**Introduction**

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Experimental film is a slippery category. Within the plurality of visual styles, filmmaking techniques and aesthetics that have fallen under this heading are an equally diverse range of musical types, textures and trans-aural relationships. Relative to era, audience, culture and technology, the sheer variety of visual and sonic combination makes a coherent understanding of what constitutes audiovisual film experimentation hard to pin down. In today’s pluralistic era of convergence, definitions become more difficult still. The accelerated style and intensified musicalisation of post-classical cinema and the transmedial connectivity of YouTube and other internet platforms have blurred the already unstable boundaries between mainstream and experimental film practices and the ways in which music has been used in each. From the nonlinear editing systems that David Bordwell highlights in post-classical cinema, through the media swirl that Carol Vernallis sees as drawing previously discrete genres into “a mediascape that foregrounds musical feature” (what she calls the “audiovisual turn”), or the database structures that Lev Manovich understands to be pressing at the traditional customs of narrative film, our inter-mediating age of transmedial play, self-reflexivity and mashup has afforded music a more prominent role than ever before.[[1]](#footnote-1)

We believe that the creative innovations in film sound that characterise contemporary cinema can be traced back not only through the scoring practices of commercial narrative film, but also through the intensely musicalised forms that resonate through many different schools of experimental film. This book was conceived with the hope that the prominence of music in both today’s screen media and its theory will encourage us to look back at experimental film culture through a different lens. While it is not possible to suggest that the constantly refreshed disruptive forces that drive experimental filmmakers and composers have formed a distinctly musical genre—there are a significant number of artists who have chosen not to use creative sound or music in their films at all, for instance—it is true that when sonic elements do form an integral part of a film’s discursive strategy in the form of radical sounds or shocking audiovisual relationships, they can be extraordinarily powerful forces in the creation of an experimental aesthetic.

 The rich and varied nature of recent film music scholarship has gone a long way towards drawing out the sonic complexities of mainstream film sound, from its earliest iterations to the newer forms of post-classical cinema. These dialogues have focused on a tradition that assumes some degree of consistency in its uses of music to forge particular forms of audiovisuality and immersivity. There are of course, numerous exceptions, but useful generalisations have been drawn to form several coherent and complementary theories of music’s use and power within feature-length narrative film, including scoring practices, reception, point-of-audition, the problems of diegesis, narratology, semiotics, aesthetics and the relationship between music and a film’s other aural components. At first glance, the wild divergences found within experimental film practice—of aesthetics, style, texture, performance, even representation—offer a bewildering array of audiovisual gestures that cannot—and perhaps should not—be pinned down to common styles. Such plurality has been embraced in the historical and analytical accounts of experimental film styles and schools, and many do an excellent job of interrogating the visual and technological trends, aesthetic styles and influences and structural ideologies of the many different cultures that have emerged over the last century. As yet, no such concerted approach has been made to understand or catalogue this diversity in terms of its aural evolution and innovations.

To this visually-dominated history and theory, the authors in this book add the beginnings of a narrative that takes into account the music, sound and audiovisual composition of experimental film. So far, there have been no book-length studies of experimental film sound, although several examples touch ground that is similar. In *Cinesonica: Sounding Film and Video*, Andy Birtwistle explores audiovisuality through a variety of cinematic styles, including experimental film, in order to construct his theory of film sound—or cinesonica; Annette Davison’s *Hollywood Theory, NonHollywood Practice*: *Cinema Soundtracks in the 1980s and 1990s* is concerned with the ways in which the styles of mainstream fiction film have been expanded by directors working at the edges of Hollywood. Sticking to high budget, narrative films, she considers the ways in which directors such as David Lynch and Wim Wenders, reconfigure Hollywood’s soundworlds, while remaining firmly rooted within its parameters; and in my work, I have considered the ways in which certain strains of experimental film and video art have been so musical that a new audiovisual media fusion has arisen that allows practitioners to create both image and music.[[2]](#footnote-2) Of all the experimental film cultures, the visual music scene has received the most attention for its sonic aspects, with William Moritz, Cindy Keefer and Aimee Mollaghan producing close analyses of the work of Oskar Fischinger and others.[[3]](#footnote-3)

Building on this previous work, this initial foray into the topic mixes the investigation of historically important sonic moments and survey chapters that aural seek likenesses within films with common social, political, cultural or theoretical aims, with close analyses of the audiovisual work of specific filmmakers and composers that helps to expand—and differentiate itself from—the theoretical thinking that is emerging from the study of mainstream film sound. With this in mind, the area of investigation has been limited in two ways. First, we have restricted our focus to European and North American film practices, although we remain keenly aware of the push and pull of influence from other cultural centres. It is important, however, for this exploratory collection to have a geographical coherence. Second, our interest rests at the outer edges of screen media experimentation. While the fresh and innovative treatment of music by artists such as Andrei Tarkovsky, Jean-Luc Godard, Peter Greenaway, Werner Herzog, David Lynch and the host of other directors who have played with the fiction feature format (often with substantial financial support) has forged exciting new audiovisual relationships, their critique and subversion of familiar narrative forms mean that existing film music theories can offer a useful starting point for analysis. The artists and musicians represented in this collection, however, have produced work that lies beyond the scope of existing audiovisual scholarship although, as becomes obvious as the book progresses, experimental textures can complement, enrich and revise existing screen-music theories.

 Within these boundaries, we have worked towards an open and inclusive understanding of experimental film, but one that emphasises moments of significant audiovisual revolution and transformation: in particular, occasions when music and / or sound have been used in surprising, subversive and / or politically charged ways by those operating outside of the artistic and financial aesthetics that normally drive dominant commercial cinema. Often, these filmmakers work alone or in small collaborative groups to produce social, political or gendered forms of discourse, films that highlight their materiality by eschewing the immersivity of mainstream fiction film to encourage a critical distanciation between audience and work.

By questioning existing presumptions of visual primacy in experimental film, the authors collected here discuss their chosen examples in holistic audiovisual terms in order to initiate and develop new theoretical approaches to music, art and film: what happens when images extend from a musical sound world, or when a visual progression is warped and distorted by sonic experimentation? What can the role of music be in aesthetic environments far removed from those formed in mainstream film? Are there any constancies in sonic practice? Or is the lack of consistency the key? Do experimental films have innovative soundtracks or does an avant-garde texture arise from a distinct placement of music against, or with, an image? Can these questions help to create, or fragment, a definition of experimental film?

Although fully expecting the responses to these questions to be as eclectic as experimental film practice itself, it was a surprise to find several recurrent themes permeating the chapters. Consistent amongst these was the identification of a liminality that opens up between previously constructed binaries: between music and noise, active and passive, popular and avant-garde and audiovisual synchronicity and dissonance. Of these dissolving borders, the last forms the dominant theoretical crux of the collection. Nearly all of the authors identify experimental audiovisuality as operating either in extreme, even inextricable, synchronicity; through strident forms of antagonism that reveals a gap between what is shown and what sounded; or, most commonly, through a symbiosis of both. Such sound and image interactions lie well outside the dominant syntax of twentieth century film.

