The Introduction of Sound

Karel Dibbets

The transition from silent to sound film marks a period of grave instability as well as great creativity in the history of cinema. The new technology produced panic and confusion, but it stimulated experiments and expectations too. While it undermined Hollywood’s international position for several years, it led to a revival of national film production elsewhere. It is a period with specific features that differentiate it from the years before and after. This chapter will focus on these special characteristics, without losing track of some important continuities. Though the conversion to sound did not follow the same path everywhere, and while every country has its own history, most attention will be paid here to the main line of developments.

To understand the impact of sound, it should not be forgotten that silent cinema was not silent at all. Silent films have plenty of references to all kinds of sounds; they deliberately put the viewer in the position of a listener. Moreover, these films were presented in a cinema with live music performed by a pianist or an orchestra, and often the musicians would add sound effects to the action on the screen. In Japanese cinemas a voice was added to the images by a lecturer or benshi, who actually dominated the film show with his verbal interpretations.

DIFFUSION PROBLEMS

Long before the introduction of talking pictures, inventors on both sides of the Atlantic had developed a range of technical devices to synchronize sound with moving images. The oldest method was to link a phonograph to a film projector. Thomas Edison himself built the prototype of this sound-on-disc apparatus in the early days; it was still a viable system in the 1920s. Another method, more inspired by modern electro-technics, did away with the discs and recorded sound directly on film. This sound-on-film system would prevail and become the standard of the international film industry in the 1930s.

The conversion to sound did not depend completely on technology, nor would its effects be restricted to technological matters. Software, not hardware, would become the deciding factor of the innovation process in the USA as well as in Europe, although this was not immediately obvious. Hollywood took its first step towards conversion in the 1926–7 season when Warner Bros. and Fox Film began wiring their theatres for sound. Both studios hoped to earn an extra profit by investing in new technology, but the roads they followed were different.

Warners presented its first synchronized programme in August 1926 using a sound-on-disc system called Vitaphone. Warners’ main intention was to offer the cinema owners a substitute for the live performers in their programme, in particular the cinema orchestra and the stage show. Because of this, their first feature film with sound, Don Juan (1926), was not a talking picture at all; it only used a musical score recorded on discs to accompany the silent images. The studio was more interested in Vitaphone’s shorts: lipsync-recorded performances of popular vaudeville and opera stars, who could now bring their act to even the smallest theatres. Fox did not believe in talking feature films either. In April 1927 the studio launched sound newsreels as its alternative, using a sound-on-film system. Fox Movietone News, as it was called, became a big attraction immediately. The success of these innovations was temporary, however, as the novelty appeal wore off.

The real breakthrough came during the 1927–8 season when Warners released a second feature film, this time with lipsync recordings of songs as well as some dialogue. The Jazz Singer, directed by Alan Crosland and starring the popular vaudeville star Al Jolson, was really a silent picture incorporating a few inserts with sound. This hybrid form, in which two technological eras come together, corresponds well to the melodramatic theme of the film. A conflict of generations finds expression in a clash of two musical traditions that seem to be mutually exclusive: religious songs and profane jazz. In this way, the film gave birth to a new film genre, the musical.

The success of The Jazz Singer proved that sound could come off well if presented as a full-fledged feature film with lipsync acting. As soon as this fact was recognized, the other Hollywood studios rushed to convert to sound. Their hurry was not unmotivated: the new technique would save the costs of live musical accompaniment in their main theatres, and the savings would exceed the costs of conversion considerably (an advantage that did not apply to small cinemas). Cinema musicians were fired
and replaced by hardware. By 1930 most American cinemas had been wired for sound and Hollywood had stopped making silent films. However, this was by no means the only effect of the conversion process.

In May 1928, after thorough examination of the different sound techniques, almost all studios decided to adopt Western Electric's sound-on-film system. This meant the imminent end of Warners' Vitaphone productions on discs. It also meant the sudden creation of a new major studio, Radio-Keith-Orpheum or RKO. This was established by RCA, one of America's biggest radio companies, who were unwilling to leave the motion picture industry to their major competitor, Western Electric. Once the studios had decided to convert, the innovation process entered a new phase. The rest of the world would feel the consequences as Hollywood, Western Electric, and RCA began to prepare for export. The 1928–9 season would become the year of the international diffusion of talking pictures.

