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Introduction: The Uncertainty of Sound

The serious problem of injecting sound into the now silent drama is in the offing. What producers will do in this regard, of course, is an unknown factor.

MAURICE KANN, *Film Daily*, 2 APRIL 1928

Silent and Sound cinema. Few demarcations are so sharply drawn, so elegantly opposed, so pristinely binary. In the movies, sound is either off or on. Everyday conversation, reference books, shelving in video stores, college film courses and their textbooks, film rental catalogs, and festivals are organized around this fundamental rift in the history of the medium. Over the years the story of the transition from silence to talking has been retold so many times that it has become a kind of urban legend. Everyone just knows it to be true. The components of the popular retelling of sound always represent it as a dividing line between the Old and New Hollywood. In no small part, this is a matter of rhetorical convention. Sound divides the movies with the assuredness of biblical duality. The emphasis often is on the effects of sound on individual actors—the great lover whose career was wrecked by a squeaky voice. The transition was also inevitable: sound was something that cinema lacked, and sooner or later it would have to be added. Unfortunately, in the process, the Art of the Silent Film was destroyed. So goes the legend.

An exemplary account representing the talkies as a sudden shift was written by the music critic Deems Taylor (remembered as the narrator of Disney's FANTASIA [1940]):

> It was in the late summer [of 1927] that the blow fell. A new contraption had been peddled around the studios, a device for producing pictures that talked, by means of a wax recording of the actors' voices, synchronized with the film projector. But the well-established producers did not fall for any such newfangled nonsense; besides, the cost of wiring all the theaters for sound would be prohibitive. It remained for the comparatively obscure and financially worried Warner Brothers to take a chance on the new process, which they named Vitaphone. They hired Al Jolson, one of the most popular musical stars of the day, selected a maudlin play entitled *The Jazz Singer,* and went to work. . . . *The Jazz Singer* [1927] out to be a box-office gold

> mine that made over two million dollars for the Warners and set them on their feet financially. It made a movie star out of Jolson. But above all, it turned the film industry topsy-turvy and consigned the silent picture to the scrap heap. (Deems Taylor, *A Pictorial History of the Movies* [New York: Simon and Schuster, 1943], pp. 201–2)

Like so much of the writing about the conversion to sound, Taylor emphasizes its divisiveness. Before THE JAZZ SINGER, sound was only a dream; after the "revolution," Hollywood was rocked by the hasty conversion to "all-talking, all-singing, all-dancing." This shattering of the past became the central motif—and the title—of Alexander Walker's book:

> There has been no revolution like it. It passed with such breakneck speed, at such inflationary cost, with such ruthless self-interest, that a whole art form was sundered and consigned to history almost before anyone could count the cost in economic terms or guess the consequences in human ones—and certainly before anyone could keep an adequate record of it. There has never been such a lightning retooling of an entire industry—even wartime emergencies were slower—nor such a wholesale transformation in the shape and acceptance of new forms of mass entertainment. . . . The shape and especially the sound of cinema movies today was decided during those few years. Not in any cool-headed, rational fashion: but amidst unbelievable confusion, stupidity, accident, ambition and greed. (Alexander Walker, *The Shattered Silents: How the Talkies Came to Stay* [New York: William Morrow, 1979], p. vii)

A second component of the popular view of the coming of sound centers on the disruption of the lives of the stars. For most people, Hollywood and glamorous movie stars are synonymous. When Hollywood represented the change to sound in the revered musical SINGIN' IN THE RAIN (1952), directed by Gene Kelly and Stanley Donen, it produced a wonderful piece of nostalgic entertainment that, on more than one occasion, has been shown in film history classes as a kind of documentary. In fairness, the film may be slightly more accurate than most Hollywood historical treatments. And rightly so, since its producer, Arthur Freed, had, as they say, "been there, done that." As a young lyricist, Freed was hired by Irving Thalberg at MGM in 1929. He wrote the words to, among a hundred other songs, "Singin' in the Rain," featured in two early musicals. The 1952 production was a cinematic roman à clef layered by the writers Betty Comden and Adolf Green with the patina of romance. Movie star Don (Kelly) reminisces for his fans at the gala premiere of his latest vehicle, THE DANCING CAVALIER. His costar and rumored fiancée, Lina (Jean Hagen), is strangely silent. Through a flashback, we see the "truth" about the matinee idol. He and his partner Cosmo (Donald O'Connor) arrive in Hollywood as vaudevillians and eke out a living playing mood music for the actors filming silent movie scenes. Don eventually becomes a John Gilbert–like screen lover, perpetually cast with the Greta Garbo–like siren Lina. Cosmo becomes head of Monumental Pictures' music department. In the middle of a filming session, the studio head rushes in to halt the take. THE JAZZ SINGER is a hit; there will be no more silents. Lina, we learn, is not only stupid and vindictive, she has a voice like a chain saw. But she controls the studio's sound policy because of her all-powerful stardom. Meanwhile, Don

has fallen in love with Kathy Selden (Debbie Reynolds), a showgirl who is everything Lina is not. She is bright, spunky, and independent, has a golden voice, and can she dance! The sneak preview of Monumental's first all-talkie, THE DANCING CAVALIER, is disastrous. The audience hoots at Lina's diction, laughs at Don's passionate "I love you, I love you, I love you," and howls at the technical blunders, especially when the film and its record go out of synchronization. In an inspired all-night skull session (broken up by a song-and-dance number), Don, Cosmo, and Kathy decide to try naturalistic acting, jettison melodrama, and add music and dance. They also invent techniques which would be used in the talkies: voice-doubling and dubbing (Kathy will substitute her voice for Lina's) and pre-recorded playback. Lina finds out and threatens to block Kathy's career as a star in her own right, but when Don, Cosmo, and the studio head expose Lina as a fraud at the Chinese Theater, the coast is cleared for Don and Kathy's costardom in the movies, paralleling their union in private life.