**Synchronicity and Animated Sound**

Audiovisual synchronisation has become easier with every decade that film has existed. From early improvised accompaniments, cue sheets and roto scores through to digital methods of producing exact synchronisation, the alignment of music and image has played a large role in the technological innovations and aesthetic reception of dominant film practice. Introducing the term “synchresis”, Michel Chion writes of “the spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time”.[[4]](#footnote-4) While there has developed, within the mainstream film tradition, a highly successful method of audiovisual combination to produce such an “irresistible weld”, many of the experimental artists represented in this book have employed a variety of methods to take the idea of synchronicity to an extreme.

Perhaps the most well-known approach can be found in the work of those who used film’s temporal capabilities to visualise music. Mainly using pre-existent pieces, these artists animated to musical scores, which could be used as a rhythmic or emotional framework. The images of Oskar Fischinger’s *An Optical Poem* (1937), for instance, dance around Listz’s Hungarian Rhapsody No 2 (1847), while his animated response to Bach’s Brandenburg Concerto No 3 (1721) in *Motion Painting No.1* (1947) travel alongside Bach’s music in “giant steps”:

…what you see is not translated music, because music doesn’t need to be translated on the screen—to the Eyes music is in itself enough—but the optical part is like we walk on the side of the river—sometimes we go a little bit farther off (away) but we come back and go along on this river, the concerto by Bach. The optical part is no perfect synchronisation of every wave of the river—it is a very free walk, nothing is forced, nothing is synchronised except in great steps. The film is in some parts perfectly synchronised with the music, but in other parts it runs free—without caring much about the music—it is like a pleasant walk on the side of a river. If the river springs, we on the side do not necessarily spring to it, but go our own free way— sometimes we even go a little bit away from the river and later come back to it and love it so much more—because we were away from it.[[5]](#footnote-5)

The exuberance of Fischinger’s visual response is clear to see. The shapes, painted onto plexiglass, simultaneously blend with and repel the music, operating like another voice that transforms Bach’s sonic ritornello into an extended, audiovisual one. Although working to a different aesthetic, Mary Ellen Bute explored the idea of image moving its “own free way” along a musical path in her series of abstract shorts, *Seeing Sound* (1930s-mid ‘50s). In her analysis of *Rhythm in Light* (1934), Lauren Rabinovitz reads Bute’s loosely-synchronised animated response to “Anitra’s Dance” from Edvard Grieg’s *Peer Gynt* (1875)as only “abstractly express[ing] the programmatic music’s climax and variations, its moods and psychological moments”, while Frank Stauffacher points out that, like Fischinger, the artist did not strive for rigid synchronisation: “The forms complement rather than correspond” he writes.[[6]](#footnote-6)

The mobilisation of image to pre-existent music through “giant steps” and complementation appears several times in this book. Malcolm Cook uses Len Lye’s visual improvisations to popular songs and jazz standards to articulate a form of audiovisual alliance based on aesthetic harmony rather than strict audiovisual synergy, a companionship that confuses and problematises the distinctions between experimental film practice and sing-along Hollywood movies. This positive interplay, despite sometimes resulting in a separation of the senses (or what Cook calls “multimodal sensual perception”), nevertheless achieves a dialogue that stretches towards a synaesthetic play. Several other authors also focus on the use of pre-existent music but, as we shall see below, in these instances, the potential for audio-visual dialogue is expressed very differently.

While the visualisation of pre-existent music is not, as Fischinger insists, a form of cross-media translation, the same artists who embraced these “giant steps” were also responsible for reducing the audiovisual gap through drawn synthetic, or optical sound; that is, sound not produced by an instrument or voice but by a drawn pattern or shape. This process, which enables single-authored audiovisual work, has been amply explored throughout film’s history, from the photographing of shapes onto a film strip to produce distinctive sounds by avant-garde Russian composer Arseny Avraamov to the hand-drawn sound strips, or *tönende Handschrift* (Sounding Handwriting) of Rudolf Pfenninger that produced what contemporary critics described as “very beautiful ‘mechanical’ music, a sort of carousel music”.[[7]](#footnote-7) In a statement issued in 1932, Fischinger referred to his technique of drawing on the optical soundtrack of the film strip to produce direct sound *Tönende Ornamente* (*Sounding Ornaments*), describing the result as “drawn music … when run through a projector, these graphic sounds broadcast tones or a hitherto unheard of purity, and thus, quite obviously, fantastic possibilities open up for the composition of music in the future.”[[8]](#footnote-8) Bute also explored the possibilities of audiovisual translation in *Abstronic* (1952) and *Mood Contrasts* (1953), in which her use of electronically-generated images and an oscilloscope enabled her to forge what Gabriele Jutz describes as a “direct transformation of sound into image”. [[9]](#footnote-9)

Forming one of the most consistent threads of experimental film’s sonic history, the possibilities of synthetic sound—and the simultaneous creation of both sound and image—were explored by John and James Whitney, [Paul Sharits](http://www.paulsharits.com/), [Barry Spinello](http://canyoncinema.com/S/Spinello.html), Robert Russett, Guy Sherwin, Kurt Kren, Bärbel Neubauer, Richard Reeves and Peter Tscherkassky amongst others.[[10]](#footnote-10) In fact, it is easy to identify a clear lineage from the early visual music innovators, to the recent forms of computer-based hyper-animation explored by Jeffrey Shaw, Bernd Lintermann and Torsten Belschner and Vibeke Sorensen, who use telecommunications and genetic algorithms to generate together sound and image.[[11]](#footnote-11) Although not created through a direct descendent of hand-drawn sound, Shaw’s 1989 computer graphic installation, *Legible City* requires the visitor to cycle on a static bike, through one of three cities—Manhattan, Amsterdam and Karlsruhe—where the architecture has been replaced by scaled words: for the Manhattan journey, the cyclist can choose a spoken narrative adjoined to a specific route (marked by colour) by the ex-Mayor Koch, Frank Lloyd Wright, Donald Trump, a tour guide, a confidence trickster, an ambassador and a taxi-driver. Here, sound and image work together to replace the real world with a simulated, text-driven readerly form or animation.

In more recent times, newer computer technologies and digital media such as Jitter (Max) and Max MSP have enabled an expansion of early process-based sonic film into fluid and sometimes interactive environments. In 2000, for instance, Yasunao Tone created *Wounded Man’Yo 2/2000* that utilised audio software Sound Designer 11 to transform the movement of his mouse as he traced 8th century Japanese characters into glitchy, acoustic oscillation sequences. Here, the exchange from optical to audible phenomenon was possible without immediate interpretative intervention; and, like the earliest forms of animated sound, the space between noise and image was minimal.

