



# SILENT FILM SOUND

Rick Altman

Columbia University Press New York



Columbia University Press  
Publishers Since 1893  
New York Chichester, West Sussex  
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Library of Congress Cataloging-in-Publication Data

Altman, Rick, 1945-

Silent film sound / Rick Altman.

p. cm. — (Film and culture)

Includes bibliographical references and index.

ISBN 0-231-11662-4 (cloth : alk. paper)

1. Silent films—United States—History and criticism.

2. Motion pictures—Sound effects—History.

3. Motion picture music—United States—History and criticism. 4. Narration for silent films—United States.

I. Title. II. Series.

PN1995.75.A46 2004

791.4302'4—dc22

2004045529

© Columbia University Press books are printed on  
permanent and durable acid-free paper.  
Printed in the United States of America

c 10 9 8 7 6 5 4 3 2 1

Columbia University Press wishes to express its appreciation for assistance  
given by the University of Iowa for the publication of this book.

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## Films That Talk

Long before projected moving images became a reality, they lived an active imaginary life in the minds of their inventors. Almost without exception, dreams about the future of cinema not only included sound but systematically evoked a specific sound model: the theater, and opera in particular. Such goals were always a part of Thomas Edison's vision. His 1894 handwritten statement, published in facsimile by W. K. Laurie Dickson, makes his aspirations abundantly clear:

I believe that in coming years, by my own work and that of Dickson, Muybridge, Marié [*sic*] and others who will doubtless enter the field, that grand opera can be given at the Metropolitan Opera House at New York without any material change from the original, and with artists and musicians long since dead.<sup>1</sup>

A year later, Edison predicted that, "Before many years we will have grand opera in every little village at 10 cents a head."<sup>2</sup> From the start, the stage constituted one of cinema's most important reality codes. Until Bernhardt and Caruso—along with their

voices—could be reproduced on film, the ultimate objective would remain unrealized. But these lofty aims were not matched by early film technology. Throughout cinema's decade as vaudeville's downstairs servant, many were the attempts to synchronize moving pictures and phonography in order to reproduce the desired theatrical model. Though none of these endeavors was a great success, they eventually led to one of cinema's best-kept secrets: the massive introduction of synchronized sound film projection systems in the 1907–1909 period.

### Synchronized Sound

In the 1890s, dozens of new systems targeted simultaneous synchronized presentation of image and sound. Among the least disappointing were Edison's Kinetophone, an 1895 version of the 1894 Kinetoscope peep-show device, which patrons listened to through earphones; the 1898 Cinemacrophonograph or Phonorama of Berthon, Dussaud, and Jaubert, with projected images and a mechanical connection between the projector and phonograph, but still with earphones; and the 1900 Phono-Cinéma-Théâtre or Lioretographe of Gratioulet and Lioret, with projected images and sound. Other systems were developed throughout Europe and the United States during the final years of the nineteenth century, including William Friese-Greene's 1889 system, patented in England; George Demeny's 1892 Phono-scope; George W. Brown's 1897 patented improvement of the Kinetophone; and Auguste Baron's 1898 apparatus.<sup>3</sup> Like many later approaches, these systems suffered from poor synchronization, inadequate amplification, and a lack of commercial savvy (and capital) on the part of their inventors.

Twentieth-century attempts at synchronized sound immediately tackled these problems. At the 1900 Paris Exposition, working with disks rather than cylinders, Léon Gaumont demonstrated a system providing synchronization through a mechanical connection between projector and gramophone. A year later he would patent the first of many electri-

cal connections between the two machines, first demonstrating his system in 1902 to the Société française de photographie. Like other inventors, Gaumont tackled the amplification problem by increasing the size and number of horns attached to his record player. For his 1906 Elgéphone, however, he borrowed the compressed-air approach of Charles Parson's 1902 Auxetophone, finally making it possible to fill a large hall with sound.<sup>4</sup> A 1907 innovation, a dial indicating proper sync (or lack thereof), made the Chronophone fully operational and triggered Gaumont's campaign to export the system to the United States. Films called Phonoscènes were provided by ongoing in-house production overseen by Alice Guy, who directed the images after the sound-on-disk portion had been pre-recorded by others.<sup>5</sup> Opera selections were followed by music hall artists, with narrative subjects arriving only much later. The addition of a second disk player, starting automatically as the first record ended, facilitated accompaniment of longer films.

In 1903, Oskar Messter demonstrated his Kosmogroph sound-on-disk system. Using *The Whistling Bowery Boy* and other films specially shot in English, the Kosmogroph—often called the Biophon because it was exhibited in Berlin's Biophon Theater—was demonstrated the following year at the Louisiana Purchase Exposition. Featuring Auxetophone amplification, with an electrical connection between projector and gramophone, Messter's arrangement permitted operator adjustments to avoid loss of sync. Like other sync-sound innovators, Messter produced his own films.<sup>6</sup> With the collaboration of inventor Alfred Duskes after 1908, the Biophon had a remarkably successful international career, especially north and east of Germany.<sup>7</sup>

Early sync-sound systems suffered from diverse expectations regarding sound and image play speeds. In order to avoid unpleasant frequency fluctuations, sound recordings require an absolutely stable speed, so a windup spring motor equipped with a speed governor was used for the phonograph (Edison's cylinder device), the graphophone (the com-

# == BOLD BANK ROBBERY ==



The Greatest Production in 30  
Motion Tableaux.

Length, 600 Feet. Price, \$66.

Send for Illustrated Catalogue, which contains  
all the films and full description.

Lubin's 1905 Exposition Model Cineograph and  
Stereopticon combined, together with Electric  
Lamp, Adjustable Rheostat and Calcium Light, \$75.00

Two Cineograph Films - 100 ft. each, 200 \$22.00

Two Monarch Records, playing the music  
for the above Cineophones, Films \$1 each \$2.00

TOTAL \$99.00

With this set complete for \$99.00 we give

Free of Charge Victor Talking Machine  
complete, including horn  
and wooden box. This  
Victor outfit is the latest improved model, and could  
not be purchased at retail for less than \$75.00



S. LUBIN,

28 South Eighth Street, PHILADELPHIA, PA.

9.1 Ad for Lubin's film-and-record Cineograph system

ing cylinder system marketed by Columbia and others), and the gramophone (Berliner's disk machine). Conversely, virtually all moving picture projectors were hand-cranked at speeds that varied according to shooting speed and on-screen action. Whereas variations in speed represented an aesthetic attraction for the image, they were stigmatized as a deadly fault for the sound. Linking the two machines was thus more difficult than meets the senses. Only the contemporary sound-on-film experiments of Eugene Augustin Lauste aimed at circumventing this problem entirely. A further problem lay in inventors' regular recourse to electricity to stabilize speeds and to synchronize image and sound machines. Since contemporary representational codes dictated that the projector should be located behind the audience and the sound source near or behind the screen, mechanical connections between projector and record player were extremely inconvenient, not to say impossible. The obvious medium of choice—electricity—was during the 1900s still in its infancy. Some American cities employed direct current, while others used alternating current; voltages varied widely. More problematic for would-be distributors of electrically driven synchronized sound systems, film stock was eminently flammable, to the point where most cities so feared the operator's absence should a fire break out that they outlawed electrical projection entirely. However attractive in theory, early sync sound was always faced with an uphill practical battle.

Still, the desire to make pictures sing and talk would not go away. In 1904, Philadelphia-based producer Siegmund Lubin conceived the idea of synchronizing films to already existing Victor Monarch records, thus limiting investment. Aiming at the currently lucrative illustrated song market, Lubin chose instrumental recordings of popular songs, which his performers then faked while being filmed: "Daisy Donohue" on the trombone, "Our Own Make Polka" on the cornet, "Military Serenade" on the violin, and "Happy Days in Dixie" on the xylophone; only "Banjo 'Lize" featured the human voice.<sup>8</sup> "You see the Black Face Comedian in Life-motion Pictures on the screen, and you hear him talk and sing at the same time," blared Lubin's ad. "You see the Cornet Soloist playing and at the same time you hear the melody he plays." Dubbed "Cineophone Films," the film portion was to be played on Lubin's "Cineograph with Stereopticon Combined" (or another projector), while the records were played on the exhibitor's own "Talking Machine."<sup>9</sup> The ad promised a Cineophone catalog listing a hundred Cineophone films, but the first films failed to sell, so no catalog was ever issued and the Cineophone quietly disappeared.

Interest in synchronized sound systems was renewed in early 1907 with reports of the Chronophone's successful performance at the London Hippodrome. Organized to market the French system in the United States, the Gaumont Chronophone Co. of

**HERE IT IS!**



We are now prepared to make immediate deliveries of

**PICTUREPHONE**  
Complete with especially wired Phonograph F. O. B. New York **\$550.00** ORDER NOW

*Remember, this marvelous instrument is sold under the guarantee of our firm that it is the greatest possible added attraction to any Moving Picture or Vaudeville Theatre. The moving pictures, acting in harmonious conjunction with a perfect synchronizing apparatus (which can be attached to any standard projecting machine), gives a complete performance of color, phonographs, duets, operettas, operas and dramas, in fact everything that can be produced on the dramatic, operatic or vaudeville stage.*

**BE THE FIRST IN YOUR CITY**

Place one of these wonderful instruments and reap the big reward that is sure to follow.