In the best classical manner of the history film or the biopic, the film weaves a tapestry of fact, fantasy, and character development. It creates the illusion that, though the events happening before our eyes are fictional, the underlying factual basis is real. Thus, for the historian of the talkies, SINGIN' IN THE RAIN hovers in the distance as a ghost. It is the return of a repressed idea that the transition to sound was *really* about the division between Old and New Hollywood. The timing in the 1950s could hardly have been coincidental. The motion picture industry was recovering from a major economic realignment—the 1948 consent decrees which required the studios to divest themselves of the theater holdings they had acquired during the late 1920s. Hollywood was also alarmed by the growing popularity and affordability of television, so what better subject than a film about coping with the threat of new technology? As Hollywood had survived the earlier revolution, analogously, it could weather the onslaught of television. This is the story of sound told the way Hollywood wanted it told—a crisis with a happy ending. Of course, in SINGIN' IN THE RAIN there are no pesky trade unions, no Actors Equity strikes, no mention of William Fox's ruin, nor of a thousand lawsuits. . . .

The talkies succeeded silents because that's how nature is. Little seeds grow into oaks. The inevitability of sound as an organic metaphor pervades much popular writing. One of the most striking examples is in the aptly named *The Film Finds Its Tongue,* which describes how Sam Warner and a technician became fascinated with sound film by way of radio: "They spent hours poring over the mysteries of vacuum tubes, amplifiers, microphones, monitors, loud speakers. *They were scrutinizing the embryonic ganglia of the Talkies!*"[1] The image connotes an electrical device that will eventually grow into something simulating the human nervous system.

It is difficult to think of a more profound discrepancy between popular and academic discourse on a subject than that which currently exists with regard to movie sound. In the 1970s and 1980s, several historians began emphasizing film as an industrial *system* whose parts have specific relationships. When changes occur, they are harmonious. Instead of confusion and hotheadedness, analysts, led by Douglas Gomery, evaluated changing Hollywood as a macroeconomic structure and found deliberateness and rationality. The transition was driven by the dominant studios' need to respond to competition from the outsiders Warners and Fox. Their one-two punch of physical expansion and experimentation with sound threatened to disrupt the major studios' established oligopoly. The industry responded according to a classic paradigm consisting of three phases. "Invention" covers the development of the synch-sound apparatus up to 1925, when Warner Bros. became interested in exploiting it as Vitaphone. "Innovation"

includes the period when Vitaphone, Fox, and the "Big Five" studios defined various ways of applying sound. This phase ended in 1928 when the majors decided together to commit themselves to sound. "Diffusion" was the coordinated dissemination of sound domestically and abroad according to mutually beneficial terms dictated by the studios. This phase also included the swift wiring of theaters. Gomery constantly emphasizes the majors' rational handling of the transition and concludes, "It was a gradual *evolution,* not a rapid revolution or panic. The majors did *not* rush into the production of talkies. They preplanned each step. . . . The changeover . . . was not chaotic, confused or filled with conjecture. In retrospect it was accomplished with little turmoil and saw all the majors *increase,* not lose, both profits and power."[2]

One of the lessons from recent research that informs this book is that the boundaries dividing Hollywood "before" and "after" sound were not so clear-cut. In fact, there is no unanticipated landmark event or watershed film which separates the golden age of silents from the modern age of the talkies. The transition was years in the making and in the finishing. While Warner Bros. played a crucial role in innovating sound, other corporations—Western Electric, RCA, De Forest Phonofilm, and Fox Films—were also spearheading the change. The central position of Jolson and THE JAZZ SINGER in Taylor's retelling is absolutely typical, but the claim that this movie was the genesis of sound cinema cannot withstand scrutiny. And the motion picture industry did not turn topsy-turvy because of the talkies. No studios closed on account of the coming of sound; most increased their profits. Many theaters did go out of business during the time of the changeover, but whether these closures can be ascribed solely to the talkies is doubtful. There were abundant outside economic factors (radio listening and automobile driving are two obvious ones). For those theaters that made the switch, 1929 and 1930 were record-setting years for film attendance. The Depression caused the studios to scale back and theaters to close. But by 1931 sound production had been standardized and projection practice was again routine.

This book emphasizes the longevity—not the suddenness—of the transition to sound. Instead of focusing on one personality, event, studio, or single strand of technological development, I address several interlaced aspects of film production, reception, and, to a lesser extent, distribution. The interpretations espoused by Taylor, Walker, and the "Freed unit" provide a good story, but like so many narratives of film history, they succeed by drastically simplifying and reshaping the subject according to preconceived notions. Competing readings have been sheared off. Making sound violently revolutionary displaces the hidden violence of the historical method that produced the illusion of a clean break with the past.