What interest there was in sound film outside the USA in the 1920s was to be found with engineers of the radio and phonograph industry. European inventors like Berglund in Sweden, the TriErgon trio in Germany, or Petersen and Poulsen in Denmark had been experimenting for years with sound-on-film technology. They had given demonstrations of their inventions in the early 1920s, but the European film industry had shown little interest in their work. The transition period in Europe, Japan, and Latin America, then, really begins in the 1928–9 season with the first public screening of American talking feature films.

The arrival of American sound films provoked reaction from electronic companies in Europe, who immediately began to organize resistance. Patents were now seen as the keys to the box-office of the European cinemas, worth hundreds of millions of dollars. This lucrative prospect appealed to the imagination of financial and industrial businessmen, and in 1928 two powerful companies were rapidly established. The first, Ton-Bild Syndikat AG, or Tobis, owned the very important TriErgon patents as its main asset; it was created with Dutch and Swiss venture capital and a minor German participation. The other company, Klangfilm GmbH, was backed by the industrial capacity of two major German electrical firms, AEG and Siemens. In March 1929 Tobis and Klangfilm agreed to form a cartel with the aim of fighting off the American invasion and bringing the entire European film industry under its control. They used patent suits to slow down their opponents, while taking advantage of language bar-

The multilingual film, E. A. Dupont's Atlantic (1929) was shot simultaneously in English, French, and German. Above, a scene from the English version, with John Stuart and Madeleine Carroll, and below the same scene in the German version, with Francis Lederer and Lucie Mannheim.
riers and import restrictions. The patents war that followed would last until July 1930.

The struggle for industrial control alone was enough to rock the foundations of the international film world, but this instability was increased by the language barrier. A silent picture could be exhibited in all countries of the world. A talking picture, however, became the prisoner of its own language. A translation technique did not yet exist and it would take some years before dubbing was developed and generally adopted. Moreover, most pictures were English speaking, and this hurt the self-respect of audiences in non-English-speaking countries, and aroused nationalist feelings. Italy banned talking pictures that used languages other than Italian, and Spain, France, Germany, Czechoslovakia, and Hungary took similar protectionist measures.

As a result, the international film market, dominated by Hollywood for more than a decade, suddenly began to disintegrate: it split into as many markets as there were languages. At first, these language barriers were bridged with songs; the musical film did not rely on dialogue alone and could be enjoyed all over the world without translation. Since musicals were new and very popular, Hollywood was happy to make them in great quantities for its international clients. However, talking pictures with lots of dialogue posed a real problem. Dialogue jeopardized the concept of Hollywood as the centre of the international film industry. For some time, a decentralization of American film production appeared to be the only answer to the language problem, and in 1930 several American studios began to invest extensively in Europe’s film industry. Paramount built a giant studio in Joinville, France, to produce multilingual films: they would shoot the same film in different languages, using the same set and costumes over again. Warners set out to co-produce a multilingual film in Germany, Die 3-Groschenoper (G. W. Pabst, 1930; the French version was called L’Opéra de quat’ sous), before securing an important share in Europe’s most promising venture in sound film production, Tobis. MGM approached the problem from the opposite end: it invited foreign actors to the USA to play the different language versions in its Hollywood studios. MGM could also employ some of its own stars to this end, as in Anna Christie (1930), in which Greta Garbo, born in Sweden, played a Swedish immigrant who speaks both English and German with a foreign accent. This method of producing multilingual films had been invented and tried out first in Great Britain in 1929 when E. A. Dupont directed Atlantic in English-, German-, and French-speaking versions, but it remained a very expensive solution.

The future looked gloomy for the American studios in 1929–32, and not only because the economic depression had broken out at the same time. Sound had unleashed forces that undermined Hollywood’s international

---

**Joseph P. Maxfield**

Joseph P. Maxfield was one of a small group of multi-talented individuals privileged to oversee the development of new sound technologies and their application to Hollywood film-making. Having cut his teeth on the design of Western Electric’s state-of-the-art public address system in the early 1920s, Maxfield was given the task of developing a new phonograph at AT&T’s newly formed research facility, Bell Laboratories. The resulting 1925 invention, the first phonograph to exploit the possibilities of electric recording and the technology of matched impedance, was licensed for marketing by Victor (as the Orthophonic Victrola) and by Brunswick–Balke–Collender (as the Panatrope), and subsequently became the basis for the Vitaphone sound-on-disc system.