"The sounds of music are reproduced simultaneously and synchronously with the action of your pictures."

In ordering state what make of machine you have, and also how often you wish to order a change of program through the medium of OUR RENTAL LIBRARY OF FILMS AND DISKS.

**ELECTRIC EXPENSE KILLER**

Our Rheostatoclide is guaranteed to effect a saving of from 50% to 75% in your M. P. current expenses.



Our Rheostatoclide is guaranteed to effect a saving of from 50% to 75% in your M. P. current expenses.

CLASS "A" FILMS: We control and produce the cream of the world's output, exhibiting constantly in our establishments the finest of perfect pictures than any five houses in the business. At the lowest possible prices we supply projectors, lenses, reflectors, cutters and machinery parts.

MINIPAX: An electric PERFECT film camera. We have placed our faith in this device by equipping a new building with it from top to bottom. The retail price is \$12.50. We will give \$1.00 when everywhere there is a Minipax to act as our agent and a moving picture demonstration FREE.

WALK, WRITE OR WIRE TO

100 Turk Street  
San Francisco

**MILES BROS.**  
(MILES BUILDING)

Hub Theatre  
Boston

**259-261-263 SIXTH AVENUE, NEW YORK**  
**1319 MARKET STREET, PHILADELPHIA**

9.2 Picturephone ad from Miles Bros.

Cleveland sponsored the first Chronophone demonstration in this country at the local Family Theatre in May 1907, offering several films of individuals and ensembles singing everything from popular songs to opera.<sup>10</sup> While this initial sally was not followed up by active marketing of the Chronophone until the fall, it set in motion two years of the most energetic competition that the American film industry has ever known. Immediately, all those who had been quietly working on their own sync-sound systems rushed to introduce them. In June, George K. Spoor announced that his Phonedigraph would be ready

for distribution in September. Just a few days later the Cameraphone was demonstrated for the first time, perhaps a bit prematurely:

**OPENED MONDAY : CLOSED TUESDAY**

The Cameraphone, known as the "talking pictures," opened on Monday, June 10, at Hammerstein's and closed June 11. The inventor told Mr. Hammerstein that he had worked for fifteen years on the idea and could not understand why it failed. Neither could the manager.<sup>11</sup>

By the end of 1907, Miles Bros. would also be having their Picturephone.<sup>12</sup> The following year, a dizzy

## FILMS THAT TALK

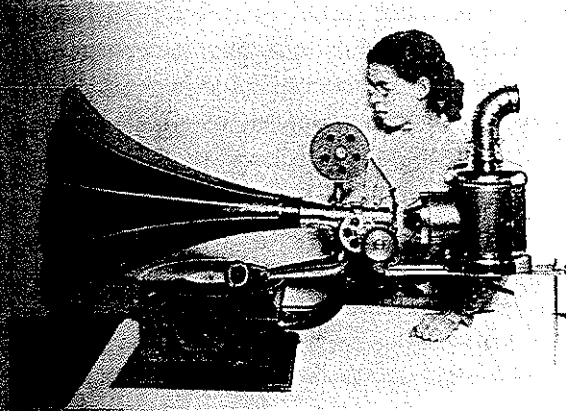


Fig. 1. The Photophone, with its unique system of projecting the film through the sound horn

... list of new systems would hit the market, including Jules Greenbaum's Synchronoscope (exploited by Carl Laemmle),<sup>13</sup> L. P. Valiquet's Photophone,<sup>14</sup> the Phonoscope,<sup>15</sup> and the German Biographon.<sup>16</sup>

A September *Moving Picture World* article entitled "The Perfection of the Phono-Cinematograph" conferred official blessing on the new technology.

The trade paper thus reinforced the social construction associated with sync-sound systems since their introduction. "The combination of the phonograph and the cinematograph has at last become a thoroughly practical success," opined the journal's anonymous editorialist, detailing each machine's

tasks: "One for the picture and the other for words or sounds... producing at the same time a living scene and voices of all kinds which accompany it with rigorous exactitude."<sup>17</sup> In keeping with a long-standing tradition whereby the phonograph was called "talk-

ing machine," early synchronized sound systems were expected above all else to reproduce words and

voices. In spite of widespread contemporary use of phonographs to provide music or sound effects to

accompany moving pictures, it was the human voice that commentators most frequently exhorted sync-

sound systems to preserve and represent. Like its predecessors, *Moving Picture World* stressed the historical value of recording political figures, making it possible "not only to see, but to see and hear, as in the

life, President Roosevelt delivering a speech hundreds of miles away for years and years after."<sup>18</sup> This sentiment was doubled by the *New York Dramatic Mirror*. "We shall undoubtedly come to a time when the public speeches of every great man will be recorded chronophonically," intoned the profession's most distinguished publication, "and the interest of such records can well be imagined. The man who could now show President Lincoln practically as in life with both voice and action would be reasonably sure of making a fortune."<sup>19</sup>

Politicians wasted no time in turning the new technology into a political weapon. In October 1906, New York gubernatorial candidate William Randolph Hearst simplified his upstate stumping by sending in his place a sync-sound moving picture of a speech shot in a Broadway studio. In this way, said the *New York Times*, perhaps providing an idea for a later candidate who actually won the election, "Mr. Hearst will be able to reach the very fireside with his speeches." As far away as London, a music hall manager was anxious to acquire a copy of this speech, "in which Mr. Hearst called Mr. Parker a cockroach, Mr. Jerome a croton bug, and Mr. Towne a rat."<sup>20</sup> Other candidates quickly rushed to take advantage of the opportunities afforded by the new medium. According to Cameraphone general manager Carl Herbert, both major party candidates, Taft and Bryan, would likely make use of the Cameraphone during the 1908 presidential campaign.<sup>21</sup> Thomas Edison continued to stress the stage model. "When we arrive at the point of oral and visual reproduction of opera and the drama, as sung and performed by artists and actors of note and ability," predicted the Wizard of Menlo Park, "the star of the motion picture theatre will indeed be in the ascendant."<sup>22</sup> Edison's sentiments were widely shared. "What would we not give," Chicago entrepreneur George Kleine asked rhetorically, "for... reproductions of David Garrick, Siddons, Malibran and other famous actors and singers of the past or of Bernhardt, Irving, the Booths, Cushman, or of Lincoln at Gettysburg?"<sup>23</sup> Whether the focus was Hearst, Caruso, or Lincoln,

**First Time  
in America**

---

The big feature at the London  
Hippodrome for the last  
eight months

*This is not the machine shown at the  
Roof Garden, New York*

---

**Have Your Pictures Talk!**

**THE CHRONOPHONE**  
MOVING PICTURES  
THAT

SING AND TALK

M O N E Y

SENSATIONAL

M A K E R

**GAUMONT CHRONOPHONE**  
CO.

312 HIGH ST. CLEVELAND O.

THE WAY TO SUCCESS

---

**A PROVED SUCCESS**  
Our first straight picture  
is new on the market

**THE PERSEVERING LOVER**  
FULL OF SCREAMS 930 FEET  
GET IT

GAUMONT CHRONOPHONE CO., 312 High St., Cleveland, O.

9.4 Early ad for Gaumont's Chronophone system

the topic was always the same—the synchronized human voice. This consistent emphasis on synchronized evidence of human life explains the frequent choice of names referring to life processes: Biophon, Vivaphone, Vi-t-aphone.<sup>24</sup>

In order to understand the development of sync-sound systems during the late aughts, it is essential to recognize important differences between the roles these early technologies were asked to fulfill as compared to more familiar sound systems two decades

later. While both periods shared a public address model, the new technologies' dominant reality codes exhibited far more differences than similarities. In the late aughts, sync-sound systems consistently reproduced singing voices, thereby providing inexpensive representations of expensive vaudeville headliners. Sync-sound films were not even called films by the press, but "acts."<sup>25</sup> Twenty years later, recorded sound would offer an economical substitute for the (by then) standard pit orchestra. In 1926 the soundtrack for Warners' *Don Juan* thus included not only music accompanying narrative images but also an overture and entr'acte music accompanying nothing but a blank screen. The Vitaphone system so clearly began with the silent film orchestra as its model that its loudspeakers were at first actually placed in the orchestra pit. Every bit of the orchestra's music had to be reproduced, even when the orchestra was supplementing rather than accompanying the film. By 1907–1909 the synchronized human voice was especially prized. The combination of a phonograph and a projector could easily have been used to replace a film lecturer or to provide voice-over commentary—in fact, either of these uses would have been much easier than the simplest synchronization—yet current reality codes for sync-sound production were so firmly grounded in the theater that nothing less than a human voice successfully synchronized to a human body could possibly be accepted as a proper representation.