Like much of our general knowledge about Hollywood, the concept of a dividing line between antediluvian silent cinema and the *modern* talkies was coscripted by the industry and the media. RCA in particular—but the other manufacturers were complicit, too—advertised its technology as the avatar of a New Era. Sound film was associated with the "coming" (in the Messianic sense) of the next millennium. "It was the dawn of a new era in amusement," wrote Green about the advent. "In this year, 1929, the talkie is here, and here for the rest of the century."[3] With an eye already on the end of the 1990s, the promoters of sound represented their devices as a total break with the past, as represented not only by silent movies but by the whole universe of pre-electrical communication.

This book portrays the transition to sound as partly rational and partly confused. In this respect, my argument departs somewhat from the revisionist accounts, which stress

the systematic nature of developments in film. (Is there such a thing as "surrevisionism"?) While I do not object to the "big picture" approach, my own research slightly shifts the central issue. Certainly the studios had a strategy for change. They wished to hold their markets, remain competitive, and maximize profits. But the devil was in the details. They also had to reduce risk. It would be more accurate to argue that the studios *tried* to develop a proactive approach to the transition to sound but more often responded retroactively. They developed a coordinated master plan, then scrambled to contain the disruption of the talkies on an ad hoc basis.

Symptomatic of the newer academic treatment of sound is the rejection of history told as the exploits of business geniuses, or of individual stars, like Jolson. We now see these movers and shakers as cogs in the larger system. More attention is directed to film form and style. David Bordwell's short but persuasive chapter in *The Classical Hollywood Cinema* was a linchpin in his and his coauthors' argument that the sound transition epitomized Hollywood's limitless resiliency and capacity to absorb technical or economic challenges. Far from disrupting traditional practice, the talkies made it even more entrenched. "By 1933," Bordwell maintains, "shooting a sound film came to mean shooting a silent film with sound."[4] Preserving dialogue-film style reined in certain nonclassical tendencies which sound introduced. Techniques were modified to make them more amenable to creating a talking simulacrum of what had been lost. The effort to contain sound was emblematic of the industry's need for production efficiency and equilibrium and is mirrored in the microcosm of film style. Again, I cannot disagree. Repeatedly, one finds Hollywood technicians conversing about the need to "return to silents" and, after 1930, making rather smug pronouncements that they had more or less accomplished that goal.

One element missing from these approaches is the film audience. A model proposed by Rick Altman includes viewers in the calculus. In his theorizing of early sound, the individual film is not a text but an "event" which he likens to "the pinhole at the center of an hourglass."[5] The two volumes of the glass represent the work of production and the process of reception. Traffic between the halves is two-way, with reception and production eventually feeding back into each other. This model avoids channeling films into preset textual meanings and analyzing them as lapidary works. Altman writes,

> Conceived as a series of events, cinema reveals rather than dissimulates its material existence. From the complexity of its financing and production to the diversity of its exhibition, cinema must be considered in terms of the material resources that it engages. From the standpoint of sound, this is of capital importance, for it removes cinema from the customary, purely visual definition. As a material product, cinema quickly reveals the location and nature of its sound track(s), the technology used to produce them, the apparatus necessary for reproduction, and the physical relationship between loudspeakers, spectators, and their physical surroundings. Such an approach encourages us to move past the imaginary space of the screen to the spaces and sounds with which cinema must compete—the kids in the front rows, the air conditioner hum, the lobby cash register, the competing sound track in the adjacent multiplex theater, passing traffic, and a hundred other sounds that are not part of the text as such, but constitute an important component of cinema's social materiality. (Rick Altman, ed., *Sound Theory/Sound Practice* [New York: Routledge, 1992], p. 6)

These manifold conditions of spectatorship would include the audience's attitudes and preferences. But these were not documented at the time. Of course, there are many people living who recall their first experiences attending sound films. Northeast Historic Film conducted a survey in 1990–1991 and asked, "Do you remember your first sound picture?" and, "What did you think about the change?" THE JAZZ SINGER, SONNY BOY (1929), SEVENTH HEAVEN (1927), and WINGS (1927) were mentioned. (The last two titles were released only with synchronized music.) Though most responses were limited to a word or two, every one of the thirty or so who answered gave the sound film a positive review. They "loved it" and described the change as "great," "more real," and "miraculous." Some of the memories were quite specific, especially concerning the emotions elicited by Jolson's films ("Strong men cried"). One person recalled the competition among theaters in her small town ("Whoever had sound got the most people"). Another described the experience of seeing and hearing a film in 1928: "The star was Conrad Nagel, and the 'talking' was of one *partial* duration—not for the whole picture. Spooky—hollow sounding voices—larger than life and ghostly! But fascinating."[6]
Oral histories and recollections are valuable testimonies about the impact of sound on specific individuals, but they are necessarily limited by the representative validity of their small sample size, lack of controls, and, of course, subjectivity due to inevitable loss and embroidery as memories become more distant. Any account of the film audience (the plurality and diversity of its components are understood) must be a compromise. Is the materiality of reception an attainable ideal? Or is it always a wild card?

