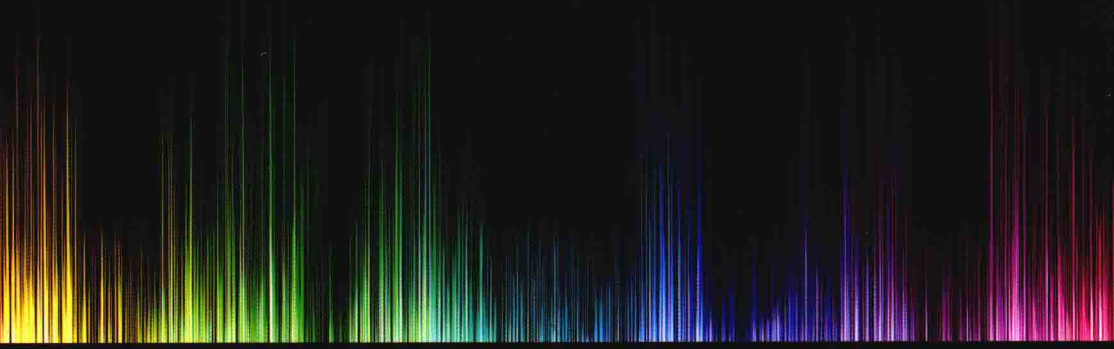
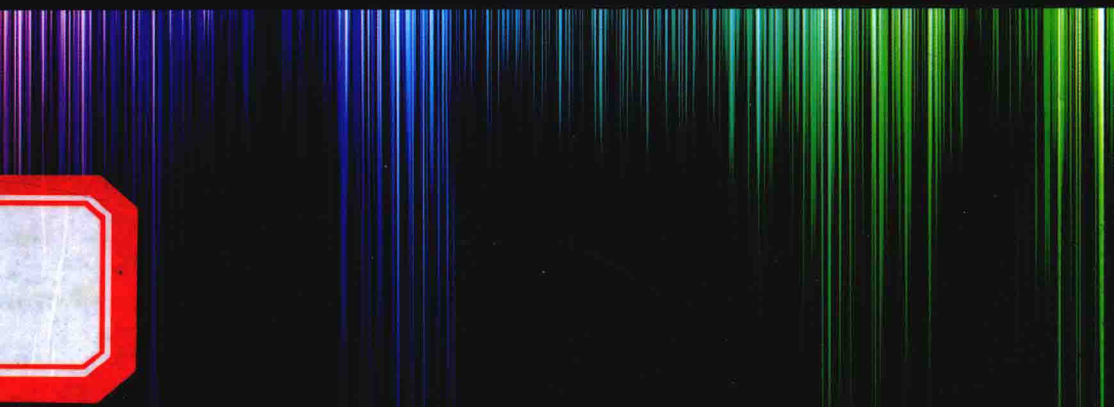


BEHIND THE SILVER SCREEN: A Modern History of Filmmaking

SOUND

Dialogue, Music, and Effects

Edited by Kathryn Kalinak



I.B. TAURIS

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BEHIND THE SILVER SCREEN: A Modern History of Filmmaking

When we take a larger view of a film's "life" from development through exhibition, we find a variety of artists, technicians, and craftspeople in front of and behind the camera. Writers write. Actors, who are costumed and made-up, speak the words and perform the actions described in the script. Art directors and set designers develop the look of the film. The cinematographer decides upon a lighting scheme. Dialogue, sound effects, and music are recorded, mixed, and edited by sound engineers. The images, final sound mix, and special visual effects are assembled by editors to form a final cut. Moviemaking is the product of the efforts of these men and women, yet few film histories focus much on their labor.

Behind the Silver Screen: A Modern History of Filmmaking calls attention to the work of filmmaking. When complete, the series will comprise ten volumes, one each on ten significant tasks in front of or behind the camera, on the set or in the postproduction studio. The goal is to examine closely the various collaborative aspects of film production, one at a time and one per volume, and then to offer a chronology that allows the editors and contributors to explore the changes in each of these endeavors during six eras in film history: the silent screen (1895–1927), classical Hollywood (1928–1946), postwar Hollywood (1947–1967), the Auteur Renaissance (1968–1980), the New Hollywood (1981–1999), and the

Modern Entertainment Marketplace (2000–present). *Behind the Silver Screen: A Modern History of Filmmaking* promises a look at who does what in the making of a movie; it promises a history of filmmaking, not just a history of films.

