Encountering sound: the musical dimensions of silent cinema

Paul Cuff

Department of Film and Television Studies, University of Warwick, Coventry, UK

ABSTRACT
This article identifies silent film soundtracks as evidence of the tensions between old and new audiovisual cultures, and examines the distinctions between our experience of live and mediated cinema through contemporary modes of presentation. My primary interest is in the aesthetic and cultural dimensions of film sound, and the ways in which digital technology influences the creation, performance, and recording of music for silent cinema. Parallel to this subject, I address the relationship between scholars and their object of study. I analyse how different audiovisual environments (rehearsal and concert spaces, recording studios, theatrical and domestic spaces) shape the aesthetics of film sound and the culture of its reception. More generally, this article seeks to engage film studies with media and performance studies, arguing that a reflective and interdisciplinary approach is needed to evaluate our ever-changing encounters with live and recorded film sound.

INTRODUCTION: DISCOVERING SOUND

In January 1925, the UK fan magazine Pictures and the Picturegoer admitted to its readers that “there are many people who go to the kinema more for hearing the music than to see films”. Throughout the silent era, the public experience of filmgoing was invariably aural as well as visual (Abel and Altman 2001). Audiences encountered soundscapes as varied as the spaces in which films were projected: fairgrounds, variety theatres, music halls, movie palaces. Accompaniment varied from hushed ambiance to a cacophony, from a single narrator to a large chorus, from a solo piano to a full symphony orchestra; spectators might be invited to participate in the performance through speech or song, or to sit in respectful quietude. Even if exhibition took place in silence, the absence of a recorded soundtrack rendered the acoustic environment of every screening as unique and ephemeral as any musical performance. For these reasons, sound must be regarded as “one of the major determinants in silent cinema”:

Essentially it produced effects in the cinema that recorded sound could not, a sense of immediacy and participation. Live sound actualised the image and, merging with it, emphasised the presentness of the performance and of the audience. It is from that play of interpellation and positioning—the placing of the spectator within an immediate experience—that “silent” cinema derived much of its potency. (King 1984, 2, 15)

The desire to regulate this remarkable flexibility between sound and image was a crucial factor in cinema’s adoption of the recorded soundtrack. During 1926–27, musical subjects dominated those short films being made with rapidly-improving synchronized sound processes like Movietone and Vitaphone. The success of these recorded performances encouraged producers to utilize new technology for feature films: by affixing soundtracks to silent images, the unevenness of live musical performance could be curtailed. As Michael Slowik highlights, studios introduced synchronized sound not to precipitate all-talking films, but “to use recorded music as a replacement for the live portions of the [cinema] program”:

By presenting a single recorded performance to audiences across the country, Warner Bros. hoped to cut costs and standardize film entertainment [...]. [These productions] demonstrated the potential for synchronized films to offer top-quality orchestral accompaniment even in smaller communities with substandard musical practices. (2014, 41)

At the time, musicians were outraged at being replaced by what they deemed “canned” or “robotic” performances. Their unionized campaigns in the trade press highlighted the thin acoustic depth of the first soundtracks, as well as recorded music’s lack of human connectivity with audiences. Subsequent technological developments—stereo (widespread from the 1970s), surround sound (from the 1980s), digital sound (from the 1990s)—may have enhanced the immersive quality of sound, but the recorded soundtrack remained the fundamental alteration to the nature of musical accompaniment in cinema history. From the 1920s, “music increasingly became another behind-the-scenes technical aspect of the film experience, produced by a faceless
entity and piped into the auditorium via the less personal technology of the loudspeaker” (Slowik 2014, 86).

This cultural shift also affected literature on film music. After the boom in guides for musical accompaniment published during the silent era, scholarly attention thereafter focused primarily on recorded sound (Marks 1997, 3–25). Even after the emergence of film studies as a discipline, the dearth of silent film performances denied musical analysis its practical evidence. Much credit for the popular resurgence of live cinema belongs to restorers David Gill and Kevin Brownlow alongside composer Carl Davis. Their collaborations began with the television series Hollywood: A Celebration of the American Silent Film (1980), leading to numerous live film presentations sponsored in the UK by Thames Television. Since the 1980s, silent soundtracks by Davis and many other composers have traversed multiple audiovisual environments: theatrical performances, analogue recordings for television broadcast and VHS/laserdisc, digital soundtracks for mainstream distribution through Digital Cinema Packages (DCPs) and DVDs/Blu-rays. This growing body of work continues to feed interest in historical and contemporary methods of accompaniment (Brown and Davison 2013; Loiperdinger 2011, Tieber and Windisch 2014; Donnelly and Wallengren 2016).