My emphasis in this book is more on end-use than on production. There is, perhaps, one form of documentation, the exhibitors' trade news, which provides a roundabout clue to how audiences in general received the talkies. Whereas the foremost trade publication, *Variety,* tried to present a broad view of the entertainment field, its coverage was diversified among theatrical, vaudeville, and film production. *Moving Picture World* (which had merged with *Exhibitor's Herald*), *Harrison's Reports,* and *Film Daily,* however, addressed the concerns of theater managers. The last, a daily newspaper, cultivated links with exhibitors and responded to their concerns. Of course, it paraphrased studio press releases, just as the other trades did, but its editors also spoke up for the interests of its primary readership. Maurice "Red" Kann especially was an impassioned promoter of the sound film, believing it had the potential to bring entertainment to hitherto untapped audiences, and riches to his subscriber-exhibitors. *Film Daily*'s reviewers gave (allegedly—I have not been able to dispute this) objective reactions to the current films. Unlike other journalists who attended special press previews, the paper made a big deal of going to the movies with "ordinary" folks (though, practically, its reviewers appear to have restricted themselves to the Broadway entertainment district). Unlike *Harrison's Reports,* a reviewing service that advised independent managers on the profitability of new releases, *Film Daily* was an outlet for wide-ranging issues affecting the business, protocol, and politics of showing movies. While its pages do not put us in the audience, they do give us a view of the coming of sound from the perspective of the exhibitor and his or her constituencies.

Audience involvement in film is far from systematic. I picture the industry as engaging with active but unpredictable consumers, trying to divine their entertainment desires. The films of this period are more like tests than texts. Rather than seeing Hollywood as a manufacturer planning for a rational changeover (the way Detroit retooled from one make of auto to the next), I prefer the analogy of the noisy bazaar. Eager customers were shouting for a new item, and the vendors were having difficulty

Movie crowd as a bazaar. Premiere of BULLDOG DRUMMOND *(United Artists), May 1929.*

keeping up with demand. The crowd clamored for some articles (for example, the filmed revue) but quickly changed its mind, leaving the supplier overstocked. Other goods (gangster films with charismatic stars) were in short supply. Hollywood, like the canniest and most prosperous merchant in the bazaar, tried to hedge by covering all the positions, anticipating future demand, and trying to satisfy everyone (thus offering a great diversity of films and genres during the transition). It was probably audiences' tastes that pushed Hollywood, not to establish an alternate style of filmmaking, but to modify traditional silent practices.

Quickly the industry and film styles assimilated sound and settled down. But the way Hollywood achieved its goal of containing sound in 1931 was not at all what had been envisioned in the master plans of 1925–1929. Foremost, the introduction of sound set off or exacerbated various struggles for control over the new technology, film distribution, production and exhibition practice, social control of spoken language, and economic control of labor and the audience. Some of these contests ended definitively; others are still unresolved.

I also stress the effects of the international business depression on the changeover. After 1930 consumers could or would not spend their dwindling resources on the movies the way they did in the twenties. Though the pressure of standardization was always present in Hollywood, it was hard times—that is, lost admission revenue—that definitively forced the industry to limit its diverse, hedging approach to technology.

Producers abandoned technical experiments (like widescreen and 3-D), adopted industrywide technical norms, concentrated on moneymaking genres, and decided on a uniform foreign distribution strategy. The economic contraction blunted the struggle for control by forcing Hollywood further into noncompetition and product uniformity.

The transition to sound cinema was not the paroxysm which the industry itself and popular writers describe, but it was a complicated and messy business, owing in no small part to the vicissitudes of mass audiences. In this account, I try to preserve the tentativeness and uncertainty of the events, and the complexity of the industrial and cultural relations. In many ways, this history of these struggles for dominance is more engaging than the romantic version in SINGIN' IN THE RAIN. There are tales of brilliant but eccentric inventors, naked corporate avarice, stars ruined and restored, the race against competitors to wire theaters, violent labor strife, international cultural imperialism, the climax of the Crash, and the denouement of the Depression. But there are also a lot of loose ends and unknown factors in this story. At the time when sound was introduced, it was not clear whether it was important or whether it would be permanent. The steps necessary to implement it and what its place in the theater program should be were still open questions.

What you are about to read is organized as discussions of the negotiations and struggles for power over this new technology. I have not structured the book as a strict linear narrative (although chronology has been preserved as much as possible in each discussion for clarity), but as chapters with overlapping temporal frames. The progression, then, is not from one constituent phase of evolution to the next (link to link), but rather from general issues to more specific ones. Part 1 introduces the electrical aura in which film sound was first surrounded. In Part 2, I focus on how producers incorporated sound in particular films during the three release seasons of the transition, from mid-1928 through the spring of 1931. Part 3 examines particular aspects of the popular reception of the talkies. My history, perhaps archly, closes where many accounts of film sound begin—with a case study of THE JAZZ SINGER.

But first, here is a chronology which will provide the temporal context for these discussions.

American Cinema's Transition to Sound: An Overview

Metaphorically speaking, sound did not arrive in town all at once like an express train. It came gradually, in little crates, over a period of more than ten years. Some shipments came unsolicited, many came "on approval," and some left the factory but never arrived at their destination. In other words, the concept of synchronizing music, noises ("effects"), and speech did not take producers by surprise in the late 1920s. True, there was a shortage of equipment, and physically installing it in theaters required putting in overtime. This bottleneck was caused by everyone converting at once after the studios decided that the box-office response was strong enough to justify the investment. This was no revolution; it was an ordinary supply problem. It had come about because one supplier, Western Electric, and one studio, Warner Bros. (through its Vitaphone subsidiary), had tried to be the technology's gatekeepers.