Moreover, the ability for real time improvisation and the easy sonification of an animated or videoed image has given rise to live VJing in many spheres, including the live music scene and various forms of interactive art. One example is NoiseFold, a collaborative partnership between David Stout and Cory Metcalf. In their work, visual data is sonified live to produce concurrent electronic noise. In *Alchimia* (2008), for example, Stout and Metcalf used “infrared sensors, microphones and MIDI controlled instruments to animate an evolving matrix” of virtual, realtime 3D animation, as the artists explain: “the 3D forms are capable of emitting their own sounds resulting in a surprising array of sonic expressions induced by the shape, size, luminance, and movement of the visual object itself….the sound is not an illustration of visual properties, but rather the direct and simultaneous result of manipulating the visual field”.[[12]](#footnote-12) As technology has developed, then, the search for a completely synchronous form of audiovisuality has become increasingly achievable. At heart, the questions and quest for audiovisual synchronicity remains relatively stable, yet as technology has developed, the effects of hand-drawn, or closely-synchronised sound can be more easily, or expansively, achieved.

In this book, we have chosen several artists who have played significant parts in the exploration of tightly interwoven forms of audiovisuality and yet whose work has rarely been analysed for its sonic innovation. In his critical history of Polish avant-garde filmmakers, Daniel Muzyczuk identifies several forms of experimentation with audiovisual synchresis and the direct translation of sight into sound. Looking in particular at the optical music films of Franciszka and Stefan Themerson, Muzyczuk likens their form of pure audiovisual experience to that of Viking Eggeling and Hans Richter. Terence Dobson tackles the subject through an analysis of Norman McLaren’s hand-drawn sound, which was meticulously created by scratching the visual and sound strips of the film stock to create both sound and image together, a process that afforded the artist incredible accuracy and control over rhythm, timbre, attack and decay.[[13]](#footnote-13) Aimee Mollaghan uses the translation of the optical soundtrack into image in the more recent work of Lis Rhodes to show how syncresis can signify beyond the film’s space. Rhodes thwarts moments of conjunction during the live projection of her work to produce unexpected and jarring moments of audiovisual disconnection. Identifying a tendency to privilege image over music in some film traditions, Mollaghan reads the subversion of this in Rhodes’ work as metaphorically highlighting and emancipating the oppressed women’s voice in both music history and society more generally.

**Experimental Images: Experimental Sounds**

For many artists, and certainly for those mentioned above, the interest in close forms of experimental audiovisuality and direct sound extended to a corresponding engagement with avant-garde compositional techniques and the expansion of musical material: László Maholy-Nagy, for instance spoke specifically of the role of the sonic in activating the audio-viewer when he called for a “fundamental renewal in sound generation”.[[14]](#footnote-14) In particular, the innovative soundworlds for many closely-synchronised experimental films suggest a significant relationship with the concurrent development of electronic music, as Richard S. James has argued: “avant-garde sound-on-film techniques developed around 1930 and were used well into the 1950s. These techniques constitute one of the least-known yet most striking parallels to the working methods and ideas of electro-acoustic music, especially those of musique concrète.”[[15]](#footnote-15) This isn’t surprising. Filmmakers often moved in similar circles as, and worked according to similar aesthetics to, those experimenting with musical forms. In particular, extracting sound from its source and elongating it into music was a process driven by an aesthetic similar to that found in early experiments with visual montage and abstraction. The chopped visual nature of Vsevolod Pudovkin’s first sound film, *The* *Deserter* (1933, with a score by Soviet composer Yuri Shaporin), for instance, was accompanied at one stage by a montage of sounds taken from dockyards.[[16]](#footnote-16) Pudovkin explained that this montage of “interesting sound experiments” included “the use of metallic, industrial noises to create rhythmic symphonies, or the occasional treatment of sounds (such as running noises backwards), to create overt sonic markers”.[[17]](#footnote-17) The ability of image and sound, when produced via similar technological process, to signal with a comparable resonance can be found in a divergent range of film practices. An example formed from issues wildly different from those that drove Pudovkin is the sonic mixture of sirens, wailing cats, wails, snippets of spoken word and other real-world sounds to signify accruing physical and psychological illness in Carole Schneemann’s *Plumb Line* (1971), from her *Autobiographical Trilogy*.

Many of the chapters that follow take the expanded forms of musical material as a starting point. In his essay on Walther Ruttmann, Dieter Daniels shows how the filmmaker’s dual interest in sound and image found its experimental conjunction during the technological innovations of the 1930s, when Ruttmann fused the possibilities inherent in the communication mediums of telegraphy and telephony with the recording technologies of film and photography to produce the hybrid acoustic film for radio, *Weekend* (1930). Here, sounds recorded during a weekend were compressed into 11 minutes to produce what Ruttmann describes as “photographic sound art”.[[18]](#footnote-18) An anticipation of *musique concrète*, this film is an example of found sound being used many years before Pierre Schaeffer (in the 40s) and harks back instead to Italian futurist Luigi Russolo’s 1913 “The Art of Noise” Manifesto.

In his chapter, Dobson notes how McLaren’s animated sounds, which signalled an important stepping stone towards the beginnings of electronic music, held little relationship to existing instruments. Although noting that McLaren’s explorations were driven by an attempt to assume complete control over his work, Dobson reads such sonic abstraction as a way to produce sounds that were unshackled to specific cultural or national tropes. The direct film experiments of Stan Brakhage can be read differently. In *Fire of Waters* (1965), the soundtrack by Rick Corrigan includes the slowed-down song of a bird and the speeded up sound of a woman giving birth, amongst other things. In his essay, Eric Smigel relates the filmmaker’s interest in *musique concrète* to his formation of a “closed-eye vision” that evoked dreams, hallucinations and hypnagogic sight that complicated the processes of cognition and recognition.[[19]](#footnote-19) Smigel suggests that Brakhage’s sounds, unlike McLaren’s culturally-abstracted ones, not only denote their original source, but also arouse the listener’s imagination in a culturally specific way.

 Several others chapters explore how the creative overlap between music and sound design can push noise to the perceptual foreground. In his essay on John Smith, Andy Birtwistle compares the English filmmaker’s placement of ambient sound in the foreground of the audio-viewer’s perception against its unheard and audiovisually synchronised position in commercial narrative film, suggesting that such creative treatment of atmospheric, even functional, sound encourages the audience to hear and see afresh. Paul Hegarty finds a similar sonic repositioning in the 1970s films of Chantal Akerman, in which the commonplace background sounds of everyday objects and events are amplified to such a degree that they outstrip their visual connections. Such a disorienting audiovisual space opens sounds ordinarily heard as ambience to critical and detailed listening. Critical listening also plays a role in Juan Suárez’s engagement with what he calls “wayward”, or transgressive sound—particularly that formed from untraditional sources and noise—in experimental film. With a focus on queer film, Suárez outlines the ways in which such sonorities have been used to signify and represent emergent forms of camp throughout experimental film history, particularly when conjoined with disruptive and unusual image qualities.