From fall 1907, the trade papers were for years full of details on the newest sync-sound system, the latest theater to convert, and the most recent films released. Ready several months before the Cameraphone, the Chronophone was first into theaters. In October 1907, Keith's Providence (R.I.) Nickel Theatre first experimented with sync sound, offering "a novel feature in the motion pictures that 'sing, talk and dance—that is, motion pictures of well-known vaudeville acts with which are simultaneously reproduced the sounds of singing, talking or dancing of their specialties."<sup>26</sup> Films exhibited included a singing and dancing act by Dorothy Ford and Frank Emmett, the

mous double quintet "So Long, Mary" from George M. Cohan's *Forty-Five Minutes from Broadway*, and the dancing team of Johnny Dove and Minnie Lee. As was virtually always the case in theaters exhibiting sync-sound films, familiar programming was retained, including illustrated songs and "some of the regular kind of motion pictures." While it is easy to imagine the attraction of sound films as compared to their silent counterparts, sound films representing singers often paled in comparison to live performers. At the Nickel Theatre, for example, reviewers insisted that in spite of the sync-sound novelty, "Bob Alden, the popular baritone, was the big applause winner of the program, however, with an illustrated song number that would please even the most fastidious of high-priced vaudeville lovers."<sup>27</sup> Handicapped by a song-and-dance strategy and insufficient film production, early sync-sound systems were always conceived as just a single act in a longer program. Never able to provide the entire evening's entertainment, as would their late twenties descendants, early sync-sound technology remained no more than a novelty because of its inability to achieve any significant economy of scale.

With a studio in Manhattan and a plant in Bridgeport (Conn.), E. E. Norton's Cameraphone was the first American sync-sound system to give the Chronophone a run for its money. In February 1908, finally ready for distribution, the Cameraphone was privately demonstrated at the Novelty Theatre in San Francisco.<sup>28</sup> Within a month, there was a Cameraphone in the Toledo (Ohio) Arcade. *Variety's* report—one of many on 1908 Cameraphone installations—reveals contemporary confusion regarding the status of this new instrument and the limitations under which sync-sound systems continued to labor. According to *Variety*, the Arcade Cameraphone was to be used only for vaudeville and music, not for melodramatic subjects." The latter, we are told, "are not described by the phonograph."<sup>29</sup> In spite of the system's obvious potential for "describing" films (i.e., assuming the role of the lecturer), an artificial limitation respected both by producers and exhibitors pre-

9.5 A sound film ad from the Providence Nickel Theatre

cluded any such use. Not until July 1908 did Cameraphone's general manager Carl Herbert announce that the company was "now producing dramatic acts of a high order," including versions of *Quo Vadis?*, *The Corsican Brothers*, *Monte Cristo*, *Othello*, *H.M.S. Pinafore*, and *The Mikado*.<sup>30</sup> Yet Cameraphone continued to seek its market niche in the inexpensive reproduction of high-priced vaudeville stars (just as the Vitaphone would twenty years later offer the "three-dollar Broadway hit" for fifty cents at the local theater). A full-page December 1908 ad in the *New York Dramatic Mirror* pictured over a dozen vaudeville headliners, featuring their names and accomplishments. Individual theaters followed the same strategy. Even on New York's Fourteenth Street,

A valuable item in connection with the exhibition of the "talking" pictures of the Cameraphone concern is the billing of the artist's name. "Eva Tanguay" has been plastered all over the neighborhood this week, and has drawn more people to the Unique since Monday than that house ever held in a similar period.<sup>31</sup>

Though historians have usually dated initial film star orientation to Edison's 1909 hiring of named stage actors, or the touting of Florence Lawrence as "the Biograph Girl," Cameraphone's vaudeville-oriented strategy clearly paved the way for a star system at least a year earlier.<sup>32</sup>

By the summer of 1908, Cameraphone claimed that its apparatus was "now being operated in forty-five houses, and we have orders ahead for one hun-

**To Owners and Managers  
OF  
VAUDEVILLE THEATRES**

12 Theaters in the United States and Canada are now using the CAMERAPHONE. Ninety-three theatres are contracted for the OPENING THIS MONTH. Within ninety days every theatre using Cameraphone equipment will realize the advantage over ordinary moving pictures of a **Moving, Talking, Singing Picture Program**, consisting of original acts by the best known artists in the world, also selected from all popular records and films. The work our subjects include VESTA VICTORIA, YAMA YAMA, members from the "How to Succeed in the New World" series, MABELA ABLES, "How to Succeed" and "How to Succeed".

The CAMERAPHONE COMPANY is the only company in the world that provides theatres with complete moving picture, singing, phonograph and act equipment under one name.

**VESTA VICTORIA**  
EVA TANGUAY  
ALICE LLOYD  
BLANCHE RING  
MME. DAZIE  
JAMES J. MORTON      CLARICE VANCE  
STELLA MAYHEW  
DONLIN & HITE  
McNAUGHTON BROS.  
MAY VOKES  
HARRIET BURT      BESSIE WYNN  
TRIXIE FRIGANZA  
GRACE CAMERON  
RUBY RAY  
JAMES HARRIGAN  
JULIAN ROSE  
MAME REMINGTON and her Pickaninnies

We do not sell our records or films; we lease them. We give exclusive rights and protect our interest.  
For full particulars, terms, etc., call and see us at our address:

**CAMERAPHONE COMPANY**  
Cameraphone Building, 573 Eleventh Avenue  
NEW YORK CITY

9.6 Cameraphone ad featuring well-known vaudeville stars

dred and forty theatres.”<sup>33</sup> Every week during the 1908–1909 season, the trade papers would list another dozen or so Cameraphone adoptions. A typical example from January 1909 names fifteen new theaters adding the Cameraphone, from New Hampshire to Arkansas and Florida to Washington.<sup>34</sup> In order to take full advantage of their new equipment, many of those theaters would be called “The Cameraphone,” a name that would in many cases outlast the system itself.<sup>35</sup> Similar success was reported by Gaumont, which added to its 1909 catalog

the Model C Chronophone, with two disk players built by the Victor Talking Machine Co., two horns and substantially increased amplification.<sup>36</sup> Finally licensed by the Motion Picture Patents Corporation in March 1909, Gaumont reinforced its position with sophisticated 800-foot films, including *The Red Mill* and *The Mikado*, to complement its existing repertoire of opera arias and popular songs (including several performed by Harry Lauder).<sup>37</sup> In March 1909 the market was further complicated by Jeap and Barker’s successful Cinephone system, already adopted by over 1,000 theaters in Britain, using records to be made in the United States by Victor. In June the American Cinephone Co. was formed to market the Cinephone.<sup>38</sup> During this period, Gaumont built its own studio and development plant in Flushing (where director Lois Weber got her start),<sup>39</sup> while Cinephone announced a studio to shoot films specially for the American market.<sup>40</sup> Synchronized sound systems coupling a record player and a moving picture projector seemed here to stay.

*Moving Picture World* was so convinced of sync sound’s rosy future that a March 1909 editorial proclaimed, “We have no hesitation in prophesying that before long hardly a moving picture theater in the country will be without the talking or singing phonograph as a part of its entertainment.”<sup>41</sup> The reasons underlying this conviction were revealed in the following week’s editorial: “The combination of the phonograph or graphophone with the picture machine has now advanced to such a state of perfection and is being promoted by so many well financed concerns, that it is destined to occupy an important part in the moving picture field.”<sup>42</sup> Concurring with his trade paper colleagues was Frank L. Dyer, vice president of Edison Manufacturing and president of the Motion Picture Patents Corporation, who confidently predicted a few weeks later that talking pictures would soon reach the complexity and success of the legitimate theater.<sup>43</sup> A year later, the editors of *Moving Picture World* had not lost their faith: “In our opinion the singing and talking moving picture is bound sooner or later to become a permanent

## FILMS THAT TALK

feature of the moving picture theater."<sup>44</sup> All parties agreed, sound cinema was the coming technology.

Yet by August 1909, in spite of an initial \$10,000,000 capitalization, the Cameraphone Co. was in New York bankruptcy court, "in abeyance" just two months later, and by November seeking capital to reopen.<sup>45</sup> In July 1910, Gaumont's Motion Picture Patents Corporation license was canceled.<sup>46</sup> The Chronophone was constantly hampered by its use of an electrical motor drive. As Cameraphone's former general manager Carl Herbert put it, "any device by which the picture machine is motor-driven is useless in the United States, because of a very strict regulation of the Boards of Fire Underwriters which prohibits motor-driven picture machines."<sup>47</sup> Instead of taking the market by storm, sync-sound systems were having trouble surviving. Several factors contributed to this situation. First, Cameraphone's regular announcements of additional theaters are extremely misleading. Until March 1909, Cameraphone did not sell its machines but instead provided a rental and projection service modeled on vaudeville's projection services.<sup>48</sup> Most of the theaters listed as adopting the Cameraphone were in fact trying out the apparatus in a (for them) no-risk situation. Often, those listed as Cameraphone theaters one week were by the next no longer filling Cameraphone's coffers. The dangers (for the investor) of this arrangement are demonstrated by the 1909 experience of Keith's Philadelphia vaudeville theater, as evidenced by the following manager's report:

**KINETOGRAPH.** The Foto-Fone. This is the second tryout week for the Foto-Fone which is a fine-toned phonograph machine synchronically accompanied by moving pictures especially posed and impressive of a text, whether a scene from "Uncle Tom's Cabin" or the quartette of "Rigoletto." Considerable applause after each number. There seems to be a future in the perfection of these inventions but whether adapted to vaudeville or not remains to be seen. From the reception this week it seems very promising.<sup>49</sup>

Despite of this enthusiastic review, the very next week the Foto-Fone disappeared permanently from

the Philadelphia bill. Without a long-term commitment from exhibitors, producers were faced with the economically deadly situation of an unpredictable income stream.