When the first films began appearing, the uniqueness of sound was sufficient to bring in the public. *Photoplay,* for example, urged readers to check out THE FAMILY PICNIC

(1928) precisely because it turned everyday noises into novelty: "The reel proves that natural lines, without any attempt to be literary or dramatic, are effective just because they are natural. And ordinary noises—a stalled engine or the honking of horns—are funny because they are so completely true to life. So see this picture, just as a novelty and just to find out what Movietone can do."[7] But soon the box office favored certain types of sound films and punished others. Moviegoers judged the talkies, stars, and stories according to their own standards. More than one commentator characterized the public as "shopping around." The times tested the most successful studio heads' talent for second-guessing audiences and learning from mistakes. Trial and error describes these first sound productions: the part-talkie, the courtroom drama, the musical revue, the vaudeville comedy, the Metropolitan Opera, and the Western were attempts by Hollywood to determine what kind of sound film the public really wanted.

The 1920s

It was always known that Edison's film laboratory had experimented with linking the motion picture film to the phonograph. Serious demonstrations of workable systems by various inventors had been made at least since 1906. None had succeeded. But after World War I there was a great boom in electrical research and a new attitude toward technology: increasingly researchers linked applications across a broad network rather than continue to "perfect" individual devices along a single trajectory. A representative of Electrical Research Products, Inc. (ERPI), the company responsible for furnishing sound equipment to the studios and installing reproducing devices in theaters, observed in 1929 that "the 'talkie' as we know it did not descend from the attempts of the early inventors to produce talking motion pictures; it came down through a number of other sciences and devices, and owes almost nothing to the earlier attempts in the talkie art."[8] These parallel areas of research included public address, phonography, telephony, radio, and miscellaneous electrical devices (like electromagnets). Many of these apparatuses continued (and still continue) to evolve in directions that had nothing to do with cinema. But some applications were adapted for the movies.

Most efforts to synchronize sound and image either did not make it out of the lab or failed to win approval because they did not work. The illusion that a voice is emanating from a person on-screen is very fragile. The tolerance is less than one frame of projection time, a standard difficult to maintain for the duration of a ten-minute reel. For twenty years most inventors tinkered with phonograph discs as the sound medium, but a few were working with the expedient of photographically recording on film (either on a separate strip of film or as a track exposed next to the pictures).

As important as synchronization was, amplifying the recorded sound to fill a 1920s movie palace was an even greater challenge. This technology was held in the grip of RCA and Western Electric, which, in 1926, cross-licensed each other's amplification patents. Using state-of-the-art vacuum tube amplifiers, movie sound, whether recorded on disc or film, could boom into the auditorium of the biggest Bijou. The trick was to control that power, a task for which acoustic engineering, a new specialty, was created.

In the twenties few in the workshops and corporate research labs dreamed of "revolutionizing" silent Hollywood by making commercial movies talk. More typically, the inventors extended existing electrical systems. They used moving pictures to stake their claims on developing communication media, especially telephone and the hot area, radio. Thus, during the period of concentrated development in the mid-1920s, the elec-

tronics pioneer Lee de Forest saw sound cinema as an area into which he could expand his rights to exploit the vacuum tube. At the same time, the executives of Western Electric (the manufacturing branch of AT&T) and, later, RCA (controlled by AT&T's rivals General Electric and Westinghouse) were seeking more diversity for their existing sound-recording patents. The leaders looked to the movies.

In 1925 there were no takers in the film industry for Western Electric's working sound movie system. Even the Warner brothers, soon to become talking-picture pioneers, approached the sound device hesitantly. At first they vaguely saw it as an adjunct to their fledgling radio business, then as a gimmick to spice up silent film programs, then as a money-saving (and union-busting) alternative to the pit orchestra in small towns. Instead of innovating toward a specific goal, the manufacturers of the equipment had no concrete application in mind, and the movie company was not certain which of several directions to take. The scheme settled on was to circulate silent features with "canned" musical accompaniment, along with filmed performances by name entertainers from the New York stage, opera, and high-class vaudeville. These were replacements for the live "presentation acts" of the big picture palaces.

Film consumers were aware of these acoustic experiments because the competing manufacturers were eager to associate their sound film equipment with progressive science. There were articles in mass-circulated magazines and "popular science" journals that represented sound film as an electrical marvel and an inevitable stage of civilization. AT&T promoted movie sound as an improvement on the telephone; General Electric pushed it as an extension of radio. Did these strategies create an aura of electrical wonder and mystification, or were they efforts to exploit the populace's existing predisposition to sanction electrical engineering as modern? Probably *both* conditions prevailed. During the late 1920s, a climate of acceptance was nurtured by fast-breaking developments in electronic (what was then called thermionic) technology. The public was curious and appreciative and welcomed the talkies as a new form of *electrical* entertainment.