But of course, not all film sound experimentation has followed the route of *musique concrète* or acousmatic magnification. In his investigation into the relationship between sound and avant-garde film practice before the coming of sound, Jamie Sexton has noted that early film practice was largely the reserve of visual artists interested in experimentation with image: sound, he argues, posed a threat to the purism of film as an artform on financial grounds (sound technologies were expensive and undermined the low-budget explorations of many experimental artists) and for aesthetic reasons (the more “realistic attitude” of a sound film could draw attention away from film as an artistic medium, something understood by André Breton as “clearly …hostile to any intellectual or moral advancement”).[[20]](#footnote-20) When music was being used during these early years, it often involved close collaboration with a composer. Sexton draws our attention to two significant examples of pre-synchronised-sound films, both from 1924, with highly prominent and audiovisually integrated scores: Erik Satie’s original music for René Clair and Francis Picabia’s *Entr’acte* and George Antheil’s score for Fernard Léger and Dudley Murphy’s *Ballet Mécanique* (the latter was so complex that early screenings did not include music).[[21]](#footnote-21) To these two can be added the highly charged original music for several experimental narrative films also produced in France around the same time: Arthur Honegger’s scores for Abel Gance’s *La Roue* (1924) and *Napoleon* (1927) and George Auric’s music / soundeffects mix for Jean Cocteau’s *Le Sang d’un poéte* (1930).

 Close collaborative work with a forward-thinking composer already successful beyond the world of film has been a hallmark of experimental filmmaking and can be found in many different styles, from Edmund Meisel’s score for Sergei Eisenstein’s *Battleship Potemkin* (1925), Mauricio Kagel’s new score for Salvador Dalí’s and Luis Buñuel’s *Un Chien Andalou* (1929); Teiji Ijo’s scores for Maya Deren’s *Meshes of the Afternoon* (1943); John Cage’s collaborations with Maya Deren (*At Land*, 1944), Sidney Peterson and Hy Hirsh (*Horror Dream*, 1947) and Herbert Matte (*Works of Calder*, 1950); Mike Ratledge’s obsessively repetitious prog score for Laura Mulvey and Peter Woolen’s *Riddles of the Sphynx* (1977), Philip Glass’s hypnotic and driving soundtrack for Godfrey Reggio’s *Qatsi* triology (1982; 1988, 2002); the experimental soundworlds created for Derek Jarman by Simon Fischer Turner: the list is as long and diverse as the fractured history of experimental film.[[22]](#footnote-22)

The relationship between exploratory image and experimental compositional styles is explored here by Smigel, whose chapter interrogates the working relationship between the electronic and acoustic microtonal harmonies of American avant-garde composer James Tenney and the film images of Brakhage, arguing, as mentioned above, that the two components work together to dissolve the boundaries between objective and subjective time and thus activate the liminal space between “synchronous” and “asynchronous” sound.

**Audio-Visual Dissonance**

In many of the films analysed in this book that offer a soundscape of experimental sounds, a form of synchronous, or parallel audiovisuality is formed. Interestingly, however, many experimental filmmakers do not use experimental music at all. As we have seen, Fischinger and many of the other early visual music filmmakers enjoyed visualising pre-existent pieces of popular art music. But while the visual filmmakers produced an audiovisual progression that moved, at least roughly, along the same path, others have taken their images in a different direction. In particular, the cultural connotations of popular music, which can speak loudly and evoke strongly, have provided a sonic trajectory to manipulate and work against. We can say here that experimental audiovisuality is not only produced via an innovative soundworld in and of itself, but also through the ironic, jarring or culturally-subversive placement of popular songs, familiar classics and pre-existent film music against the moving image to create what Kristin Thomson has called a “perceptual roughening” and Dean Duncan a “conceptual clash of sound and image” that “creates a kind of multi-sensory chord”.[[23]](#footnote-23) Instances of such roughening are hard to find in mainstream filmmaking, as they can question the integrity—or coherence—of what is being offered. In experimental film, however, such clashes are relatively common. This brings us to the book’s second over-arching category which, while often operating in close proximity with the audiovisual aesthetics of optical music and other forms of audiovisual synchresis—sometimes even in the same film—nevertheless draws attention to different concerns: audiovisual dissonance, a filmmaking style closely aligned with the early rejection of synchronised sound and the part it played in the construction of a film’s “realistic attitude”.[[24]](#footnote-24)

As we have seen, early experimental film was created before the advent of synchronous sound, so the use of a sonic anchor to forge an illusory audiovisual realism was not possible. But almost immediately on the advent of sound film, it became desirable to both hear and see sonically embodied objects onscreen and film goers quickly became conditioned in their expectations. During the early twentieth century, many experimental filmmakers sought to address what was fast becoming accepted as “filmic realism” by producing clashing and aggressive forms of audiovisuality that placed film goers in uncomfortable points of reception. Although this form of rupture can be found throughout experimental film’s history, it was a clear pre-occupation for many of the earliest practitioners. In his 1922 Manifesto, for instance, Vertov proclaimed that: “We protest against that mixing of the arts which many call synthesis. The mixture of bad colors, even those ideally selected from the spectrum, produces not white, but mud … We are cleansing kinochestvo of foreign matter—or music, literature, and theater …”.[[25]](#footnote-25)

Pontus Larsson has argued that “sensory integration, perceptual fusion, or synergy is achieved” when sound and image are perceived as matching, meaning that “information from auditory senses provides help for assigning meaning to information from visual senses and vice versa.”[[26]](#footnote-26) If a mismatch arises, the resultant semantic or affective ambiguity can encourage the receiver to focus on one sense over the other: while acknowledging the differences in individual cognitive makeups, Larsson argues that, most often, attention will be grabbed by the visual. However, from the earliest instances of experimental filmmaking, a particular type of mismatch has been embraced, one from an innovative, loud, unexpected and / or dissonant sonic flow. Sometimes such soundworlds have been used to disrupt the assignment of meaning to visual information; at others to subvert, undermine or create a playful irony with the image. Nearly always, attention is drawn to the film’s aural components. Dalí and Buñuel, for example, demonstrated their Surrealist attitude of de-familiarisation and re-contextualisation by haphazardly placing the random and repeated juxtaposition of two tangos (“Tango Argentino and “Recuerdos” performed by Vincente Alvarez and Carlos Otero) with small sections from Wagner’s *Tristan and Isolde* (1859) against the subverted cinematography of *Un Chien Andalou*.[[27]](#footnote-27) Conjoined through chance—the records were replaced when they ran out and so on—the music seems sometimes appropriate, while at other times it appears to ridicule the image. Chion’s discussion of anempathetic sound is useful here, as it describes moments when sound appears indifferent to what is happening onscreen; it does not react, or at least, not at the moment in the way we would expect it to (Chion uses the continued sound of the shower after Marion Crane falls to the floor and out of shot in *Psycho* (Alfred Hitchcock and Bernard Herrmann, 1960) as an example of such sonic indifference).[[28]](#footnote-28) In fact, this apparent indifference can signal strongly to create moments of great drama, confusion or emotional upheaval.