At a time when the film industry was addressing its financial problems through increasing standardization, sync-sound systems required companies to follow the opposite path. Since each sync-sound system produced and maintained synchronization in a different manner, the difficulties of manufacturing and distributing equipment were compounded by each studio's need also to produce and market its own films, along with matching records, which required the company's own machines to assure proper synchronization. Lack of standardization thus condemned each sync-sound system to a tiny market—a sure recipe for financial disaster. Only a heavily capitalized company could possibly hold on financially while building a market base and convincing other manufacturers to accept common standards. Two decades later, the general adoption of sound films was made possible by a combination of Warner's strong financing, its partnership with Vitaphone, and industry-wide standardization. In 1910, however, none of the essential economic and industrial building blocks was yet in place.

A similar situation obtained with regard to sync-sound projection. Like contemporary automobiles, early projectors could be kept running only by a trained mechanic, but for several years projectors and operator practices had been developing toward greater facility and automaticity. By the late aughts, most of the problems had been ironed out, allowing theaters to hire less-qualified operators. Light sources had been simplified. Take-up reels had replaced the film collection bag on the floor beneath the projector. Film titles had been added to films, supplanting the title slides that once complicated the projectionist's duties. Sync-sound systems threatened to undo every bit of this progress. Projectors still required steady cranking, consistent illumination, and regular passage of the film through the gate, but operators would now also have to start and replace records, all



9.7 A British import: the Cinephone system, with a dial designed to maintain synchronization

the while assuring proper synchronization. Far from being automatic, reported one knowledgeable observer, the new systems “require a high degree of skill in the operator, and depend entirely upon his alertness in watching the lip-motion of his characters on the sheet and so controlling the speed of his pictures as to make them match the words as he hears them coming from behind the sheet.”<sup>50</sup> Since every company featured its own proprietary arrangement for manually restoring synchronization, and since every film presented a special case, sync-sound systems in the aughts offered opportunities neither for economy nor for efficiency.

Inevitably, this situation led to a clash between exhibitors’ respect of representational codes calling for inexpensive (and thus inexperienced) operators, and audience concern for reality codes prescribing tight synchronization of recognizable voices. Commentators thus regularly berated the new systems for poor synchronization, tinny sound, inadequate amplification (typically exacerbated by the need to place the sound source behind the screen in order to maintain the illusion), the limited duration of phonograph records and thus the short length of most sync-sound films (running directly counter to the industry’s current tendency to produce longer and longer films), and the unsettling change in pitch when switching to a sec-

ond turntable. Because images and voices were separately recorded, mismatches often occurred, producing not only poor synchronization but also comic clashes between a petite soubrette’s image and a heavy contralto voice.<sup>51</sup> “In some cases, perhaps in all,” suspected the *New York Dramatic Mirror*, “the person who talks into the phonograph is not the one who represents the same character for the camera. The result then is often an incongruous coupling of a robust voice and a diminutive figure, or the contrary.”<sup>52</sup> In a world of narrative films of increasing length, an undercapitalized industry recording short vaudeville turns was simply not in a position to dominate the field.<sup>53</sup> Yet a desire for human voices synchronized with the film image would not die. Yankee ingenuity would find a different way, requiring no new equipment and thus far less capital.

### Voices Behind the Screen

Capturing exhibitor and audience attention alike during the 1907–1908 season, sync-sound systems galvanized interest in the human voice as a realistic and entertaining complement to moving picture images. These systems were expensive, however, and still far from dependable. Many enterprising exhibitors thus hired actors to speak behind the screen the

words silently mouthed by on-screen characters. This was not really a new procedure. For a decade, Lyman Howe's impersonators had been providing dialogue as well as sound effects.<sup>54</sup> At first known only locally, by 1908 Howe's shows had attracted national attention through extended runs in major eastern cities. Starting in 1905, and continuing for several years, the highly regarded *Spook Minstrels* toured the vaudeville circuits with its behind-the-sheet dialogue and music. These live-voice models provided an inexpensive alternative to synchronized sound.

For several years, producers had also been experimenting with the written language to enhance their films. Edison director Edwin S. Porter was particularly adept at melding words and images in novel ways. In 1905, Porter made a series of films in which words first appeared as a jumble and only little by little settled into a readable, meaningful pattern. These included *How Jones Lost His Roll*, *The Whole Dam Family and the Dam Dog*, and *Coney Island at Night* (which used light bulbs like those on the front of so many nickelodeons that storefront shows were regularly called "electric" theaters), as well as the Edison version of *Everybody Works But Father*.<sup>55</sup> The following year, Biograph would employ a similar device in *Looking for John Smith*—this time fully integrated into the story—described as follows by Biograph Bulletin No. 77:

In "LOOKING FOR JOHN SMITH," the Biograph's latest comedy feature, a decided novelty has been introduced. In one of the scenes the characters are made to speak their lines by means of words that appear to flow mysteriously from their mouths. This is the first time that "talking pictures" have been shown, and they will prove bewildering and amusing to everyone. There is not much of a plot to the story, but no plot is needed to bring out the laughs. A certain John Smith is wanted to claim an inheritance, and his cousin, Si Jones, goes to a spiritualist to find how to locate him. Spirit letters advise advertising, so Si goes to see the editor, and their conversation is given as referred to above, i. e. by actual words issuing from their mouths. The advertisement is inserted, and of course a hundred John Smiths appear and claim the inheritance. They chase Si all over the place,

FORM NO. 1729

BULLETIN No. 77, August 6, 1904

## "LOOKING FOR JOHN SMITH"

The Latest Novelty in Biograph Features,  
"TALKING PICTURES"

LENGTH 585 FEET. PRICE 15 CENTS PER FOOT.



In "LOOKING FOR JOHN SMITH," the Biograph's latest comedy feature, a decided novelty has been introduced. In one of the scenes the characters are made to speak their lines by means of words that appear to flow mysteriously from their mouths. This is the first time that "talking pictures" have been shown, and they will prove bewildering and amusing to everyone. There is not much of a plot to the story, but no plot is needed to bring out the laughs. A certain John Smith is wanted to claim an inheritance, and his cousin, Si Jones, goes to a spiritualist to find how to locate him. Spirit letters advise advertising, so Si goes to see the editor, and their conversation is given as referred to above, i. e. by actual words issuing from their mouths. The advertisement is inserted, and of course a hundred John Smiths appear and claim the inheritance. They chase Si all over the place, but he finally escapes them by getting into a room and bolting the door. He climbs into bed to hide, but while there a storm of dancing letters appears in the room. These letters finally shape into "J-O-H-N-S-M-I-T-H" on the wall, and Si gives up in despair, convinced that he has gone crazy. Trick photography supplies the chief interest in the production.

No. 3212. CODE WORD - Re rouvais

Produced and Controlled Exclusively by the  
**American Mutoscope & Biograph Co.**  
11 East 14th Street, New York City.

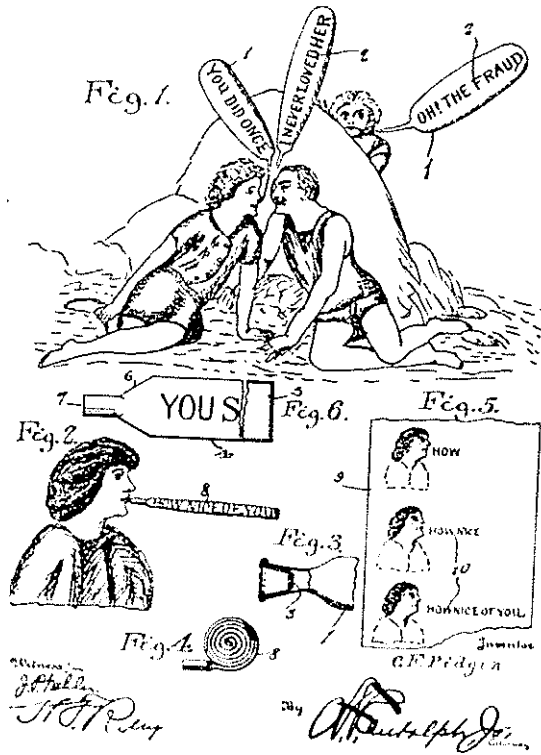
PACIFIC COAST BRANCH, 2023 West Pico Street,  
Los Angeles, Cal.

9.8 Biograph Bulletin No. 77 touts yet another form of "Talking Pictures"

but he finally escapes them by getting into a room and bolting the door. He climbs into bed to hide, but while there a storm of dancing letters appears in the room. These letters finally shape into "J-O-H-N-S-M-I-T-H" on the wall, and Si gives up in despair, convinced that he has gone crazy. Trick photography supplies the chief interest in the production.<sup>56</sup>

NICKELODEON SOUND

C. F. PIDGIN.  
MOTION PICTURE AND METHOD OF PRODUCING THE SAME.  
APPLICATION FILED JULY 19, 1916. Patented Sept. 18, 1917.  
1,240,774.