Appointed head of the Western Electric subsidiary responsible for installing the new film sound system, Electric Research Products, Inc. (ERPI), Maxfield published widely on recording techniques appropriate to the new film sound technology. One of the first to recognize the aesthetic importance of controlling reverberation, he was instrumental in devising practical methods of manipulating the acoustics of recording spaces and exhibition spaces alike. An early champion of single microphone use and the matching of sound scale to image scale, Maxfield had a direct and substantial influence on Hollywood’s accommodation to the new technology.

A long-term association with Leopold Stokowski, principal conductor of the Philadelphia Orchestra, permitted Maxfield to make signal contributions in the field of music recording as well. Collaborating with Stokowski throughout the 1930s, Maxfield pioneered Hollywood’s (and the rest of the recording industry’s) use of volume compression and the control of reverberation and aesthetic emphasis through the mixing of two radically different (‘dead’ and ‘live’) sound recordings. In the late 1930s he was one of the early supporters of multitrack and stereo techniques as methods of assuring maximum volume and frequency range as well as enhanced acoustic perspective.

While other important contributors to Hollywood sound technology and technique confined their careers either to the research and development area (A. C. Wente and Harvey Fletcher at Bell Labs, Harry F. Olson at RCA) or to the Hollywood studio domain (Carl Dreher and James G. Stewart at RKO, Douglas Shearer at MGM), Maxfield spanned the full range of technological development and aesthetic technique. From his experience at Bell Labs he learnt to apply engineering formulas to technique, from his regular contact with the cinema and music industries he learnt the importance of practical solutions. To him we owe not only the technology that made sound film possible but also many of the techniques and conventions that give Hollywood studio era films their particular sound.

RICK ALTMAN
leading role. Exports stagnated not only because of language barriers and patent disputes abroad, but also because Western Electric's policies did not square with Hollywood's.

Their European competitors, on the other hand, had more reason to be optimistic. They hoped to improve their position thanks to the disintegration of Hollywood. Among them was the Tobis-Klangfilm cartel mentioned above, which demanded an international sharing of power with Western Electric. Film-makers dreamed of new national film industries, protected by language barriers, and indeed, sound did stimulate film production in countries like France, Hungary, and the Netherlands. Even the Roman Catholic Church made plans to create its own Catholic sound film monopoly, the International Eido­phon Company, based on the patents of a clergyman. 'This is a magnificent opportunity,' a Catholic newspaper wrote in 1931, 'a gift of God to intervene in the world's mighty film industry. It is now or never.' Europe abounded with illusions.

The challenge of Tobis-Klangfilm was eventually met in Paris in July 1930. Here, the electronic companies involved on either side of the Atlantic held a conference that resulted in the foundation of a new cartel. According to their agreement, Europe's mainland became the exclusive territory of Tobis-Klangfilm. The latter could now collect all royalties on sound equipment and films in Europe. (Denmark proved to be an exception since Petersen and Poulsen successfully challenged the cartel with their own patents.) The rest of the world either became American territory or was open to both parties. Western Electric and RCA also agreed to the principle of interchangeability: they allowed Hollywood films to be played on European equipment, and vice versa. Tobis and Klangfilm left Paris in triumph.

In 1932 there was a major breakthrough in solving the language problem, when dubbing was introduced as the standard method of translating talking pictures in major languages, while subtitling became the solution for minor language regions. The dubbing technique had taken four years to develop. In 1933 and thereafter the Hollywood companies would recover from the initial set-back, although import quotas and the Depression would still take their toll. By that time, European film-makers had lost their illusions and stopped dreaming. Hollywood could produce its films at home again, and Paramount's Jovenville studio was transformed into a huge dubbing centre, the world's biggest ventriloquist.

REVOLUTION IN THE MOVIE THEATRE

The consequences of the coming of sound are usually evaluated with respect to the production of films, though the changes at the level of film exhibition and reception are of no less importance. Sound changed not only the film, but also the film's presentation and its relation to the viewer. In fact, the roots of silent film culture had to be demolished to give room to the rise of talking pictures. In the first place, the transference of the orchestra from the pit to the sound-track marked the end of the cinema as a multimedia show with live performance, giving way to the cinema as a single-medium event. Musical accompaniment by a local orchestra was made superfluous; nor was it necessary any longer for the exhibitor to support his programmes with a live stage show. Secondly, films no longer came to the theatre as semi-manufactured goods, but as final products. The new technology put an end to local variations in presentation. Sound films could offer a complete show in themselves, independent of local performers, and this show would be the same in every theatre all over the world. Thirdly, the definition of film changed drastically when music and sound effects, formerly a live element of the viewing context, became an integral part of the recorded film text. As a result of this 'textualization' of the context, the film text as an independent, autonomous artefact came into being. This would lead, among other things, to new concepts in film theory and criticism. Finally, the conversion to sound did not only change the conditions, but also the rules of film viewing. Audiences no longer visited a multimedia show that was primarily staged at this side of the screen, now they entered a cinema just to see what happened on the screen, or at the other side of the screen, as one might say. Without the mediation of a live orchestra, the thrill of watching a movie was transformed from a communal happening between four walls into an exclusive relation between the film (maker) and the individual viewer. The capacity of the exhibitor or the audience to intervene in the communication process had been reduced to a minimum.