Jon Lewis, Series Editor

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INTRODUCTION Kathryn Kalinak

Sound has played an important role in the cinematic experience across the entire history of moving images. Audiences experienced sound in the earliest exhibitions of motion pictures, most of it produced live. But it would be technology that provided the means for motion pictures to transform from a silent to a sound medium. In addition to the technological, there were institutional, economic, aesthetic, and ideological factors driving the revolution in synchronized sound, a complex nexus that continued to influence sound's evolution across the century. As the twentieth century drew to a close and the twenty-first century dawns, film sound is evolving for the future with new and ever-changing technologies fundamentally transforming sound both in terms of its production and its reception. The subject of film sound is a continuing, vibrant, and essential point of interrogation for any complex understanding of film.

What distinguishes this approach from other histories of sound, however, is its attention to what transpired behind the silver screen, its emphasis on the workers who collaborated in Hollywood (and before Hollywood) to produce sound for motion pictures. A set of questions beckons. Who was responsible for the musical accompaniment for the Silent Screen? Who was manning (and they were always men) the microphones in Classical Hollywood? Who was winning Academy Awards for scoring in Postwar Hollywood and why? Who were

the agents of change in film sound during the Auteur Renaissance? Where was the influx of new composers in the New Hollywood coming from? In the Modern Entertainment Marketplace, what are the innovations in sound and who is instituting them? These are just some of the questions that find answers in the chapters of this book. The organization is chronological and each essay covers the important developments in film sound during a specific historical period, from the inception of motion pictures to the present. Here in the introduction I provide an overview, the big picture, if you will, of the history of film sound (and here I mean dialogue, sound effects, and music), filling in some prehistory and making connections between and among the different periods covered by the individual essays.

Let me begin with another question. Why was early film dubbed "silent" film? "Silent film," as it turns out, was a label created during the industry-wide conversion to synchronized sound and projected back onto an era that generally used the term "moving pictures" to describe the phenomenon. Early film, in fact, often had a sonic component: speech provided by lecturers who talked audiences through the new experience; dialogue provided by actors who appeared either in front of or concealed from audiences; musical accompaniment and sound effects, provided both by live musicians and recordings; and even mechanically synchronized sound and image. Even in the era before any of these sounds became commonplace, viewers in Kinetoscope parlors were surrounded by extraneous sounds produced by other patrons. Audiences for projected images, before conventions for audience behavior were in place, heard each other chattering away during screenings (as in the cinematic viewing spaces of today minus the cell phones). As contributor James Wierzbicki argues, "The audience's vocalized reactions of course do not belong to whatever is on display, but they belong very much to the aural content of the entertainment as a whole." The screen may have been silent in silent cinema, but if we consider sound to be any sound available, not just reproduced, during the screening of moving pictures and heard by the audience, the experience of cinema was anything but silent.

Along these lines, consider how many early films visualized sound. Think of Annabel dancing, John Rice talking to May Irwin as a prelude to their kiss, or Annie Oakley firing her shotgun in early Edison Company motion pictures. Audiences often watched the production of sound taking place in early film, whether or not that sound was reproduced in the viewing space. In fact, the visualization of sound was the point of some of these early films. Why film Fred Ott's sneeze, as W.K.L. Dickson did for Edison in 1894, if not to capitalize on the sound produced? Early filmmakers, it would seem, were not reluctant to draw attention to the very thing that modern audiences find so awkward: images divorced from the sounds they produce. But images were not divorced from all sound in early film; sound was often present, and increasingly so, in one form or another, in early cinematic viewing spaces. But early film did not duplicate the

sounds seemingly produced by the images, and the images—and the nascent art form of which they were a part—were not yet tied by sound to reality.