9.9 C. F. Pidgin's "talking picture" system

A year later, Porter returned to animated language for *College Chums*, in which printed words traveling through the air represent a telephone conversation between quarreling sweethearts.

As intertitles became both more common and more complex, producers intermittently devised new methods of identifying spoken language more closely with the speaker. In mid-1911, the Horsley Co. began distributing the Nestor Film Co.'s productions of "Mutt and Jeff Talking Pictures." Based on familiar comic-strip characters, these films offered an unexpected solution to the dialogue problem, simply inserting speech balloons like those found in the contemporary funny papers.<sup>57</sup> These experiments culminated in a bizarre 1917 patent for producing

filmed cartoons without resorting to animation drawings. Charles F. Pidgin's process called for each actor to inflate, at the appropriate moment, a balloon carrying the words to be spoken. As Pidgin put it,

the words constituting the speech of the actors or characters are placed on balloons of oblong shape adapted to be inflated to a relatively large size and normally occupying a comparatively small space with the words entirely visible. . . . The blowing or inflation of the devices by the various characters of a photo-play will add to the realism of the picture by the words appearing to come from the mouth of the players.<sup>58</sup>

Though Pidgin's invention had no commercial future, it amply demonstrates the American film industry's continuing tendency to define realism in terms of the spoken language.

Used off and on for years, voices behind the screen became an industry-wide sound strategy only in the spring of 1908, under the influence of the Chronophone and Cameraphone sync-sound systems. At first, behind-the-sheet performances were solitary efforts, modeled on a single vaudeville act. Early in the year, Lubin had inaugurated backstage talking in Philadelphia.

Manager Bothwell, of Lubin's Moving Picture Theatres, is always springing something new on the public, and in consequence the patronage at those places is enormous. His latest is to have dramas enacted in connection with the moving pictures displayed. He has a well-known dramatist that writes plays around the pictures and then as they are thrown on the screen a company of actors play the parts, speaking the lines to suit the action of the picture. This is one of the most novel ideas ever sprung in this section, and is making an enormous hit.<sup>59</sup>

According to *Billboard*, "the pioneer in the field of combination of moving pictures and the acted drama, so far as New York is concerned," was melodrama author Charles E. Blaney, whose Third Avenue Theater was by April presenting behind-the-sheet talkers, with scripts based on existing productions.<sup>60</sup> In May the Arcade Theater in Newark (N.J.) hosted the Natural Voice Talking Pictures

with seven people behind the screen.<sup>61</sup> About the same time, Marcus Loew began sponsoring similar shows throughout his People's Vaudeville Circuit.<sup>62</sup>

In May, Chicago film distributor George Kleine bankrolled a large advertising campaign for an elaborate spectacle featuring renowned impersonator Henry Lee at Chicago's 4,000-seat Auditorium.

*Henry Lee's Mimic World* combined films and slides with narration, sound effects, voices behind the screen, and a phonograph playing synchronized sound. While much of the 90-minute program involved a traditional travel lecture with slides and films, dramas and farces were also included: "the story of [these films] is told by the actor (Joseph Kilgour) who stands at the side of the screen; while practically every action displayed on the screen is audibly duplicated back of the screen on the stage."<sup>63</sup>

Employing two organists and twenty-eight additional personnel, *Henry Lee's Mimic World* was heavily covered by both *Variety* and the *Clipper*, thus making precisely the big splash that Kleine sought.<sup>64</sup>

A few weeks later, Kleine and Lee moved their show to the Colonial Theatre, changing its name to *Cyclo-Homo* (after the name of the sponsoring company, the Cyclo-Creative Corporation), and adding a Burton Holmes travelogue.<sup>65</sup>

Lee's shows gave an enormous boost to behind-the-sheet sound, justifying those who had already begun to transform a series of solitary efforts into an industry. In May, recognizing the moneymaking potential of an efficient approach to human voices behind the screen, Adolph Zukor had established the Humanovo Producing Co. (later joined by Marcus Loew), with longtime stage professional Will H. Stevens as director. After careful selection of films appropriate for dialogue treatment, Stevens wrote the scripts and personally rehearsed the actors.<sup>66</sup> Whereas Blaney's script-a-week Third Avenue operation produced only a single week's shows, Stevens's dialogues would be in simultaneous use by as many companies as Humanovo could place. "Each company stays at a theatre one week," explained Stevens, "and then moves on to the next stand, traveling like

**T A - M O - P I C**

Success assured. Last week we contracted with fifty (50) Moving Picture Theater Managers to supply them with our:

**TALKING MOVING PICTURES**

for six months, that shows what confidence the managers have placed in us. Mr. MANAGER: Don't be alarmed by the Advertisements you read of Fake Shows and Cheap Actors, there is nothing in it. Do you think for one moment that Mr. Crawford would jeopardise his own theatres, which are the ten largest Moving Picture Theaters in the world with Fake Shows and Cheap Actors?

**NO! A THOUSAND TIMES "NO!"**

That is one reason why you should let us book our Talking Moving Pictures at your Theater, because you will receive the same companies that are playing in our Mr. Crawford's own houses.

Write, wire or walk today to:

**O. T. CRAWFORD FILM EXCHANGE CO.** 418 AND 420 WEST SEVENTH ST. LOUIS, MO.

9.10 Ad for the St. Louis-based behind-the-scenes talker troupe Ta-Mo-Pic

a vaudeville act and producing the same reel of pictures all the time."<sup>67</sup> By the end of June, Humanovo troupes had already played seventeen locations. On 18 July, Stevens announced that Humanovo had twenty-two companies in operation.<sup>68</sup>

Enterprising impresarios everywhere climbed on the bandwagon. On Decoration Day 1907 (now known as Memorial Day), Pathé's *Coasting in the Alps* had been presented with behind-the-screen voices by the manager of the Poli Theater in Worcester (Mass.). The author of this "Monograph" was hired, and his idea acquired and moved to the Midwest, by the Actologue Co.<sup>69</sup> Jointly owned by the Lake Shore Film & Supply Co. of Cleveland and the National Film Co. of Detroit, Actologue reportedly had five companies on the road by 18 July 1908, ten by 8 August, and fifteen by 12 September, with more in training.<sup>70</sup> In July the Toledo Film Exchange had four "Talk-o-Photo" troupes traveling.<sup>71</sup> St. Louis entrepreneur O. T. Crawford claimed in early September to have contracted with fifty theaters for his "Ta-Mo-Pic" companies (from the initial letters of *Talking Motion Pictures*).<sup>72</sup> By August 1908, according to *Moving Picture World*, "at least twelve different concerns [were] engaged in the promotion of moving talking pictures."<sup>73</sup>

Locating actors for backstage synchronization was a tricky affair. Compared to theater, or even to

**NICKEL THEATRE**  
Daily 10 A. M.  
to 10:30 P. M.

**NICKEL HUMANOVO**

First Time in Providence  
of the Greatest Talking  
Motion Picture Novelty  
of the Age, **THE**

Pictures that actually talk. NOT a phonograph or any other kind of machine, but actually  
talks simultaneously giving the dialogue of dramatic or comedy stories as pictured by the motion  
picture machine. Subjects changed every Monday and Thursday. For the first  
three days of this week, "THE TWO ORPHANS," for the last three days  
"COLLEGE CURSUS," a legible picture based upon "Charley's Aunt."  
Also the usual list of interesting comedy, dramatic and illustrations.

**MOTION PICTURES and ILLUSTRATED SONGS**  
the latter by the popular balladist, **BOB ALDEN**, also **MISS CARROLL**,  
**MISS BEAULIEU** and the **NICKEL QUARTETTE**.

**ADMISSION 5c—NOTHING CHEAP  
BUT THE PRICE.**

Without necessarily limiting  
ourselves to the  
work of the  
theater, we  
clean up the  
theater.

9.11 Providence Nickel Theatre ad touting the Humanovo talker troupe

vaudeville, cinema remained a poor cousin. Yet the new mode was so promising that Len Spencer's New York Lyceum talent agency immediately added "talkers" to the list of specialties that it would locate and train.<sup>74</sup> During the slack summer months there was an ample supply of actors on summer hiatus, but with the arrival of the new season many actors returned to their regular jobs or found better-paying roles on the legitimate stage. According to one observer, this situation was bound to create problems of quality: "with the springing up of so many new producing concerns, and with the increased demand for picture actors, it seems as though the demand will more than counterbalance the supply, and will necessitate the employing of many who are hardly proficient enough for the work, which will be the cause of many weak and unsatisfactory productions."<sup>75</sup> In spite of these dire predictions, still other companies would be formed during the 1908–1909 season, including Dram-o-tone, William Swanson's troupes in Texas and the Denver area, and R. J. Goodwin's Talking Picture Co. in Indiana.<sup>76</sup>

For early audiences, behind-the-sheet voices were mysterious and confusing. When the Humanovo opened 1 June 1908 at Keith's Nickel Theatre in Providence, the imprecise and inelegant prose of the local press appropriately expressed audience difficulty in situating this new mode. The *Tribune* called the Humanovo "the newest talking motion picture device," and announced that, "By means of this new feature, motion pictures are made to talk, just the same as

human beings."<sup>77</sup> Advertising copy specified that the Humanovo presents "Pictures that actually talk. NOT a phonograph or any other kind of machine, but human voices simultaneously giving the dialogue of dramatic or comedy stories as pictured by the motion picture machine."<sup>78</sup> After the performance, the *Tribune* awkwardly explained that "human voices give the dialogue which tells of the picture that is simultaneously given."<sup>79</sup> The same day, the *Journal* called the Humanovo "the latest talking-motion picture effect," adding that, "The 'Humanovo' is not a phonograph or other variety of talking machine, but the dialogue descriptive of the picture is simultaneously rendered by human voices."<sup>80</sup> More stilted prose would be hard to imagine.