The Cinema Act in the Netherlands provides an illustration of these shifts. The Act had been drafted in the silent period and drew a fine distinction between silent films and their exhibition. While the pictures themselves were to be supervised by the central government, their verbal and musical presentation had to be controlled by local administrations. However, when the new technology transferred the production of sounds from the theatre to the studio, the control of sounds tended to shift from local to central government, as the latter was now in a position to check all elements of the presentation. However, the Act did not sanction this interference with local authority. The consequences of this transfer of powers were debated at the highest political levels of government and Parliament in the Netherlands in 1930.

The elimination of the cinema orchestras was first of all a social tragedy. In the 1920s the cinema had become the world's largest employer of musicians. Thousands of musicians were sacked while many vaudeville artists lost an important source of employment. Only the most luxur-
ious movie theatres maintained a reduced orchestra and a side-show with live entertainment; a few even continued this tradition even into the 1960s. The greatest musical talents could find a job on the radio, but the majority had no alternative. Their wholesale dismissal could not have come at a worse time since it coincided with the outbreak of the economic depression and the spread of unemployment.

The wiring of cinemas also affected the competition between movie houses. A luxurious theatre could take advantage of the innovation since the conversion led to important savings. In doing so, however, it lost a characteristic attraction that had distinguished it from smaller theatres. Talking pictures made it possible to offer the same show in every cinema on earth. This levelling of differences would undermine the old theatre hierarchy and increase the competition in exhibition.

In all countries film critics, particularly the advocates of film as art, had great difficulties in accepting the new technology and integrating it in their aesthetic views. This reaction is understandable though paradoxical. Sound had increased the autonomy of the film by banning local influences on the presentation, thereby contributing to the ideal of film as an autonomous art, a central issue in the critical discussion of the 1920s. The champions of this view rejected the talking picture, however, for to them the end of silent cinema meant the death of the seventh art. It took some time before they had adapted their aesthetic views to the new conditions. And some, like the German film theorist Rudolf Arnheim, never did.

The revolution in the movie theatre also introduced the new experience of foreign languages to the public. It should be noted that the protests against foreign languages were not directed exclusively against American pictures. Czech audiences, for example, got very annoyed about the glut of German talking pictures in 1930. The release of Gustav Ucicky's Der unsterbliche Lump provoked anti-German demonstrations of such magnitude that the Czech government installed a temporary ban on German films (it has been rumoured that American film companies instigated the protest actions to harm the German competition). Retaliation was inevitable, and German theatres began a boycott against Czech playwrights, eight opera-houses cancelling the works of composer Leos Janáček, while German radio refused to broadcast Czech music. It was clear that the world needed translation techniques urgently, but it took several years before subtitling and dubbing were universally accepted as standard solutions.

ADJUSTMENTS IN THE STUDIO
The introduction of sound marked a period of artistic experimentation in modernist as well as in classical filmmaking. Formal experiments could be found in Europe, particularly in the avant-garde movement, though its output remained small. Interesting examples are Walter Ruttmann's Melodie der Welt (Germany, 1929), Dziga Vertov's Enthusiasm (Soviet Union, 1930), and Joris Ivens's Philips Radio (the Netherlands, 1931). These pictures have a few traits in common. The avant-gardists edited sounds like images, creating aural worlds parallel to visible worlds. A special feature of their films is the absolute
At first critics and public responded enthusiastically to the films' ornate visual style, their ambiguous insinuations of sexual abnormality and melodramatic exoticism, but after *Shanghai Express* (1932), poor box-office returns and unfavourable reviews became the rule rather than the exception. While Dietrich's star rose, Sternberg's fell. The director was blamed for creating 'tonal tapestries, two-dimensional fabrications valuable only for their details', of making that 'beautiful creature', Marlene Dietrich, a mere 'clothes-horse'. But it was precisely through his attention to detail and his apparent obsession to fill what he termed 'dead space' that Sternberg was able to create a visual poetry of unusual pictorial expressivity. He was not a genius merely because he used soft focus or elaborately artificial scenic effects, but because his films achieved uncommon structural unity and thematic complexity through their unique visual style.