 When sound and music are used to actively counter what is being shown, a different mode of reception is engendered. Perhaps most famous in the early examples of audio and visual disjunction is Sergei Eisenstein’s, Pudovkin’s and Gregori Alexandrov’s call, in “A Statement” (1928), for an audiovisual dissonance that would whip audiences into a frenzy, a form of counterpoint in which music and image could enter into a battle of equal voices, each vying for an audiences’ affiliation.[[29]](#footnote-29) Although, as Thompson has pointed out, the authors do not explicitly refer to their idea in terms of contrapuntal play, their statement nevertheless reviles against the forms of synchronisation made possible by the developments in film technologies.[[30]](#footnote-30) Exploring the practical manifestations of the ideas outlined in “A Statement”, Jay Leyda has noted that they rarely found a practical application, remaining instead an ideal condition to work towards.[[31]](#footnote-31) Pudovkin’s “Asynchronism as a Principle of Sound Film”, written a year later in 1929, developed these ideas further and paved the way for the audiovisual experimentation of *The* *Deserter*, as we saw above and as he explained further: “There are a number of occasions when sound is abruptly cut, or when different sounds are edited together extremely rapidly in order to create a discordant, edgy sound fabric that is often mirrored by the extremely fast visual montage”.[[32]](#footnote-32)

However, the very idea of audiovisual dissonance—particularly when formed from “a discordant, edgy sound fabric”—rests on an unsettled and shifting conceptual framework: it implies that both sound and image must mean something concrete before their combination; that they must each signify something stable; and that these established meanings can be retained and extended when combined with another voice. Such issues, only recently been taken up by film music scholars, have been addressed most coherently by Chion, although his focus remains primarily on the mainstream film tradition. Chion differentiates between what he calls “true free counter point”—“the notion of the sound film’s ideal state as a cinema free of redundancy, where sound and image would constitute two parallel and loosely connected tracks, neither dependent on the other”—and “harmonic dissonance”—by which “music and image must actively oppose each other”.[[33]](#footnote-33) Whereas free counterpoint can be found in isolated examples throughout cinema history (Chion uses the sound of breaking glass that accompanies Harry’s resurrection in *Solaris* (Tarkovsky, 1972) as an example of this), harmonic dissonance is more difficult to locate, because it presupposes for both sound and image a “precise point of meaning”; or rather, a “prereading of the relation between sound and image” that “imposes the model of language and its abstract categories, handled in yes-no, redundant-contradictory oppositions.”[[34]](#footnote-34)

While harmonic dissonance as a concept is problematic, Chion’s identification of a mode of mismatch that rails against the languages of synchronous film is easy t find throughout the histories of experimental film. In fact, although the types of hermeneutic slippage that it initiates are multifaceted, mismatched audiovisuality delivers a similar critique to that voiced in theoretical terms by Chion. The ideas of sonic meaning, of learnt methods of receiving audiovisuality, of harmonic dissonance and opposition and the theoretical ramifications of all three permeate this collection. With little in the way of scholarship to work with or against and with reference to diverse experimental film styles, the authors here come to many different conclusions about how a gap in image and sound can be conceived, utilised and identified, either through dissonance, perceptual roughening, contrapuntal layering, via the distancing effect or through embracing that which exceeds synchronisation.

The following chapters that engage with audiovisual rupture can be divided into two forms of exploration. First are the investigations into newly-composed soundscapes which can oscillate between synchronicity and a ruptured and critical disconnection with the image. In his investigation the hybridisation of disciplines in the early twentieth century, Daniels outlines Ruttmann’s development of what he calls “an optical-acoustic counterpoint”, something particularly perceptible in the asynchronous placement of image against Edmund Meisel’s score for *Berlin: Symphony of a City* (1927).[[35]](#footnote-35) While Muzyczuk, as we have seen, draws our attention to the Polish history of optical music, he also identifies a later exploration of the audiovisual *V-Effekt* in the film work of Wojciech Bruszewski, who employed newly-available electroacoustic devices to produce unusual auditory phenomena. Such curious sounds, he argues, promote a feeling of audiovisual “estrangement”, which challenge the normalcy of film language and press at the threshold of perception. Smigel identifies a different critique of audiovisual perception in the collaborations between Brakhage and Tenney. Working to the belief that the moving image and music should retain their singularities, rather than attempt to fuse with one another, the duo were interested in the psychological responses that such independence could induce in an audience attuned to synchronicity. As we saw above, Mollaghan’s work on Rhodes finds politically charged and gender-fuelled implications in the disruption of a directly-synchronised—and newly-composed—audiovisual flow.

The second form of dissonance occurs when filmmakers make use of pre-existent music and intertextuality. Often, this music is popular, tonal, familiar; and the mismatch occurs through its unusual juxtaposition with the image. Here, audiovisual rupture can be achieved directly, or through a remediated sense of irony; through the de-contexualisation and re-appropriation of familiar sound objects against unexpected images (as in *Un Chien Andalou*); or via the subversion of an existing practice or mass-cultural artefact. Several authors in this book investigate the ramifications of such audiovisual de-familiarisation.

The pair of chapters that focus on found-footage film—by Nessa Johnston and myself—examine what happens when it is not only sound that is pre-existent, but also image. Johnston’s work forms a particularly useful contribution to the audiovisual dissonance debate, as she compares a film with a newly composed score (Peter Delpeut’s *Lyrical Nitrate*, 1991), with one that uses a compilation of old phonograph recordings of arias (Bill Morrison’s *Decasia*, 2002) in order to show the different ways in which the materiality of audiovisual film can be ruptured by contradictory image and sound tracks. By analysing the quality of the audio and visual recordings, rather than the captured material itself, she finds that an aesthetic correspondence—based on decaying noisy textures—arises from the heterogeneity, a contradictory dissonance-synchresis that resonates not only at a local level, but also at a symbolic one by suggesting a modernist audio-viewing condition.

 In my chapter, I go further to interrogate the relationship between the original contexts for images and sounds used for experimental found footage collage films and their modes of signification within their recontextualised settings. I suggest that found sounds and images can simultaneously retain and interrogate their original identities through de-familiarisation. In this way, the dissonant re-alignment of audiovisual elements from different films can become a powerful way of generating new meanings. In particular, the re-contextualisation of images and sounds plundered from mainstream film can highlight and problematise traditional methods of consuming film and its musical modes of discourse.