As with other contemporary approaches to sound, practitioners had trouble finding appropriate vocabulary for the new enterprise. Len Spencer called the behind-the-sheet approach "advanced pictorial vaudeville," while a *Views and Films Index* reporter spoke of "the pictorial demonstrator behind the screen," who must be "a character artist and impersonator." *Nickelodeon* writer Frank N. Pierce referred to the "audible illustrator," identified as "nothing more nor less than a human phonograph."<sup>81</sup> Besides the obvious identification with cinema and theater, the new mode was assimilated to a variety of other sound practices, from lecturing to phonography. At first, this ambiguity was exploited by unscrupulous exhibitors who attracted patrons by implying that they would witness a mechanically synchronized performance, i.e., a Chronophone or Cameraphone show. After a May 1908 visit to the Manhattan Theater, a *Moving Picture World* employee reported that "many people in this city are being fooled into believing they are viewing the new invention of 'talking pictures' when they are only listening to a very bad vocal operator hidden behind the screen."<sup>82</sup> While articles on behind-the-sheet efforts never fully escape terminological ambiguity, the term "talking pictures" would eventually be reserved for live backstage voices, whereas phonographic systems were typically referred to by the system's proprietary name. Once behind-the-screen voices had dropped out of

fashion, however, sync-sound systems would once again be referred to as "talking pictures."

Early talking picture aspirations were never met. When the Humanovo Production Co. was first formed, manager Will Stevens announced plans to imitate Chronophone and Cameraphone by shooting films tailored for Humanovo companies.<sup>83</sup> Financial realities kept this scheme from materializing; talking picture troupes made do with available films. A similar scaling down took place with regard to programming. In early August 1908, the *New York Dramatic Mirror* reported the following as a typical program offered by the "Humanovo Road Co.":

*College Chums* (farce)  
*Two Orphans* (drama)  
*Pictures of the Days of '49*  
*Nero, the Burning of Rome* (with lecture)  
 Songs (illustrated) by Francis Woodbury  
 4 vaudeville specialties  
*The Birth of the Butterfly* (Pathé spectacular)<sup>84</sup>

In duration, this program of five films, four vaudeville numbers, and illustrated songs represents a typical evening's entertainment in a mixed "pic-vaude" theater. Had Humanovo troupes actually presented programs with four "talked" films, talking pictures might have lasted longer. In fact, Humanovo troupes were much more stingy. At the Providence Nickel the opening Humanovo week was split between *The Two Orphans* and *College Chums*. The company routinely presented one talking film at a time, with the rest of the program provided by the local exhibitor. Twice-weekly changes were the rule, even though most theaters changed their other films at least three times a week. During the summer of 1908 at the Manchester (N.H.) Nickel, not only was this system respected, but there too *College Chums* and *The Two Orphans* were the opening films. When the Manchester Nickel switched to the Dramagraph Co., exactly the same pattern continued, as it would for over two years (December 1908–May 1910) at the Nelson Theater in Springfield (Mass.).<sup>85</sup>

Though no dialogue actually spoken by actors behind the screen is known to have survived—many

shows were improvised and others were learned by heart and the scripts discarded—contemporary comments permit us to piece together a fairly clear sense of talking picture shows. Whereas early behind-the-sheet performances, such as those of LeRoy Carleton or Henry Lee, put a premium on impersonation, with the same actor speaking all voices, talking pictures adopted a stricter code of realism. While some shows used up to seven performers, the strict minimum was set at three: "two men, one of thin and the other of gruff voice, and one woman... for only in exceptional cases is it possible for a man to faithfully imitate the female voice."<sup>86</sup> Even Lyman Howe finally hired a woman, Maude Andersen, for his midwestern company in the summer of 1908.<sup>87</sup> Talking pictures' dedication to realism is evidenced by the often reported requirement that actors stand behind their character, so that the voice will seem to be coming from the character,<sup>88</sup> a concern repeated twenty years later by the expressed desire of sound film developers to multiply sound tracks and loudspeakers so that each voice would emanate from directly behind its apparent image source. Though it took only a few years of experience with sync sound in the late twenties to demonstrate that exact voice placement is not necessary to support the ventriloquial illusion, talking picture practitioners remained dedicated to exact actor/voice placement. Prefiguring so-called Method acting, actors were even encouraged to imitate on-screen characters while they speak.

As an example, take a woman in tears. She should go through the same action that she would if it were happening to her in real life, using the handkerchief and hands and all gestures that accompany it. Struggles should be gone through in the same manner. To make the effect more complete, the breaking of a glass or the shooting of a revolver or a gun, or slapping the hand on a table to bring out a convincing point in an argument should always be done by the person speaking the line.<sup>89</sup>

For this reason, actors were repeatedly instructed to provide all appropriate sound effects while delivering their lines. As Humanovo impresario Will Spencer put it, the backstage talker "must be able to delineate

vocally all of the sounds which are supposed to emanate from the action on the sheet, from the gruff voice of the master of the house who orders the unworthy suitor from under his roof to the yelping of the dog which runs with the crowd on the street."<sup>90</sup>

Melodrama was the genre of choice, often imitating stage originals like *East Lynne*, *Camille*, and *The Tivo Orphans*. At the Nelson Theater in Springfield, where programs specified each film's genre, well over half of the Dramagraph offerings are labeled as dramas or melodramas. In early 1910, for example, the selection was as follows:

3-5 Jan	<i>A Woman's Caprice</i> (Biograph drama)
6-8 Jan	<i>Kingdom of Labor</i> (Edison drama)
10-12 Jan	<i>Mabel, the Factory Girl</i> [undesignated]
13-15 Jan	<i>The Yellow Jacket Mine</i> [undesignated]
17-19 Jan	<i>Brother's Wrong</i> (melodrama)
20-22 Jan	<i>Fatal Falsehood</i> (Edison war drama)
24-26 Jan	<i>The Rival Brothers</i> (melodrama)
27-29 Jan	<i>A Convict's Sacrifice</i> (Biograph drama)
31 Jan-2 Feb	<i>Little Sister</i> (Edison drama)
3-5 Feb	<i>Tangled Love</i> (Vitagraph drama)
7-9 Feb	<i>Won by a Child</i> (rural drama)
10-12 Feb	<i>Secret of a Locket</i> (Edison drama)
14-16 Feb	<i>Silas Marner</i> (Biograph/George Eliot)
17-19 Feb	<i>The Twelfth Juror</i> (drama)
21-23 Feb	<i>Through the Breakers</i> (Biograph drama)
24-26 Feb	<i>Secret of the Locket</i> (Edison drama)
28 Feb-2 Mar	<i>A Soul's Ordeal</i> (Edison/Les Misérables)

Though the best-known talker (Edison's *College Chums*) is a comedy, melodramatic mainstays (*Falsely Accused*, *Heard Over the Phone*, *Blue Jeans*, *The Lonely Villa*, *Silas Marner*) were abandoned only for comic relief. As one observer put it, simultaneously recommending comedies and explaining their

absence, "Comedy reels are also good, providing that you can keep up swift action."<sup>91</sup> Drama's slowly unfolding psychology was easier both to write and deliver.

One regularly noted problem was screen actors' tendency to limit their speech in favor of gesture. When silent film actors spoke on-screen, they were actually uttering words that their characters might reasonably be saying,<sup>92</sup> but 1908 backstage actors often wished for more on-screen speech. As a contemporary observer later recalled,

Moving picture players did not speak their lines as much as they do now, and the willing actors behind the curtain were often compelled to remain silent when they might have supplied the most thrilling words to the action if the players had only opened their mouths and said something when the film was made. Motion picture acting in those days ran largely to pantomime and gestures, and when the performers did speak they never said enough or talked long enough to give the "talkologue" people chance to get in really good work.