Though the Warner Bros.' decision to invest millions in Western Electric's apparatus appears risky in retrospect, the initiative coincided with a go-go period of corporate expansion. We all know about the bull market in stocks in the 1920s. From 1920 through 1929, equities averaged an annual return of 13.86 percent, almost twice that of the previous two decades. But less well known is the rally in bonds. The market returned an average annual yield of 8.16 percent for the decade, compared to .97 percent annually for the period 1900–1919. This increase indicated a demand for corporate debt of unprecedented magnitude.[9] Like other businesses, movie companies were borrowing heavily to finance growth on many fronts (including mergers to acquire and build studio facilities, theater outlets purchased in bulk, and positions in broadcasting). Though the Warners' venture in *sound* was unusual, highly leveraged diversification and expansion were standard business practices. It is true that the Warner brothers were gamblers, but they rolled the dice under the watchful eye of Wall Street financiers who carefully calculated the potential risks and rewards.

1926

Warner Bros. was hopeful that Western Electric's sound system (and the prestige of being associated with AT&T) would yield immediate payback if the public response to its sound experiments was favorable. The company formed the Vitaphone partnership with Western Electric in April with the dual purpose of producing and distributing

sound films and sublicensing recorders to the other Hollywood studios. An unreleased big-budget silent feature, DON JUAN, was retrofitted with a score and loosely synchronized sound effects. The plan was to construct an all-sound film program which would generate public excitement as a media event in its own right and attract the investment of Hollywood's Big Five companies.

While these preparations were being made, Fox Film, another second-tier producer, bought the rights to a sound-on-film system which had been developed by Theodore Case in de Forest's laboratory. Chief executive William Fox had an even less well defined mission for sound; for the time being, he would do whatever Warners did. His investment initially was speculative—a bet that, if sound took off, he would have a part in it.

The DON JUAN show premiered in August 1926 and surpassed all expectations as a box-office hit and a critical success. A second synchronized feature, THE BETTER 'OLE, opened in October. Again attendance was good and critics raved. The short subjects were especially well received. George Jessel re-created his stage routine, and Al Jolson, on film, addressed the audience and sang. For the first time, Warner Bros. publicity began to hint that the Vitaphone system would be used for regular speech and singing in a feature, in addition to canned music. Around this time an idea congealed and was readily absorbed by the public: sound film technology could do for theater and vaudeville what radio and the telephone were doing. It could transmit performances from the entertainment capital, New York, to local theaters. The popular press enthused about the new sound shorts, willingly suspending disbelief and writing as though the performances were unfolding in the space of the theater. Perhaps self-serving, the film producers cultivated a democratic ideology to rationalize sound. Warners, Fox, and RCA (just beginning to exploit GE's film patents) also suggested that the sound film was a simulacrum of an in-person appearance (a premonition of the "Is it live or is it Memorex?" advertising campaign of the 1990s). I call this effect "virtual Broadway." The end-user, like his or her counterpart in modern virtual reality games, imagined that new technology could envelope the viewer in believable real space and time.

Other executives, William Fox and Paramount's Adolph Zukor, did take an interest in Vitaphone—not to take out petty sublicenses but to buy the company. The Vitaphone officers, however, held out for big stakes. In December 1926, the major studios agreed informally to act as one on the sound issue. They would boycott Vitaphone, encourage RCA to develop its competing device, and squelch internal competition by all promising to license the same system. The plan might strike us as illegal collusion and restraint of trade, but in the 1920s it was condoned as associationism, the practice of businesses banding together to share knowledge, limit competition, and combine their resources for greater economic power.

1927

William Fox would not wait. In January he signed with Western Electric and cross-licensed the patents he controlled in order to continue developing his system, which he called Movietone. Fox needed access to amplifiers, the phone company's manufacturing capability, and its installation expertise. His New York studio competed directly with Vitaphone, producing a series of filmed vaudeville shorts and silent features with added synchronized music tracks. Sound-on-film Movietone was much more mobile than the Vitaphone disc system. Fox pressed this advantage by filming outdoors. Scenes of marching West Point cadets and, especially, of Charles Lindbergh's historic transatlantic

flight takeoff were greeted with keen public interest. Fox's staff thought of a new use for sound: tying it to the existing newsreel as an extra bonus. The earliest sound newsreels resembled radio. There were addresses by public figures and scenes which exploited synch-sound for its own sake. Live-recorded sound gave the impression of "being-thereness" to the news.

AT&T realized that it had made a tactical mistake in giving Warner Bros. broad licensing rights. It created the Western Electric subsidiary Electrical Research Products, Inc., in January 1927. The Vitaphone corporation was forced to reorganize. This tactic enabled the major producers to begin negotiating directly with the manufacturer for sound rights. In February they formalized their wait-and-see agreement for one year.

Meanwhile, Warners was trying to book its sound films into as many theaters as possible, but with limited success. ERPI was charging exorbitant rates. The manufacturing and installation of equipment were far behind schedule. But the box-office appeal of the Vitaphone films also seemed to be lagging. Warners hoped to rejuvenate interest by buying the rights to a popular melodrama, *The Jazz Singer.* Al Jolson, America's most popular recording star, stepped into the title role at the last minute. For a few brief moments, this film, shot as a traditional silent and scored with a typical Vitaphone orchestral track, crackles into direct sound as Jolson's character, for instance, talks to his mother and sings some hit songs. Contrary to myth, the movie THE JAZZ SINGER was not a smash at the Broadway premiere, and it did not by itself convince the other producers to "consign the silent film to the scrap heap." The film demonstrated forcefully, though, the importance of star voices in the sound film, the appeal of popular music, and the potential rewards for adding dialogue and singing to otherwise silent films. Warners, buoyed by the response to Vitaphone and a three-picture contract with Jolson, stepped up its sound film production schedule.