As we have seen, Suárez also explores re-contextualisation in his chapter on queer film. Here, he finds ill-fitting audiovisual alignments to be one of the main strategies at play in queer film, where camp arises through the mismatching of song and image, or by audiovisual anachronism; a contradictory flow that subverts our original response to the music and gives rise to new political messages. Suárez shows that this can happen in several ways; through an excess of musicality unsuited to the low-fi or trivial image (camp), through the disturbance of a visual progression (noise) or through outright rupture (dissonance). Like me, he concludes that camp arises not through the musical materials themselves, but through the nature of their new collaged surroundings, and it is thus not the nature of the sound that is queer but rather the process, or effect, of recontextualisation that results in a queered form of experimental film.

 Carol Vernallis’s exploration of popular song in experimental film lends yet another viewpoint to the debate. Her close aesthetic readings of moments when well-known pop songs are placed—sometimes in their entirety—in avant-garde contexts reveal a disconnect between the immersive synergies of music video and the fractured forms of experimental film. In the latter, songs are not embedded within the audiovisual texture, but rather sit alongside the images, ready to bounce back against the viewer. Like Johnston, Suárez and I, Vernallis suggests that the large aesthetic gaps between audio and visual elements encourage a fundamental re-reading of the pre-existent music. From her examples—from the work of Andy Warhol, Kenneth Anger, Joseph Cornell, Pipilotti Rist and others—it is clear that these instances of musical audiovisuality reject the immersive trends of mainstream suture for a clear exposure of the materiality of film and its mechanisms.

**The Experimental Soundscape**

As in cinema’s commercial traditions, music in experimental film does not act in aural isolation but exists within an integrated soundscape that is coherent within itself as well as in relation to the image. The treatment of film sound in this way has been promoted within film music theory by Rick Altman in his call for a *mise-en-bande*, by Chion and his interrogation of film’s aural triage and by Kevin Donnelly in his writings on the creative convergence of recent creative sound design.[[36]](#footnote-36) While these authors investigate examples from commercial narrative cinema, traditional aural relationships—both horizontal (sound-to-sound) and vertical (sound-to-image)—have been problematised by the textures of experimental audiovisuality. In fact, the disruption of established hierarchies between music, sound and dialogue has been one of the most notable ways in which directors have highlighted and subverted the customary ways of seeing and hearing a film.[[37]](#footnote-37) This disruption is particularly apparent in more narrative works that demonstrate a clear critical relationship with commercial film and can have a particularly disquieting effect, something famously explored by Jean-Luc Godard in both *À bout de souffle* (1960) and *Le Weekend* (1967), in which the sudden crescendo of dramatic music at several pivotal moments renders dialogue inaudible.[[38]](#footnote-38)

The complication of the sonic hierarchies that we have become accustomed to in our fiction film going provides a complimentary theoretical strand that crosses and connects to the discussions of synchronicity and dissonance that populate this collection. As we have seen, Birtwistle explores the audiovisuality of John Smith, who has explored different models of soundscape by highlighting the conventional relationships between music, sound and voice in film and, in turn, the ways in which audiovisual elements can respond to, and influence, how we engage with the world. Birtwistle enhances previous research into the tripartite construction of the film soundtrack—music, voice and dialogue—by interrogating moments when the individuality of the audio tracks is dissolved, either through the use of voice-over for its grain and timbre rather than its semantic qualities, or via the heightened audibility of ambient sound—something also explored by Suárez in his work on queer film and Johnston in her analysis of found-footage film.

But destabilisation can also be forged through the de-synchronisation of sound and image. Walter Murch famously wrote that the re-association of image and sound is the “fundamental pillar upon which the creative use of sound rests, and without which it would collapse”.[[39]](#footnote-39) The implications of collapse—or rather, sonic renegotiation—lie at the heart of Hegarty’s chapter on Akerman. He discovers that, in her films from the 1970s, an explicit decoding of traditional filmmaking customs is instigated through a process of structural deconstruction. In particular, voice over is marginalised through a dislocation of utterance and body, sound and image, initiating a rupture that draws attention to previously unnoticed atmospheric sounds. Heightened and manipulated, these sounds give rise to what he calls a “sensorial dissonance”, by which sound-image combines call into question the established tenants of mainstream cohesion.

In his analysis of Julian Bryan’s experimental educational documentaries, James Tobias draws our attention to similar moments when image and sound pull away from each; sections where what we hear does not correspond to what we see. While sound at such moments is often plausible—Tobias analyses a scene in which a girl plays the piano, yet we hear a piece clearly different from the one her fingers produce—subtle differences produce a profound impact on a film’s reception, asking us to rethink the visual message through the lens of gender stereotypes, cultural expectations and educational rituals and their political ramifications. Like Akerman’s ruptured forms, Bryan’s particular form of dissonance is not only structural, but also political, sexual and aesthetic; significantly, the dissonance works by calling into question the validity of what is being shown.

***The Music and Sound of Experimental Film***

While it is not possible or desirable to make universal claims about the soundscapes of experimental film, in the studies that follow, several persistent ideas have emerged. William Verrone has argued that avant-garde film promotes a different kind of viewing experience from mainstream film: “it involves the senses in ways that are atypical of mainstream films” because “nothing is clearly denoted” for the audience, who have “to work” to make sense of the images.[[40]](#footnote-40) If we take the placement of music with or against the images into account, the activation of the senses becomes even more striking. In the work of the filmmakers here discussed, music has often been used to promote a Brechtian *V-Effeck* that can call into question what is being shown, creating an audiovisual whole that is either so synchronised, or so ruptured that an audience is presented with an interpretive gap.

 The processes of activated viewing and listening that this gap engenders is explored in nearly every chapter in this collection: Mollaghan uses work from the London Filmmakers’ Co-Operative in the 1970s to show how participatory and aleatoric works can place an audience at the heart of expanded cinema work; Hegarty identifies a process of “critical distanciation” that emerges from audiovisual rupture; Birtwistle explores moments when an audience is asked to oscillate between “immersion and distanciation”; I discover that an active participation in the gap between sound and image can question and subvert film’s syncretic languages; and Daniel’s work on Ruttmann, Smigel’s interrogation of Brakhage and Johnston’s exploration of film stock’s decay shows how such critical distanciation, driven by an unusual focus on music and creative sound, can help to expose the limits of filmic perception. In addition, many of the authors discover that audiovisual disunity also signals at a political level: Muzyczuk outlines the ways in which early Polish avant-garde filmmakers used music and sound to not only undermine the established structures of representation, but also to question the social-political beliefs behind them; Tobias finds a similar social critique at play in the dislocation of voiceover from experimental documentary footage; Suárez finds camp emerging from the gaps between sight and sound; Mollaghan reads audiovisual dissonance as enacting a feminist critique of music history and the audiovisual balances of narrative film; Hegarty finds an emergent feminist discourse arising from the rupture between image and voiceover; I read the re-use of existent material in a dissonant way as manifesting a metacritique about film synchronicity and synchresis; and for Vernallis, the re-appropriation of pop songs within an avant-garde context gives rise to a critical re-reading of artistic intent. But political commentary can also arise through tightly synchronised audiovisuality, as Dobson shows in his identification of inter-cultural comprehension in the process of McLaren’s animated sound and Cook finds in the unique form of primitivism that develops from Len Lye’s synaesthetic, kinaesthetic audiovisuality.