The writer remembers seeing a talking picture at the [St. Louis] Grand Central. There was a thrilling scene where the innocent young man was accused of murder, and at the trial scene where he was charged with the crime, and should have given the talker behind the curtain a chance to say "Not guilty" in ringing tones, he only compressed his lips and shook his head with a look of truth-will-out-some-day expression on his face. But when the heroine rushed in with the "paper," that proved his innocence he turned his back to the audience while he folded her in his arms—and then the actor, bursting with speech back behind the curtain, got his chance and made the most of it.<sup>93</sup>

Having only their voices to express themselves, backstage talkers itched to insert dialogue, even where none was present in the image. But all dialogue had to be synchronized—or at least semisynchronized—with on-screen lip movement. When lips were visible, dialogue was permissible only if the lips were moving. This fealty to synchronization is a sign of the commitment to realism shared around 1908 by sound effects, sync-sound systems, and talking pictures alike. But let not the character leave the frame. "The actors and actresses back of drop must watch

every minute, so that they will not be talking when characters are not seen before their entrance or after exit.<sup>94</sup> Talking pictures had no concept of offscreen voices, just as contemporary editing was learning only slowly to handle offscreen space. Backstage actors might utter any word or sound attributable to an on-screen character, but no contamination with the lecture mode was condoned. Backstage voices were never allowed to present and dominate images, but had to be hidden behind characters, and thus subordinated to an apparently image-driven representation process.

Interest in dialogue spawned increasing fascination with faces—not just moving lips but also the facial expressions that give dialogue its depth. Repeatedly, talking picture supporters called for actors to be brought closer to the camera. As Will Stevens put it,

In watching the work of the talking pictures it occurs to one that manufacturers of film now have a new condition to reckon with, and one which should prove decidedly to their advantage. It should be interesting to see them pay attention to the film talker's requirements in turning out their subjects. For instance, the scene in the *Cowboy Elopement* in which the elopers dismount and stop to take a kiss is not at all faulty from the moving picture point of view, but when the talker is considered it will be seen that the characters are too far up the road and away from the audience for their words and kisses to be heard as plainly as they are. The way out of this difficulty would be, it seems, to have the action of the film take place as near to the camera as is possible, so that the volume of voice will not seem out of proportion to the distance which it is supposed to travel.<sup>95</sup>

Audiences interested in dialogue also wanted large-scale faces. Though greater use of close-ups was also influenced by increasing narrative complexity and star-oriented marketing, together sync-sound systems and talking pictures played an important role in reinforcing this tendency.<sup>96</sup>

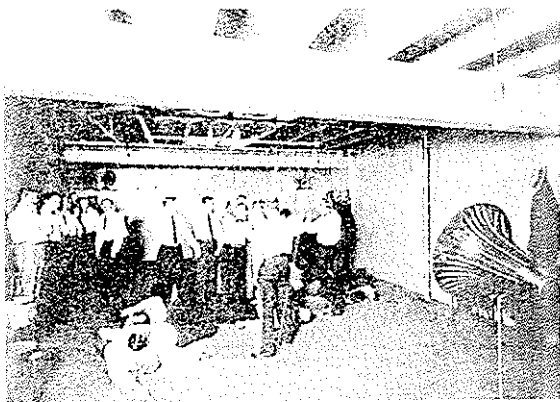
In many ways, talking pictures were doomed from the start. Never an integrated product, they depended on successful combination of a film made by one company, a script from another, and a live per-

formance by traveling actors constantly at the whim of a projectionist's cranking speed. When done well, with appropriate scripting and adequate rehearsals, talking pictures were always relatively expensive, on a par with vaudeville acts rather than projected films. When done poorly by unrehearsed local talent, talkers alienated more customers than they attracted. In 1908, talking pictures were considered prestige productions that would help to raise film's status. "The talking picture is one of the heights which the enterprise will reach in its upward growth," said H. N. Marvin, vice president of the American Mutoscope & Biograph Co., "and this will attract a new clientele, and an intelligent one, capable of supporting a house for which an adequate charging of admission is made in proportion to the cost of the production."<sup>97</sup> Still anchored in the theatrical model, Marvin was convinced talking pictures would provide a bridge between film's popularity and the stage's prestige. Yet only eighteen months later, *Nickelodeon* declared that the talking picture "has found favor only in the cheaper houses."<sup>98</sup> Soon "talking pictures" would fall from favor and the name would be taken over by synchronized sound systems.

### Last Words

When backstage talkers disappeared, sync-sound systems came rushing back. In August 1910, Edison demonstrated a new disk-based system that he had begun working on in 1908 at the urging of Bridgeport (Conn.) inventor Daniel Higham.<sup>99</sup> In December 1910, Gaumont presented Chronophone improvements to the French Académie des Sciences. The year 1910 saw dwindling public attention to sync-sound systems, but in the Edison and Gaumont camps competition was mounting to the point where an Edison employee was allegedly offered \$100 a week to inform Gaumont of Edison's new methods.<sup>100</sup> What sync-sound problem was important enough to justify industrial espionage? Throughout the 1907–1909 wave of sync-sound systems, one difficulty had continually

## NICKELODEON SOUND



9.12 In order to produce the sound record, actors must huddle around the recording mechanism, whereas the image record requires them to keep their distance from the camera (note the horn playing the previously recorded soundtrack, to which the actors are synchronizing their speech)

frustrated producers. Contemporary acoustic recording procedures involved no preamplification of the sound source to be recorded; musicians and speakers thus strained to maximize the amount of sound energy reaching the recorder. While musicians played in an artificial grouping in front of a collecting horn, speakers stood close to the horn, projecting their voices as if they were in a large room. The sound recorder's insensitivity created insoluble problems for image recording. As David Hulfish put it in 1911, "The graphophone must be near the speaker, or it will not record the speech, while the camera requires some intervening distance in order to secure a proper rendering of the picture. Yet the graphophone must

not appear as an object in the picture obtained by the camera."<sup>101</sup> The obvious solution to this problem, adopted by all pre-1910 systems, was to record sound and image separately. As Hulfish explained it,

In producing a talking picture where several actors are involved, the method of manufacture is to make the talking record first, and then fit a motion picture to it. To do this, the actors are well drilled in their parts, so that they will be able to produce the performance twice, once in sound for the sound record and once in action for the picture record.

The actors being thus trained, the sound record is produced without any reference to what the appearance of the actors may be while producing the record, the end desired being only that the best possible sound record be obtained.<sup>102</sup>

While separate recording of image and sound apparently solved the recording-sensitivity dilemma, it shifted the problem to the realm of synchronization—automatic with simultaneous recording but not when the two processes are separated. Early sync-sound systems were thus regularly castigated for inadequate synchronization—doubly poor because exhibition difficulties intensified problems created during production. In 1908 the *Dramatic Mirror* already understood:

The trouble lies in the fact that the phonograph record of the words spoken or sung cannot be made at the same time that the moving picture is taken with the camera. Phonograph records are spoken into the phonograph at close hand, which would be entirely impossible with people moving about as they must do for the film....If the phonograph could be made to record the words and other sounds at the same time the camera was at work, it would be plain sailing, but until something of that sort is accomplished theatrical producers and actors need not lie awake nights dreading the time when talking moving pictures will drive them out of the field.<sup>103</sup>

In 1908 nobody was lying awake at night, because simultaneous recording of image and sound had not yet entered the industry.

Starting in 1908, both Edison and Gaumont experimented with amplification systems permitting recording at a substantial distance from the phono-

graph. Reports on actual distances achieved vary from fifteen to forty feet.<sup>104</sup> In early spring of 1911, Gaumont announced a "new" Chronophone, claiming a satisfactory method of recording sound and image simultaneously.<sup>105</sup> Soon, Edison proposed a novel system named "Cinephonograph," in all probability never actually demonstrated.<sup>106</sup> When in 1912 the Chronoscope was successfully demonstrated in London, it seemed that the halcyon sync-sound days of 1908 had returned.<sup>107</sup> Inventors and developers from around the world began pushing their systems: Isadore Kitsee's "synchronous phonograph and kine-tograph" (exploited by John Cort, and thus generally known as the "Cort-Kitsee device")<sup>108</sup> and Cecil Hepworth's Vivaphone,<sup>109</sup> plus the Vi-t-aphone,<sup>110</sup> the British Synchrophone,<sup>111</sup> Eagle "talking or singing pictures,"<sup>112</sup> the Sun-Set Electro-phone,<sup>113</sup> the Kinetatophone,<sup>114</sup> the Cinematophone,<sup>115</sup> the Talkatophone,<sup>116</sup> Kellum Talking Pictures,<sup>117</sup> and a rerelease of Messter's Biophon (now baptized Biophone for the American market), said to be "In use in 90% of first class moving picture theaters in Europe."<sup>118</sup> When Edison's Kinetophone was demonstrated in January 1913, opening in theaters a month later, it seemed that sync sound's day had finally come.

When it at last appeared in public, the Kinetophone featured a phonograph with an oversized cylinder rather than the disks used in the Chronophone or Edison's previous experiments. In order to reduce noise and increase durability, the cylinders were made out of celluloid rather than wax.<sup>119</sup> Edison's publicity touted the new simultaneous recording of image and sound:

There have been and will continue to be offered so called talking pictures in which the phonograph record and the picture film are made separately. Harry Lauder has stated that in an effort to produce a picture by this method he made no less than one hundred attempts to sing in synchronism with a record of his own voice and found it impossible. By this method only "near" synchronism and absolutely no illusion is obtained.