Films weren't the only moving image phenomena to exploit sound. Motion pictures can be thought of as the latest (and far from the culmination) of a long history of moving images paired with sound. Asian shadow-puppet theater, elaborate spectacles where the shadows of intricately moveable puppets were projected onto a screen and whose heyday was between 800 and 1500, was accompanied by gamelan orchestras in Java. Étienne-Gaspard Robertson's various *Phantasmagoria* beginning in the 1780s in Paris, complex magic lantern shows that presented moving images via mechanically moving slides and mobile projectors, featured spooky music and various unearthly sound effects. Charles-Émile Reynaud, having developed a magic lantern device that could show a series of moving images, presented *Pantomimes lumineuses* in Paris in 1892 accompanied by a piano player. Camera obscura and magic lantern shows throughout the nineteenth century were accompanied by lecturers. Photographic images and stereopticons, on the other hand, as well as those forms of moving image entertainment designed for the individual viewer—the zoetropes, Kinetoscopes, and Mutoscopes—did not necessarily trigger the presence of sound. But when moving images became a form of mass entertainment, what Wierzbicki has termed "sonic *accoutrements*" were there.

Early moving-picture entrepreneurs who projected images to mass audiences crafted some striking examples of audio-visual performances. The Lumière brothers billed a pianist, Émile Maraval, for presentations of their films in a Paris cafe. The Edison Company booked their large-scale projection system into a vaudeville theater in New York City with an orchestra in the pit. Whether or not the music on hand preceded the screenings, followed them, or accompanied them can be difficult at this point in time to determine. But in choosing these venues, these early filmmakers seized the opportunity to exhibit film as part of a multimedia experience. Soon music would materialize at screenings, produced mechanically by phonographs or live by musicians.

Barkers, lecturers, and actors provided another form of sound—the human voice—that found its way into early screening venues. Barkers hailed potential customers. Lecturers offered commentaries. Actors provided dialogue. One or all of these forms of human intervention might have provided some rudimentary sound effects. In any case, the sound, largely, was not representational, that is, it did not duplicate, although it might approximate, the sounds the images would seem to produce. (Think of actors trying to reproduce dialogue for which they had no scripts.) Intertitles changed all that, replacing the lecturers and actors who accompanied early films. Dialogue became a visual rather than an aural element, another example of the way that early cinema visualized sound.

When cinema transformed into a narrative medium, musical accompaniment took on an increasingly important role. Eventually phonographs would be

replaced by the human musicians with whom they competed. Arrayed in a variety of configurations, which expanded as the decades passed, musicians ranged from a single instrumentalist, a pianist or an organist, to a symphony orchestra. Organists had at their disposal a vast array of sonic possibilities in terms of sound and music, a result of the extraordinary range of sound the instrument was capable of producing. By the end of the era, musical accompaniment and the occasional added sound effects had become an expected part of the filmic experience, touted by enterprising theater owners to lure audiences to their theaters and spur ticket sales. There was little incentive in the major Hollywood studios, enjoying unprecedented profits in the 1920s, to synchronize sound.

It was left to scrappy Warner Bros. to herald the massive shift in production from silence to sound. In an attempt to garner a larger share of the market (and thus advance into the upper echelon of major Hollywood studios), Warner Bros. (along with the Fox Film Corporation) synchronized musical accompaniment (and some sound effects) to their features using technologies that had been available for some time. Warner Bros. had intended to better control and ultimately upgrade the quality of musical accompaniment for its pictures by recording and synchronizing a musical score for their feature films. *Don Juan* (Alan Crosland, 1926), Warner Bros.' first synchronized feature, was shot silent, but its score was recorded by the New York Philharmonic and synchronized live to the film during screenings via a complex system of projectors and phonograph discs overseen by human operators. *Don Juan*'s soundtrack, which reproduced the typical continuous music and select sound effects of silent cinema, did not fundamentally change the relationship of sound to image. It was the human voice that did. *The Jazz Singer* (Alan Crosland, 1927), built on the same technology as *Don Juan*, featured interpolated performances by its star Al Jolson singing in synchronization to his musical accompaniment. Jolson famously added improvised dialogue into two of those performances. With Jolson's voice, synchronized sound reproduced experiential reality. That's Al Jolson actually singing "Toot Toot Tootsie, Goodbye," recorded live along with the band conducted by Lou Silvers behind him.

The success of *The Jazz Singer* ushered in a new mode of production that incorporated synchronized sound. That mode of production also marked a shift in responsibility for what the audience heard. In the silent era, sound was determined by theater exhibitors and the music directors they hired. With the conversion to synchronized sound, control over sound shifted to the makers of film and would come firmly under the control of the studios. But most fundamentally, synchronized sound changed the relationship between image and sound as it precipitated an aesthetic shift toward realism. Sound would soon anchor the image in as faithful a representation of reality as the technology could muster.