While the chapters here focus on an eclectic sample of alternative models of music-image relationship in film, then, similarities of intent and gesture have nevertheless risen to the surface. While I have divided these similarities into two overarching categories—synchronicity and dissonance—the lines between these are blurred and often filmmakers and composers prefer a fluid approach that is apparent not only between, but also within, single works. With this in mind, this collection operates as a first glance at the different ways in which directors, musicians, or director-musicians have responded to, and experimented with, film sound and music. While these essays celebrate the disjunctions and individuality of experimental film culture, when combined, they also go some way towards identifying common forms of sonic innovation that have persisted throughout its numerous histories and point towards the ways in which these gestures have infused the new media swirl.

1. Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies* (Berkeley: University of California Press, 2006); Vernallis, *Unruly Media: YouTube, Music Video, and the New Digital Cinema* (New York: Oxford University Press, 2013), 5, 7; Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2001), xv, 20. [↑](#footnote-ref-1)
2. Birtwistle, *Cinesonica: Sounding Film and Video* (Manchester University Press, 2010); Davison, *Hollywood Theory, NonHollywood Practice*: *Cinema Soundtracks in the 1980s and 1990s* (Ashgate: 2004); Holly Rogers, *Visualising Music*: *Audio-Visual Relationships in Avant-Garde Film and Video* (Amsterdam: Verlag, 2010) and *Sounding the Gallery: Video and the Rise of Art-Music* (New York: Oxford University Press, 2013). [↑](#footnote-ref-2)
3. William Moritz, *Optical* *Poetry: The Life and Work of Oskar Fischinger* (London: John Libbey & Company Ltd, 2004); Cindy Keefer and Jaap Guldemond (eds.), *Oskar Fischinger (1900-1969): Experiments in Cinematic Abstraction* (London: Thames and Hudson, 2013); Aimee Mollaghan, *The Visual Music Film* (Basingstoke: Palgrave Macmillan, 2015). [↑](#footnote-ref-3)
4. Chion, *Audio-Vision:* *Sound on Screen*, trans. Claudia Gorbman (New York: Columbia University Press, 1994), 63. [↑](#footnote-ref-4)
5. Fischinger quote taken from Fischinger's writings, found on 8 narrow strips of paper; reproduced at <http://www.centerforvisualmusic.org/Fischinger/OFFilmnotes.htm> (accessed 20 August 2016). [↑](#footnote-ref-5)
6. Rabinovitz, “Mary Ellen Bute”, in *Lovers of Cinema: The First American Film Avant-Garde*, ed. Jan-Christopher Horak (Madison: University of Wisconsin Press, 1995), 322; Stauffacher quoted in Sandra Naumann, Mary Ellen Bute’s Vision of a Visual Music: Theoretical and Practical Aspects (master’s thesis, University of Leipzig, 2006), 123. [↑](#footnote-ref-6)
7. Critic quoted by Thomas Y. Levin, “‘Tones from Out of Nowhere’: Rudolph Pfenninger and the Archaeology of Synthetic Sound”, in *Grey Room*, 12 (2003), 54. [↑](#footnote-ref-7)
8. Fischinger, “Sounding Ornaments” (1932), at <http://www.oskarfischinger.org/Sounding.htm> (accessed 20 August 2016). [↑](#footnote-ref-8)
9. Jutz, “Not Married: Image-Sound Relations in Avant-garde Film”, in *See This Sound: Versprechungen von Bild und Ton / Promises in Sound and Vison*, ed. Cosima Rainer, Stella Rollig, Dieter Daniels and Manuela Ammer (Köln: Walther König, 2009), 80. [↑](#footnote-ref-9)
10. For more on this history see Rogers, *Sounding the Gallery*; and Jutz, “Kurt Kren and Sound”, in *Kurt Kren: Structural Films*, ed. Nicky Hamlyn, Simon Payne and A. L. Rees (Bristol and Chicago: Intellect Books, 2016), 15-28. [↑](#footnote-ref-10)
11. For more information on this lineage, see Russett, *Hyperanimation: Digital Images and Virtual Worlds* (Hertfordshire, UK: John Libbey Publishing, 2009). [↑](#footnote-ref-11)
12. NoiseFold quoted at <http://noisefold.com/performance/> (accessed 20 August 2016). [↑](#footnote-ref-12)
13. For more on McLaren’s engagement with sound, see Rogers, “The Musical Script: Norman McLaren, Animated Sound and Audiovisuality”, in *Animation Journal* 22 (2014): 68-84. [↑](#footnote-ref-13)
14. Maholy-Nagy, “Produktion-Reproduktion” (1922), in *Die Zwanziger Jahre*, ed. Uwe M. Schneede (Cologne: Dumont, 1979), 239. He also asks that for sound, we “expand the apparatus hitherto applied solely for reproduction purposes, for production purposes”; 238. [↑](#footnote-ref-14)
15. Richard S. James, “Avant-Garde Sound-on-Film Techniques and Their Relationship to Electro-Acoustic Music”, in *The Musical Quarterly*, 72:1 (1986), 74-5. [↑](#footnote-ref-15)
16. For a public performance of the film, Pudovkin created a different montage; “I took sound strips and cut, for example for a word of a speaker broken in half by an interruption, for the interrupter in turn overswept by the tide of noise coming from the crowd, for the speaker audible again, and so on. Every sound was individually cut and the images associated are sometimes much shorter than the associated sound piece. … Sometimes I have cut the general crowd noise into the phrases with scissors, and I have found that … it is possible to create a clear and definite, almost musical rhythm”: *Film Technique and Film Acting*, trans. and ed. Ivor Montagu (1929; republished Rhode Island: Mayflower Publishing, 1958), 108. [↑](#footnote-ref-16)
17. Pudovkin quoted in Jamie Sexton, “Avant-Garde Film: Sound, Music and Avant-Garde Film Culture Before 1939”, in *Sound and Music in Film and Visual Media*, ed. Graeme Harper, Ruth Doughty and Jochen Eisentraut (New York and London: Continuum, 2009), 581. [↑](#footnote-ref-17)
18. Ruttmann quoted in Brian Hanrahan, “June 1930: Weekend Broadcast Tests Centrality of Image in Cinema”, in *A New History of German Cinema*, ed. Jannifer M. Kapczynski and Michael D. Richardson (Rochester, New York: Camden House, 2012), 211. 208-212. [↑](#footnote-ref-18)
19. Brakhage quoted in Russell Lack, *Twenty Four Frames Under: A Buried History of Film Music*