After the release of *The Devil Is a Woman*, Paramount no longer required Sternberg's services. Other than the remarkably decadent film *The Shanghai Gesture* (1942), the rest of Sternberg's career in Hollywood would be marked by assignments either embarrassingly unworthy of his talents (*The King Steps out, Sergeant Madden*) or with a promise only fitfully realized, as in the case of *Crime and Punishment* (1935, with Peter Lorre). His attempt to make *I, Claudius* for Alexander Korda in England was aborted after one of the stars (Merle Oberon) was incapacitated. Sternberg's last feature film would be a Japanese production, *The Saga of Anatahan* (1953). Sternberg himself was disappointed with the film, but defiantly reaffirmed his work's primary and continuing virtue: his films were visual experiences without need for the encumbrance of dialogue or even, he once asserted, narrative.

Sternberg recounts that he was warned that 'so much talent will always be punished', but his talent would ultimately be vindicated. Before his death in 1969, he had the satisfaction of seeing a new generation of critics restore to him the title of genius first granted and then torn away by Hollywood early in his career.

**Gaylyn Studlar**

**Select Filmography**

The Salvation Hunters (1925); Underworld (1927); The Docks of New York (1928); The Last Command (1928); Der blaue Engel / The Blue Angel (1930); Morocco (1930); An American Tragedy (1931); Dishonored (1931); Blonde Venus (1932); Shanghai Express (1932); The Scarlet Empress (1934); The Devil Is a Woman (1935); Crime and Punishment (1936); *I, Claudius* (1937—unfinished); The Shanghai Gesture (1941); Macao (1952); The Saga of Anatahan (1953)

**Bibliography**


Opposite: George Bancroft and Betty Compton in Josef von Sternberg's *The Docks of New York* (1928)
what earlier historians used to say) they often showed
more camera mobility than silent films did. Reframings,
pannings, trackings, and a quicker succession of scenes
compensated for a slackening of the tempo caused by the
spoken word. This can be observed in American movies,
but also in German and French films of the 1930s. In
general, however, the shift in style did not alter the basic
rules of realist story-telling that had come into being
during the silent era.

The practice of musical illustration, almost perfected
during the silent period, was more or less transplanted to
the sound era. An important difference was, of course,
that music could now become a part of the fictional world,
for example when the film showed an orchestra or a singer
in action. Further, sound film would subordinate music
not only to the image, but to dialogue as well, turning it
into pure background. Also, the big band with its brass
and percussion instruments that had become popular in
so many of the luxurious cinemas of the west, in imitation
of American jazz, was replaced by a symphonic orchestra,
a European invention from the nineteenth century.

Studios now preferred strings and woodwinds, and Holly­
wood contracted composers with a training in classical
European music, like Erich Korngold and Max Steiner. It
would take a long time before the big band was accepted
to play a film score again. The memory of the cinema
orchestra in the mean time was reduced to a stereotype
honky-tonk piano accompaniment of silent slapstick
films.

The art of writing dialogue was new to the film and had
to be imported from the stage. More than ever before,
talented playwrights were employed in the film industry.
The spoken word did not only enhance verbal commu­
nication in the screenplay, but an actor received a voice
that would help to determine his character. In the early
1930s stars came to be identified by their voice as much
as by their face. Hollywood developed a wide diversity of
speaking styles, from tough-talking gangsters like James
Cagney to the double entendres of Mae West, and the absurd
puns of Groucho Marx. This quality was lost in foreign
countries where voices were dubbed; dubbing damaged
the star system. Dialogue also had the effect of enhancing
the cultural specificity of a film in a way that could not
be repressed by dubbing. This can best be seen in American
films, for while Hollywood’s silent pictures had a strong
European bias, the spoken word urged them to give a more
realistic impression of American society. Dialogue would
make characters, scenes, and events thoroughly American.