That privileging of realism, however, posed some formidable challenges. At first, the only way to record sound was to capture it—live on set. The earliest

synchronized sound films utilized a single microphone and thus all sound—dialogue, sound effects, and music—had to be captured simultaneously. Dialogue had to be delivered in proximity to the microphone, and sound effects and music, too, had to be within the microphone's range. This necessitated hiding the sound effects men and their equipment, and sometimes an entire orchestra. Since any extraneous sound would be captured right along with the dialogue, films became very static in order to accommodate the capturing of sound—noisy cameras were immobilized in sound blimps, actors were practically glued to their marks near the microphone, musicians and sound effects men were positioned offscreen, and nobody moved when the camera and sound equipment were running.

It didn't take long, however, for technology to evolve that allowed for the capture of sound to be divorced from the production of sound, opening up a space for sound to be constructed rather than reproduced. The advent of postproduction sound and, most importantly, rerecording and mixing techniques in the early 1930s made possible increasingly realistic sound through increasingly artificial means. Now dialogue could be rerecorded in postproduction (in a process known as looping) for a clean, perfect delivery; sound effects could be produced independent of the actual production of the sound, often from so-called "noise libraries" where sound effects were collected, catalogued, and stored; musical performances could be recorded before filming for playback and synchronizing on the set; and musical accompaniment could be recorded in postproduction after the film had been edited. And it could all be mixed in postproduction to achieve a proper balance of sound. In some cases, rerecorded sound accounted for the entire soundtrack of some films from this era. As early as 1931 at some studios, by the mid-1930s at most studios, and by the late 1930s at the rest, technology was in place to allow separate tracks for dialogue, sound effects, and music, recorded at different times and in different places (and often with little or no relationship to onscreen sources) to be mixed in postproduction after the film had been edited. What these advances in sound technology facilitated, as I argue in chapter 2, was nothing less than classical filmmaking itself, "a combination of technology and aesthetics informed by economics, enacted through style, and shared among workers at the various studios."

Music experienced a revolution of its own. With the advent of sound film, music that was not visibly produced within the filmic world posed a challenge to Hollywood's new realist aesthetic. Gone was the background score—replaced with interpolated songs and musical performances no matter what the genre. Eventually the background score came roaring back (75 minutes of the 100-minute running time of Merian C. Cooper and Ernest B. Schoedsack's *King Kong* [1933] was scored), at about the same time as technological changes allowed it to be recorded separately and mixed in postproduction.

In 1946, immediately following the end of World War II, Hollywood enjoyed one of its most successful years in terms of audience attendance. But with the

growth of television, automobile ownership, suburbanization, and the new teen culture, Hollywood studios would soon find themselves under siege. Sound was one of the ways postwar Hollywood fought back, promising ever more realistic sound through ever more technically sophisticated and artificial means. One of the most important advances after the war was the adoption of magnetic tape for recording and rerecording, a technology that replaced the optical soundtracks in use at the time. Magnetic tape made editing easier, playback more immediate, and, since it could be reused, more cost effective. Magnetic tape facilitated many aspects of production and postproduction, saving time and therefore money. But importantly, it held the promise of increased fidelity, a promise it delivered on by positioning the soundtrack at yet another remove from the image track. Although costs and studio resistance to magnetic tape prevented its wide adoption in the postwar era, magnetic tape opened the door to constructing sounds and visual images completely separately.

Something of this same "disconnect," to borrow a phrase from contributor Nathan Platte, can be seen in the phenomenon of the soundtrack album, which began in earnest in the postwar era. Albums of music containing cues from a film's musical score, known somewhat misleadingly as soundtracks, allowed for, indeed promoted, the opportunity to listen to a film's score separate from the images, an attempt to improve the musical experience of a film without the distraction of the images. These soundtracks, often recorded in the stereophonic sound that was not yet commonplace in movie theaters, sometimes included music not heard in the film, increasing the disconnect between the image track and the soundtrack.