(London: Quartet Books, 1997), 234. Marie Nesthus has pointed out the similarities between the compositional techniques of Brakhage and those of Olivier Messiaen.Speaking about his film *Scenes from Under Childhood Part One* (1967), Brakhage refers to his exploration of aural experience and colour, a tone poem for the eye and acknowledges the composer as his influence; Nesthus, “The Influence of Olivier Messiaen on the Visual Art of Stan Brakhage in *Scenes from under Childhood Part One*”, in *Film Culture*, 63 (1977), 39-50. [↑](#footnote-ref-19)
20. Sexton in “Avant-Garde Film”, 577; Breton, “Manifesto of Surrealism” (1924), at <http://www.ubu.com/papers/breton_surrealism_manifesto.html> (accessed 20 August 2016). [↑](#footnote-ref-20)
21. Sexton, “Avant-Garde Film”, 574-5. [↑](#footnote-ref-21)
22. **At Land.** 1944. USA. Directed by Maya Deren. With Deren, John Cage, Parker Tyler, Alexander Hammid. Deren’s dream of self-discovery unfolds in a series of silent, sensuous tableaux. “I wanted it to look like an underwater garden,” Deren would recall. “And the falling down the rocks is the tempo of underwater falling!” Preserved by Anthology Film Archives. 15 min. **Horror Dream.** 1947. USA. Directed by Sidney Peterson, Hy Hirsh. During World War II, Mills College in Oakland, California, was a center of artistic innovation. The choreographer Marian Van Tuyl and the composer John Cage taught there for a number of years, and in 1947 they collaborated on this “choreographed interpretation of a dancer’s anxiety before starting her theater routine” (Scott MacDonald). Preserved by University of California, Berkeley Art Museum and Pacific Film Archive (BAM/PFA); courtesy Canyon Cinema. 10 min. **Works of Calder.** 1950. USA. Directed by Herbert Matter. Music by John Cage. Narration by Burgess Meredith. A portrait of the artist Alexander Calder, for which Cage wrote a complex score featuring prepared piano, percussion, electronic effects, and the gentle clanging of Calder’s mobiles. Preserved by The Museum of Modern Art. 20 min. **The Sun Film.** 1956. USA. Directed by John Cage, Richard Lippold. Silent. 6 min. **The Sun,** Variations within a Sphere No. 10 [documentation]. 1956. USA. Directed by John Cage, Richard Lippold. Silent. 7 min. [↑](#footnote-ref-22)
23. Kristin Thompson, “Early Sound Counterpoint”, in *Yale French Studies*, 60 (1980), 116.14. (2003, pp.80-82) [↑](#footnote-ref-23)
24. (1924:6) [↑](#footnote-ref-24)
25. Dziga Vertov, “We: Variant of a Manifesto”, in KINO-EYE: The Writings of Dziga Vertov, ed. Annette Michelson, transl. Kevin O’Brien, [www.cid.byu.edu/portfolio/media/TMA/Vertov.htm](http://www.cid.byu.edu/portfolio/media/TMA/Vertov.htm). [↑](#footnote-ref-25)
26. Pontus Larsson, Daniel Västfjäll, Pierre Olsson, Mendel Kleiner, “When What You Hear is What You See: Presence and Auditory-Visual Integration in Virtual Environments,” *Proceedings of the 10th Annual International Workshop on Presence,* October 25-27, 2007, Barcelona, Spain, online at [http://astro.temple.edu/~lombard/ISPR/Proceedings/2007/Larsson,%20Vastfjall,%20Olsson,%20Kleiner.pdf](http://astro.temple.edu/~lombard/ISPR/Proceedings/2007/Larsson%2C%20Vastfjall%2C%20Olsson%2C%20Kleiner.pdf), accessed March 16, 2015, p. 2. [↑](#footnote-ref-26)
27. [↑](#footnote-ref-27)
28. Chion, Michael (1994). [*Audio-Vision: Sound on Screen*](http://books.google.com/books?id=is_HyxAyMkMC&lpg=PP1&dq=audio%20vision&pg=PP1#v=onepage&q=audio%20vision&f=false). New York: Columbia University Press. pp. 8–9 [↑](#footnote-ref-28)
29. Eisenstein, Pudovkin and Alexandrov, “A Statement”, trans. and ed., Jay Leyda, *Film Form* (New York: Harcourt, Brace, and World, 1949), pp.257-259. [↑](#footnote-ref-29)
30. Thompson quoted in (Kalinkak, 1992, 28). [↑](#footnote-ref-30)
31. Kristin Thomas argues that examples can be found in several films from 1930-34; Sexton argues that “the manifesto was actually more influential than this, for it was propagated wihin specialist film cultures around the world and led to critics and theorists taking a more positive view towards found film”, p.578. Kristin Thompson, “Early Sound Counterpoint”, in *Yale French Studies*, 60 (1980), 116.14. Jay Leyda, *Kino: A History of Russian and Soviet Film* (New York: Collier Books, 1973), 278-9. [↑](#footnote-ref-31)
32. Jamie Sexton, “Avant-Garde Film: Sound, Music and Avant-Garde Film Culture Before 1939”, in *Sound and Music in Film and Visual Media*, ed. Graeme Harper, Ruth Doughty and Jochen Eisentraut (New York and London: Continuum, 2009), pp.574-587. 581. [↑](#footnote-ref-32)
33. Check quotation (1994: 39, 38. “ciether dependent on each other” = p.36. [↑](#footnote-ref-33)
34. (1990, p.38, [↑](#footnote-ref-34)
35. Walter Ruttmann, 1928, quoted in *Walter Ruttmann: Eine Dokumentation*, 1989, p. 33. [↑](#footnote-ref-35)
36. Altman etc: 2000 341. [↑](#footnote-ref-36)
37. Altman; Chion etc. [↑](#footnote-ref-37)
38. Orlene Denice McMahon: on French new wave voice over See Rogers, *Music and Sound in Documentary Film* [↑](#footnote-ref-38)
39. Walter Murch, ‘Stretching Sound to Help the Mind See,’ *New York Times* (1st October 2000), <http://www.nytimes.com/2000/10/01/arts/01MURC.html?pagewanted=all> [Accessed: 30.10. 2015] [↑](#footnote-ref-39)
40. Verrone, *The Avant-Garde Feature Film: A Critical History* (London: McFarlane and Company, 2011), 18. [↑](#footnote-ref-40)