeller.

The Board deliberated carefully, even arranging a screening of some ERPI films. It turned out that the Ford, Bacon, and Davis report had been paid for by Nelson and Laurance Rockefeller. But their father, John D. Rockefeller, Jr. did not want to invest in a venture that would connect the Rockefeller name with selling products to schools. The General Education Board agreed with him. It turned down the proposal.

Undaunted, Benton then turned to another close friend from his undergraduate days at Yale, Henry R. Luce. He suggested to Luce that Time, Inc. and Benton himself might purchase ERPI Classroom Films. Luce was intrigued, but at the advice of his treasurer he, too, decided against the plan. Benton had to put aside the idea temporarily. During the next six years he was busy with other things: half his time was still devoted to the University; he bought the Muzak Corporation and built it up to a large and prosperous firm; and he was one of the founders of a group which later became the Committee for Economic Development. And beginning in 1941, he devoted himself to the task of helping the University acquire the Encyclopaedia Britannica.

XII

"Vice-president Benton," Hutchins said in a speech to the faculty when the gift from Sears, Roebuck was announced, "has been the victim of his own propaganda." For more than a year Benton had been talking – first persuading General Robert E. Wood that Sears, Roebuck should give the prestigious encyclopaedia to the University, and then persuading the Board of Trustees, headed by meat magnate Harold Swift, that they ought to put up the money for working capital. Wood was willing because the book needed a new edition – a costly venture – and because his firm stood high in the excess-profits tax brackets. But the Board was unwilling to take the risk, and eventually Benton succumbed to his own persuasive arguments – he put up the working capital himself, assumed the risk and promised to head the company personally. The University was to get royalties on sales and in addition would have the option of buying a controlling interest in the company at a later date. On January 14, 1943 a special committee of the Board of Trustees recommended that

Benton's proposal be accepted "because of a) the educational merit of Britannica, b) the possibility that the property may continue to earn substantial profits, and c) the prestige value of Britannica." By February 1 the official contracts were signed.

Soon after he assumed the chairmanship of the Encyclopaedia Britannica's Board – and began to assemble the distinguished Board of Directors for which the company has since been famous – Benton again became interested in classroom films. Arthur Page let him know that ERPI was still available. "We would regard the Britannica under the University's aegis as an ideal buyer," he said. Benton began negotiations with Kennedy Stevenson, financial vice-president of Western Electric. Because Encyclopaedia Britannica, Inc. had no liquid assets, complex arrangements had to be worked out under which the company would pay AT&T $1,000,000 over the next decade. Benton told the University's Board of Trustees that he considered the purchase a bargain. "Although sales are now only about $300,000 annually," he said, "and although you shouldn't expect to see this subsidiary move out of the red for another ten years at least, Encyclopaedia Britannica Films has build up the largest library of classroom films in the world. It is an established leader in the field which will one day repay many times the investment we intend to make in it over the course of this decade." The film company acquired its new owner and its new name on November 25, 1943 – exactly fifteen years (almost to the very day) after John Otterson announced his plan to bring talkies into the schools.

Chapter Three: William Benton,3 Encyclopedia Britannica Films

Early Years 1943-1958

(chapters 3 and 4 of the company history have not been transcribed in digital form)

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