Stereophonic sound extended improvements in the production of sound into the cinematic auditorium itself, changing the way sound was produced in theaters. Although it would be at least another decade before stereo became commonplace in theaters, various competing systems of stereophonic sound positioned speakers both behind the screen (and thus in front of the audience) and behind the audience, thus enveloping it in sound. While studio promotional campaigns frequently invoked the naturalness of stereophonic sound, its production was anything but natural, the product of increasingly sophisticated technological systems in combination with decisions about what constituted realistic sound. The promotion of stereophonic sound as natural, by the way, was a perception not always echoed in film marketing. Nathan Platte, in his contribution, offers us this example, an advertisement for *Beneath the 12-Mile Reef* (Robert D. Webb, 1953): "The marvel of CinemaScope's stereophonic sound engulfs you in excitement you've never known."[1] What begins to germinate with the advent of stereophonic sound is the idea that cinematic sound could be an aural experience that exceeds, not duplicates, reality. Cinematic sound improving upon reality, eventually exceeding the bounds of reality, becomes an ever-expanding quest in the post-studio era.

During the years known as the Auteur Renaissance (roughly from the breakup of the studio system in the 1960s through 1980), technological advances improved noise reduction, enhanced sound clarity, extended the range of sound frequencies, and produced equipment that made location sound more efficient and cost effective. These improvements allowed filmmakers to "pack in," as contributor Jeff Smith describes it, more and more aural information, creating a soundtrack rich with possibilities.

Those possibilities exploded onto soundtracks in the 1970s, a decade that saw the birth of the sound designer, a single individual responsible for the realization of a director's sound vision across all phases of a film's production, from the planning stages to postproduction. Many of the creative and forward-thinking directors who were the first to employ sound designers had little interest in using sound simply to duplicate reality. Contributors Jay Beck and Vanessa Theme Ament point to Walter Murch's experience working as a sound designer for Francis Ford Coppola on *Apocalypse Now* (1979): Coppola wanted the "soundtrack to partake of the psychedelic haze in which the war had been fought, not only in terms of the music . . . but in general, kind of far-out juxtaposition of imagery and sound; for the soundtrack not to be just a literal imitation of what you saw on the screen but at times to depart from it."

The ever-widening gap between cinematic sound and experiential reality can be heard in Dolby Stereo, a sound system that began to be widely used for motion pictures by the 1980s. Dolby incorporated sophisticated noise reduction that produced startlingly clear sound, but its innovation extended into the cinematic auditorium itself where it enveloped the audience in a 360-degree field. So-called surround sound presented enormous opportunities for what Beck and Ament describe as "enhanced realism." Dolby created a new experience of sound, the sonic spectacle, that could only be experienced in a cinematic auditorium. By the 1990s, refinements in multichannel digital technologies allowed filmmakers to locate sound anywhere in the theater, furthering the development of the cinematic auditorium as a unique sonic space and the soundtrack as a field of hyper-reality. Not all filmmakers were comfortable with this departure from a realist aesthetic. Contributor Mark Kerins points to Mark Andrews, the director of *Brave* (Mark Andrews and Brenda Chapman, 2012), who explained, "When they were pitching me the idea of kind of encapsulating sound, this dimensional sound, I was like, but wait a minute, the screen is there, why would I have sounds behind me or above me or underneath me, it's going to be weird."[2] Nevertheless, this type of sonic activity, dimensional sound, has come to characterize big-budget action films produced in Hollywood.

In the twenty-first century, technological refinements facilitated the industry-wide conversion from analog to digital sound technology and allowed for increasingly layered and detailed soundtracks. What this has sometimes produced, however, is soundtracks that play at increased volumes and are filled with

more sonic information than can be processed by audiences. Changes in exhibition, which seemed to be taking place at warp speed after the turn of the century, have changed the game for sound, too, digital projection in particular. Now sound can be customized to a particular space and sound system; the experience of sound for the same film can differ from one exhibition space to another. What these refinements have facilitated is a fundamental change in the relationship of sound and image that is taking place on the soundtrack and in the cinematic auditorium, a move toward conceiving of soundtracks, and constructing the sonic landscape of auditoriums where they are experienced, as increasingly hyper-real. The construction of sonic spectacles on the soundtrack, a growing dependence on what Kerins describes as "aggressively spatialized mixes [and] dramatic variations in loudness" is drawing film closer and closer to a soundscape in which soundtracks no longer attempt to reproduce the sounds the images seemingly produce, and audiences no longer expect soundtracks to do so.