RCA, taking advantage of its year of grace to perfect its sound-on-film system, now called Photophone, began demonstrations in the summer of 1927—well before Jolson's big film premiere. RCA, though, was trailing far behind Western Electric in manufacturing capability. ERPI also gained a big advantage over RCA by setting up a music clearance bureau for its future clients. As the one-year producers' moratorium neared its end and Paramount wanted to convert its huge theater chain to sound as soon as possible to block Warners' and Fox's progress, it became clear to RCA that ERPI would win. Fallback strategies were activated.

The feature films of 1927, and many of the shorts, were conceived of as silents with sound added. Even newsreels celebrated the medium's newfound acoustic ability by emphasizing synchronous sound effects. Throughout the book I use the critical term *foregrounding* (and sometimes *Variety*'s jargon *spotting*) to mean accentuating the unique or novel properties of a medium. For the Vitaphone features, sound was treated as an add-on or enhancement of the ordinary film. This concept mirrored the technological conditions of making sound prints because the sound track was literally sold separately as an option.

1928

Decades of historical accounts notwithstanding, the sound film revolution did not commence with the premiere of THE JAZZ SINGER, Fox's prestige sound film SUNRISE (1927), or the Movietone Newsreel. Initial audience response was not wholeheartedly in favor of sound, and the Vitaphone features—THE FIRST AUTO, for instance—were not unquali-

fied box-office hits. The films as a group did well in some regions but not in others. There was resistance from exhibitors, and from areas with strong unions. Sometimes silent versions made more money than sound prints. Nevertheless, the major studios signed with ERPI in May, committing them to Western Electric when, and if, they went talkie. Collectively, they were at first ambivalent. Paramount was ardent about launching sound production, while MGM laid back to see whether the public response would justify the expense. The other big studios (United Artists, First National), the minors, and the independents arrayed themselves at various places along the enthusiasm spectrum. But signing made good business sense; the studios were poised to add sound to their regular lineup if that was what the public wanted, or not, if that was what exhibitors wanted. Pathé, controlled by Joseph P. Kennedy, who had entered into a joint venture to develop sound theaters with RCA, was the only studio to commit to Photophone production.

The films of 1928 were frequently re-releases of silents with music and effects, or part-talkies. The latter were films with a reel or two of dialogue added, often as a finale (much like the way in which Technicolor reels were used at the time). This practice is consistent with the conceptualization of sound as an extra flourish. It also reveals fiscal conservatism. The studios tried to anticipate the outcome of the audible cinema trend by hedging, that is, by continuing their silent production practices while adapting to new techniques. Producers pledged allegiance to the exhibitor who chose not to convert to sound. Most continued to supply silent prints with intertitles into the early thirties. Many commentators, including those within the industry, envisioned separate production of silent and sound material. Certain types of movies (for example, slapstick comedy) were better left silent, while other types, especially theatrical adaptations, would benefit from the sound "treatment." Some envisioned separate venues for sound films, as later happened with Cinerama theaters. These hedging plans encountered two economic realities: redundancy was too wasteful to continue producing dual versions, and patronage of silent films dropped whenever competing talkies were available.

Warner Bros. widened its substantial lead in sound production in 1928 while continuing to make dual versions and part-talkies. In September the studio bought First National and committed to all-sound production but nevertheless continued to derive most of its income from rentals of silent versions. Warners also pursued a strategy of adapting successful plays as part of the virtual Broadway concept. Part-talking films like GLORIOUS BETSY and THE LION AND THE MOUSE impressed reviewers, but some began to complain that the dialogue parts were a distraction because they reminded the viewer that the sound was "mechanical." The surprise hits were THE LIGHTS OF NEW YORK, an ultra-low-budget production released in the summer of 1928 (usually the dead season), and THE TERROR, which drew capacity crowds for weeks. The allure? Gangster characters speaking argot in the former, and, in the latter, an all-talking mystery movie which foregrounded vocal cues to solve the whodunit. That sound *in some form* was here to stay was apparent after Al Jolson's second feature, THE SINGING FOOL, was released in September. Though a weak actor, Jolson milked the bathetic story of losing a child for all it was worth and elicited tears from genuinely moved audiences. The other studios added or upgraded their sound capabilities and revised their production schedules to include all-talking features. In the fall they were prepared to satisfy what now appeared to be a continuing demand for "talkers."

The all-talking film was not just an extended part-talkie. In addition to using dialogue as a special effect or an add-on, directors used it to tell a story in the traditional Hollywood style. Speaking actors developed more personality and psychological charac-

ter depth. The voice, as Jolson proved, was an important ingredient in star appeal. By late in the year, studio heads were testing their actors' voices to determine whether they would be suitable for the talkies. As a shortcut, they were also hiring Broadway directors, writers, composers, and, of course, actors from the legitimate stage.

In the nation's theaters, filmed amusements substituted for presentation acts in all except the deluxe metropolitan houses, thereby achieving one of the producers' original goals. They could exploit the obvious canned vaudeville productions, but the producers' need for more shorts on the evening program created a market as well for animated cartoons with synchronized sound. This demand gave Walt Disney his big break, and other studios (MGM, Universal, Van Beuren, Fleischer, and Warner Bros.) were also picking up the ball. The result of eliminating the live acts was greater standardization of the cinema program as national distributors wrested power from local managers.