CONCLUSION
The end of the transition period did not arrive in all
countries at the same time. While the wiring of American
theatres had almost been completed as early as 1930, the
rest of the world would follow with a delay of at least
three years. North European countries like Great Britain,
Germany, Denmark, and the Netherlands finished the con­
version process in 1933; France and Italy followed two or
three years later, and eastern Europe needed even more
time to catch up. In Japan, the innovation was delayed for
several years since the film lecturers, or benshi, successfully
opposed it. During this gradual diffusion process silent
and sound films coexisted side by side in the cinemas.

Though sound had interrupted the process of inter­
nationalization that characterized the film industry from
its beginnings, it could not bring it to a halt. Hollywood’s
world empire was shaken, but it survived the transition
period. The American film industry would dominate the
world again in 1933 as it had done in 1928, with the
exception of countries like Germany, Italy, and the Soviet
Union that had imposed severe import restrictions on
American films. In fact, sound ultimately stimulated inter­
nationalization, for the more films were produced as self­
contained and final products, the more easily they could
be distributed internationally as complete commodities.

Sound brought an end to local differences in exhibition,
and guaranteed uniform presentations all over the world.
It also reduced the differences in style internationally,
making films look more homogeneous. In brief, sound
marked a new phase in a long-term integration process.

Some peculiar discontinuities should be pointed out
too. Since 1932 the world has been divided into nations
that prefer dubbing and those that hate it and favour
subtitling of films. These preferences have become deeply
rooted in national viewing habits, and eventually were
transferred to television. It is not always clear, however,
on what grounds these choices were made at the time.
Though dubbing is more expensive and can be processed
profitably only in major language regions, the economic
motive was not always decisive. Japan opted for subtitles,
though dubbing would have been economically feasible
in this densely populated country. On the other hand, the
choice in favour of dubbing was influenced by nationalist
considerations in many countries, although the fear that
the sounds of foreign languages in the cinema might
corrupt the mother tongue as well as national culture
appears to be unfounded in retrospect. The opposite might
be the case since it can be argued that foreign languages
in the cinema and on television lead to an intensified
awareness of cultural identity. Subtitles are a continuous
signal for the viewer that there is a gap between the
country of production and the place of reception. This
signal is missing in dubbing. Dubbing facilitates the
process of acculturation that goes hand in hand with the
international diffusion of films, since culture is not only
transmitted by words but by images as well. That is why
there is little reason to suppose that cultural identity
can be defended by excluding foreign languages from the
screen. The production of films and television pro­
grammes in the native tongue is a better means to this end.

An important effect of the new technology was the revival of film production in many countries in response to the sudden demand for talking pictures in native languages. French cinema peaked with 157 feature films in 1932 after an all-time low of 52 in 1929, though the introduction of dubbing would bring the number down again. Small nations like Hungary, the Netherlands, and Norway, formerly dependent on film imports altogether, enjoyed an unexpected renaissance of national film production in their own languages. Most impressive, however, was the recovery of Czech cinema. Protected by language barriers and import restrictions, Czechoslovakia witnessed a boom in film-making, cinema attendance, and theatre-building. Czech talking pictures were received enthusiastically in the home market, and the new demand for films would lead to the recruitment of authentic talents like Martin Frič and Otakar Vávra. The success of Czech cinema was surpassed only by India, where local film production benefited immensely from the transition to sound, integrating musical numbers with action scenes, thus reconciling cinema with long-standing popular traditions. Without sound, India might not have become the world’s largest producer of motion pictures.

The initial fear that the introduction of sound might cause a catastrophe aroused a greater sense of film history. Silent film art was discovered as an endangered heritage worth preserving for future generations. The importance of film archives was recognized, as a source of historical evidence and for aesthetic reasons. Nostalgia for the silent era came into being. Special cinemas were opened where one could see the masterpieces of the past, and the first histories of film as art were written: early attempts to define the canon of silent film, evaluating what belonged to the classical heritage and what did not. Here also begins the selection process that is typical of every historical enterprise: the tendency to forget what one did not want to see or hear in the past. For example, it was fifty years before it became possible to show a silent film as it had been presented originally in the cinema: accompanied by a live orchestra.

Bibliography
Altman, Rick (ed.) (1992), Sound Theory, Sound Practice.
Arnheim, Rudolf (1983), Film as Art.
Bazin, André (1967), 'The Evolution of the Language of Cinema'.
Geduld, Harry M. (1975), The Birth of the Talkies.
Salt, Barry (1992), Film Style and Technology: History and Analysis.
Weis, Elisabeth, and Belton, John (eds.) (1985), Film Sound: Theory and Practice.