Something along these lines has happened to a film's score as well. Increasingly as the current century progresses, film music is being synthesized, which means that the music we hear in films is often computer-generated sound produced to simulate the sounds of actual instruments. Like the soundtrack, the contemporary film score finds itself increasingly in the domain of hyper-reality. Except in big-budget films, the orchestra we hear, for example, is most often not being produced by the recording of acoustic instruments but through a complex technological process that simulates (with ever more increasing accuracy) the sounds of acoustic instruments. Soon it may be necessary to check the credits to see what you have actually heard.

As we ponder the future of film (if that is even the correct word to use at this point in time), we should not fail to take into account the increasing role of hyper-reality in film sound, and I mean by this both in the production of a film's soundtrack and in the experience of sound during a film's theatrical exhibition. Ironically, something of this disconnect between the visual source of sound on the screen and the sound experienced in the cinematic viewing space was routinely experienced in silent cinema, raising the question of whether film's future might lie in its past.

About This Volume

Each of the contributors to this volume summarizes the important developments in sound across a specific historic era, analyzes attendant changes in technologies, economics, institutional practices, reception, and film style, and highlights the creative lives of the workers behind the silver screen who contributed to the soundtrack. Each also brings to this project an individual perspective that illuminates various aspects of the soundtrack and its history in fascinating and

sometimes unexpected ways. Because technological change does not obey clean and sharp divisions, there is some inevitable overlap between chapters as contributors fully explore, say, Dolby surround sound, which emerged in the late 1960s but was not fully deployed in Hollywood until the 1980s. Career arcs, too, defy historical demarcations. Sound designers such as Walter Murch, Ben Burtt, and Alan Splet began to leave their mark on the industry in the 1970s but continued to do important work in later decades. Composer John Williams spurred the rebirth of the classical symphonic film score in the late 1970s with several breakout film scores, but as anyone who has been to the movies in the twenty-first century knows, he is still an active film composer to this day.

James Wierzbicki, in "The Silent Screen, 1894–1927," begins not so much by debunking the old chestnut that silent film was never truly silent but by interrogating it, throwing open new avenues of thought about the very definition of cinematic sound itself. As he asserts, "Literally speaking, what we call 'the screen' is, and always has been, silent." Sound doesn't emanate from the screen itself, but in early cinema audiences experienced a sonic component that emanated from a variety of places in the proximity of the screen. There was other sound, too, a type of sound that is rarely addressed. As Wierzbicki points out, "Patrons of such entertainments typically also hear something else: along with the deliberately constructed sounds that are a part of the entertainment, patrons hear spontaneous sounds made by themselves." Exploring exactly what was heard in early cinema's first viewing spaces, Wierzbicki tosses preconceived notions of silence and sound on their heads with a startling but illuminating series of comparisons between patrons in a silent film viewing space, families watching silent home movies in the 1960s, parents using finger puppetry to create moving shadows on the walls at bedtime, shadow puppet theater in Asia, and "whatever might have been witnessed by the imaginary denizens of Plato's Cave." Wierzbicki's philosophical inquiry leads him to a provocative conclusion: "The human activity that involves groups of people attending to what is depicted on a screen, however, has likely never been silent. Indeed, it would seem that sound—generated not just by the presenters of the screened material but also by the audiences—has always been a part of public screenings."

Wierzbicki's resistance to writing a conventional history of sound in silent film informs his entire chapter: look for his theoretical exploration of what we mean by the term "the silent screen" (and how could a screen be anything else?); his discussion of pictures that do not move (the illustrations for *Alice in Wonderland*, a Vermeer painting, friezes on ancient Greek pottery) for insights on pictures that do; his analysis of the musical cues from an early cue sheet for a forgotten Edison short, *Why Girls Leave Home* (1909); his attention to a little-known Warner Bros. sound film, *The Better 'Ole* (Charles Reisner, 1926), made between two more famous films, *Don Juan* and *The Jazz Singer*; his inclusion of the early Fox talkie *Mother Knows Best* (John G. Blystone, 1928), which garners almost as much space