1929

Some of the films of early 1929 were substandard movies hastily cobbled together to meet the unexpectedly strong demand for talkies. Many of the clichés of the early sound cinema (including those in SINGIN' IN THE RAIN) apply to films made during this period: long static takes, badly written dialogue, voices not quite in control, poor-quality recording, and a speaking style with slow cadence and emphasis on "enunciated" tones, which the microphone was supposed to favor. But it was also a time of experimentation and concerted efforts by studio technicians, directors, and sound engineers to make the new technology work. The goal was greater comprehension of dialogue. This was accomplished by better mikes, mechanical improvements (for example, microphone placement during recording, loudspeaker placement, and continuing volume adjustment during projection), and changes in the actors' vocal performance.

Certain types of dramas were selected to "spot" talking. Thus, the first major cycle of the new cinema was the trial film, which replaced much of the action with expository dialogue. Frequently this was an adaptation of a theater success (like THE BELLAMY TRIAL [1929]). The other imported cycle was the musical, with its performances integrated into a backstage plot (as in THE BROADWAY MELODY [1929]) or transposed intact (I use the term *encapsulated*) from stage revue antecedents (for example, THE SHOW OF SHOWS [1929]). One side effect of the musical craze was to provide employment opportunities for African Americans on the screen. The films exploited blacks as gifted but one-dimensional performers. Or they became character actors, usually cast in demeaning plantation stereotypes. Equally disturbing to modern audiences, but everyday movie fare during this period, are the numerous films in which whites, made up in blackface, impersonated African Americans. The talkies revivified this remnant of a moribund minstrel heritage. Other ethnic groups were represented, usually also as caricatures, in early sound films. One group, the Yiddish-speaking enclave of New York City, did find its voice briefly during the period and made several dozen movies. These productions took advantage of cinema's dialogue capabilities to tap a niche market in a non-mainstream culture.

Reneging on their pledges of the year before to continue making silents, one studio after another announced all-sound product for the 1929–1930 season. Merger mania continued to grow. William Fox took over (temporarily, it turned out) Loew's, the parent of MGM, and the British Gaumont theater chain. Paramount expanded its Publix theaters, and Warner Bros. and United Artists made futile efforts to join together.

Fan magazines caught the talkie bug and used sound to construct narratives suggesting that readers could vicariously share their favorite stars' triumphs or hardships during the transition. They implied that fans might even have some degree of control over performers' fates. The movie voice went through distinct phases of representation in popular writing. At first it was an embellishment to the star's already-known personality. Fans and critics responded to the voice as if it were "disembodied," an entity apart from the speaker. This notion enabled critics to judge whether an actor's voice was "appropriate" for his or her appearance. Much of the anxiety over vocal quality was a thinly disguised fear of technology's power to transform it. "Mike fright" tended to dissipate as critics began to emphasize naturalness rather than "elocution." The reproduction of the voice greatly improved as a result of better recording techniques (for example, increased use of mike booms) and other refinements which increased the signal-to-noise ratio on the sound track. Cameras and sound-recording gear became more mobile, and filming outdoors in remote locations became practical. Filmmakers at first had to overcome the immobility of the cameras, which, because of their noisy mechanism, were kept inside soundproof cabinets. To circumvent the static mise-en-scène which resulted, directors used multiple cameras. That is, for each take up to a half-dozen views were shot at the same time from different angles and distances. The resulting footage was edited together to produce the rhythmic changes in scale to which audiences were accustomed in silent films. The static phase of the talkies proved to be very transitory.

The studios' conversion to sound was matched by exhibitors' rapid wiring of their theaters. Those chains affiliated with studios, about 15 percent of all the theaters, were obligated to install Western Electric equipment and to show only films licensed by ERPI. At the end of 1928, however, Western Electric conceded that its Movietone and RCA's optical sound tracks were interchangeable. Many of the independently owned theaters began installing the cheaper RCA Photophone reproducing systems. Unless they were economically strapped, theater owners had no choice but to convert to some brand of sound system because otherwise the affiliated chains would take away their business. Although the national chains were a numerical minority, they set the pace in the most important markets. As a result, at the time of the stock market crash in October 1929, out-of-the-way theaters and those servicing poor neighborhoods were the only ones still waiting for amplification. The transformation of American movie houses from almost all silent to almost all sound therefore took about a year and a half. Owing primarily to sound, the studio system had become a huge tentacular structure with interests in publishing, music, and electric companies. The film manufacturers also became internationally diversified.

The film industry complained about the many millions of dollars it took to finance this conversion, but in reality the changeover was funded by borrowing against mushrooming profits. Audiences flocked to the movies in 1929, making it one of the best years in Hollywood history. Union leaders pointed out that this prosperity was in contrast to the thousands of musicians, crew members, extras, and specialty workers laid off during the transition to sound. Actors Equity, the New York–based union, tried to organize the Hollywood performers, but a strike called for July was ineffectual. Many of the workers' demands, however, were addressed in later negotiations with producers. When the market crashed, some of the wind was knocked out of the business's sails, but many predicted that movies would never lose their popularity. During 1929 the studios had invested in infrastructure, expanded their theater holdings, diversified into other entertainment fields, and dabbled in technological innovation (besides sound, variable screen