THE EDISON TALKING PICTURES ARE GENUINE, that is, the film and record are taken


simultaneously, and every sound and every action is faithfully reproduced.<sup>120</sup>

In order to show off the new system's full range, a carefully constructed demonstration film, known as *Lecture*, featured a lecturer discussing the Kinetophone and illustrating its possibilities by breaking plates, blowing horns and whistles, and dropping weights. A singer, a pianist, and a violinist collaborate on "The Last Rose of Summer." "Finally the scope of kinetophonic powers was further illustrated by a burglar's apoplectic efforts, and the barking of some perfect collies."<sup>121</sup> The other film in the opening program presented the first part of a minstrel show.<sup>122</sup>

Restricted by the cylinder's running time (5 min., 55 sec.), early Kinetophone films were short but varied, from comedies and nursery rhymes to scenes from *Julius Caesar*, *Faust*, and *The Chimes of Normandy*. Because of its creative use of the plot to solve technical problems, *Jack's Joke* deserves special attention. A practical joker sets up a blind date between two friends, telling each that the other is deaf. Both members of the couple thus yell at each other throughout the film—to the audience part of the plot, but to the recording engineer an unexpected and much desired increase in recording levels. Later Kinetophone efforts included two four-reel films: *The Deaf Mute*, a Civil War drama shot partially outdoors, and *Die Puppe*, shot in a Vienna studio.<sup>123</sup> Though most Kinetophone films were slavish recordings of vaudeville acts, Edison clearly had broader narrative aspirations. Within two weeks of the opening, *Moving Picture World* published Edison's filmscript guidelines, furnished by manager Horace G. Plimpton for the use of "those who wish to submit plays for the Edison Kinetophone (talking-motion pictures)." These include:

1. Each play should be figured to run six minutes, making due allowance for the time taken in movement or incidental business.
2. The characters should be few and the action laid in one set;
3. Either dramas or comedies will be considered for acceptance provided they are clean and

**TALKING PICTURES**  
**A FACT! A REALITY!**



The device which Edison has invented does not permit the separation of the picture from the sound by the slightest fraction of a second. With every gesture of the actor in the picture, also the proper word is uttered at the exact time.  
New York Press.

It was a moment or two ago, only a few days ago, that the world was permitted to give to the world's greatest picture the only device possible in this "market" for reproducing and synchronizing with action.  
New York Sun.

**THOS. A. EDISON**  
 STARTLES THE CIVILIZED WORLD AND REVOLUTIONIZES THE PICTURE BUSINESS WITH HIS LATEST AND GREATEST INVENTION

**THE KINETOPHONE**  
 ABSOLUTELY THE FIRST PRACTICAL TALKING PICTURE EVER MADE  
**PERFECT SYNCHRONISM AND ILLUSION**  
 VOICE AND ACTION TAKEN SIMULTANEOUSLY  
**ANY FIRST CLASS OPERATOR CAN HANDLE**  
 THE MACHINE CONTROLS THE OPERATOR HOLDING FILM AND RECORD TOGETHER IN PERFECT UNISON. IN FACT HE CAN TURN HIS BACK TO SCREEN AND SYNCHRONIZE TO A FRACTION OF A SECOND  
 CONTRACTS NOW BEING MADE FOR MACHINES AND SERVICE  
 WRITE FOR PARTICULARS

**AMERICAN TALKING PICTURE CO., Inc.**  
 SOLE DISTRIBUTORS  
 1493-1495 Broadway New York

9.13 Early trade press Kinetophone ad

free from offense. Great care should be exercised to avoid infringement upon any copyrighted work, either story or play.<sup>124</sup>

Its inventor saw the Kinetophone as a long-term investment, more than just another novelty.

Edison had good cause for optimism. When he demonstrated the Kinetophone to major impresarios in January 1913, they had been uniformly enthusiastic, engaging the new system for a long run in

major vaudeville theaters around the country.<sup>125</sup> According to *Moving Picture News*,

The success of the Edison talking pictures is assured. The Kinetophone is now operating in nearly one hundred of the largest cities in the United States. Sixty installers are scattered all over the country placing machines and teaching the house operators. The press and managers' reports from all places are uniform in their enthusiastic comments. All records for attendance have been

broken in every theatre where they have been shown.<sup>126</sup>

With the United Booking Office, Keith and Proctor, and Orpheum on his side, how could Edison fail? In one sense, the question itself contains the response: Edison's marketing strategy aligned the Kinetophone with vaudeville, yesterday's darling, while shunning moving pictures, tomorrow's choice. Edison was not alone in preferring this strategy. *Moving Picture World's* star columnist Epes Winthrop Sargent fully concurred, noting immediately after the Kinetophone premiere that

practically none of the leading photoplay managers have sought the rights to the talking pictures, for they, if not the lesser managers, realize that the place of the talking pictures is and probably always will be, in the vaudeville theaters.... The talking picture belongs to the talking stage, just as the silent drama thrives best in its own house.<sup>127</sup>

This approach assured that the Kinetophone would receive the acclaim of a top-billed novelty act, but like other novelties before it the Kinetophone received only a temporary welcome. Never destined to replace existing moving pictures, the Kinetophone suffered the fate of the many new approaches to film sound that were cost-effective only when attracting substantial crowds. When summer arrived, vaudeville theaters simply closed down, thus substantially limiting Kinetophone's income. Only in special cases, such as Keith's Providence Nickel Theatre—"By arrangement with Keith's Theatre, that playhouse having discontinued vaudeville for the summer"—would Edison's system ever appear in film theaters.<sup>128</sup>

Even in vaudeville the Kinetophone ran into problems. At New York's Union Square, "the real sensation of the day was scored quite unintentionally by the operator of the machine [who] inadvertently set his pictures some ten or twelve seconds ahead of his sounds, and the result was amazing. The interlocutor [of the evening's second film, a minstrel show first part]... would rise pompously, his lips would move, he would bow and sit down. Then his speech would

float out over the audience."<sup>129</sup> Like earlier systems, the Kinetophone would never get the monkey of poor synchronization entirely off its back. In 1921, early film historian Austin Celestin Lescarbourea recalled the following experience regarding a talking picture produced eight years earlier: "It was a scene from *Julius Caesar*—the quarrel scene, to be exact. One of the characters suddenly sheathed his sword, and a few seconds later came the commanding voice from the phonograph somewhere behind the screen, saying: 'Sheathe thy sword, Brutus!' The audience roared, of course."<sup>130</sup> In addition to poor synchronization, the Kinetophone was regularly criticized for the familiar sync-sound problems of inadequate amplification and hollow, metallic sound. Though writers recognized the Kinetophone's progress, they insisted that problems still remained.<sup>131</sup> In 1908, during the crisis of the late aughts, a system with the Kinetophone's qualities and the Edison name might have changed exhibition practices substantially, but by 1913 standardized sound practices had been firmly built into exhibition habits and theater budgets.

Even so, when it first appeared in 1913 the Kinetophone could do no wrong. Reviews noted problems but audiences applauded wildly anyway. As far away as Manila and Hong Kong, Edison's invention was cheered. Austro-Hungarian Emperor Franz-Josef personally endorsed the Kinetophone.<sup>132</sup> Imitators soon followed. In 1913, the Protective Amusement Co. showed Webb's Electrical Pictures in New York's Aerial Theater (atop the Amsterdam Theater), using a sound-on-film system borrowed from Lauste's Phonocinematophone; once acquired by William A. Brady, Webb's pictures returned in 1914 at the Fulton Theatre.<sup>133</sup> The same year, Selig Polyscope released seventeen films of Harry Lauder singing Scottish tunes, thereby capitalizing on Lauder's sixth successful U.S. tour during the 1913-14 season.<sup>134</sup> In early 1914 it might reasonably have been assumed that sound films had arrived to stay. Yet, as suddenly as they appeared, the ads for sync-sound systems disappeared. Two devastating events then further crippled Edison's ability to profit from his invention. During

## NICKELODEON SOUND

the summer of 1914, war broke out, jeopardizing the Kinetophone's substantial export income. In December, Edison's West Orange complex was hit by a devastating fire, destroying every Kinetophone record and film master. Though he rebuilt virtually every other aspect of his enterprise, Edison allowed the Kinetophone to expire.

Synchronized sound films were hardly heard from again until D. W. Griffith experimented with Orlando E. Kellum's Talking Pictures as curtain-raisers for the New York premiere of his 1921 *Dream Street*. Subjects included the now obligatory lecture—this time by Griffith himself—explaining and lauding sync-sound systems in general and Kellum Talking Pictures in particular, plus a song and “Irvin Cobb telling one of his funny little antidotes [*sic*].”<sup>135</sup> The feature itself included only a single synchro-

nized sound passage, Spike's love song to Gypsy Fair.<sup>136</sup> The next day's press was so filled with the familiar litany of complaints about metallic, scratchy sound that the sync-sound system never accompanied the film on the road.<sup>137</sup> Two years later, Lee De Forest inaugurated his sound-on-film Phonofilm system in New York's Rivoli and Rialto theaters under the sponsorship of powerful music director Hugo Riesenfeld. Once again styled as vaudeville turns, Phonofilm quickly went the way of the Kinetophone: successful play dates in thirty-four theaters on several continents, followed by oblivion.<sup>138</sup> Not until 1926–27 and Warner's exploitation of Bell Laboratories' Vitaphone system would a synchronized sound system challenge silent cinema's well-regulated scheme. But that is another story, and another book.