Yet despite being a rich historical “model for multimedia integration” (Melnick 2012, 28), silent-era exhibition has yet to receive significant attention outside film studies. Music, performance, and mediation each have their own extensive bodies of scholarship, but interdisciplinary approaches rarely explore the canon of early cinema. Gene Youngblood’s foundational Expanded Cinema (1970) mentions thinkers and ideas that influenced cineastes of the 1920s, but only to emphasize the utopian possibilities of avant-gardists in the computer age. Günter Berghaus identifies 1909–28 and 1965–85 as the two main “periods of great artistic explosion” (2005, 85) but typifies the perspective of recent media historians by discussing only theatrical experimentation during the era of silent cinema. Even studies that explore liveliness from ancient theatre onwards segue rapidly to twentieth century media (Dixon 2007; Sexton 2007; Rees et al. 2011; Albano 2016). Lev Manovich does discuss early cinema as a precedent for multimedia art, interpreting “microcinema” as a “return of the repressed” from film history (2001, 208); yet his exploration of “interactivity” bypasses human “performance” and shows little interest in the variety of silent exhibition. Philip Auslander mentions new media in conjunction with early cinema only in terms of its spatial/visual relationship to theatre and (later) television—not as an instance of mediated liveliness (1999, 10–24). Today’s live and broadcast cinema has begun to be examined within spectatorship studies (Kennedy 2009; Barker 2012; Radbourne, Glow, and Johanson 2013) but, here too, modern revivals of early films remain unaddressed.

What makes this absence of interdisciplinarity more glaring is the number of live cinema events now promoted as multimedia performances. In 2016, silent film concerts with the City of Birmingham Symphony Orchestra were advertised as “the ultimate cinematic surround sound” (Figure 1). Promotional material on the CBSO website described the musicians’ presence beneath the screen as a “live soundtrack”, “the ultimate in special effects”. Prospective spectators for a film performance at Saffron Hall (Saffron Walden, UK) in February 2017 were told on the venue’s website that “there isn’t a cinema sound system in the world to compare” with the BBC Symphony Orchestra. As one promo on the Birmingham City Council website in May 2014 put it: “It doesn’t matter how good your home
Such appeals are for the benefit of audiences now assumed to be unfamiliar with the conditions of live presentation. In the words of Pictures and the Picturegoer from 1925, music in 2017 is once more valued as “part of the film performance itself.”

This article concerns itself with the issues raised by silent cinema’s presence within contemporary culture: What is at stake in the production of new soundtracks for early films? How does our audiovisual experience of new media differ from the aesthetics of live cinema? Can scholars adequately document or analyse the dimensions of film sound? In addressing these questions, I am not primarily concerned with the digitization of early cinema texts (discussed in Cherchi Usai et al. 2008; Cuff 2016) but with how scholars understand their encounters with silent film music in the digital age. Before outlining my own approach, I want first to address why I feel this issue of cultural perspective is central to studying cinematic sound.

While admitting that scholars must “keep in the mind the aesthetics of the original event”, Marco Bellano insists that analysis of musical accompaniment can take place only via recorded media:

> to achieve results in a comparative analysis of functions [...] it is necessary to use objects of study for which the film/music relationship is solid and unchanging: the recorded results of a performance. [...] [E]ven improvisations can be used if they are recorded. When fixed on video, the performance becomes an audiovisual text: every match between audio and video is definitive. The time span is determined once and for all, and the temporality is potentially reversible and repeatable at will. This makes it possible to describe and measure minutely each audiovisual function. (2014, 213)

While admitting that “the ideal study object would be a fixed and unchangeable combination of sound and image”, Bellano subsequently states that this does not entail “regarding silent films as if they were synchronized sound films” (2014, 211–213). I find this impossible to accept, since a “fixed and unchangeable combination of sound and image” is the precise definition of a synchronized sound film. Likewise, I am troubled by the implications of Martin Marks’s comment that “no satisfactory method of transcribing a whole soundtrack has been found, any more than a method of transcribing a film’s images” (1997, 6). Is transcription the scholar’s ultimate purpose in examining sound? These accounts propose musical performance be locked in place (and in time) to satisfy the demands of analysis. This denies the essential fact that live cinema is unrepeatable: it is the circumstantial combination of mechanical and living components, of physical materials and cultural context, of visual and acoustic dimensions. As Jocelyn Szczepaniak-Gilleece and Stephen Groening highlight, scholars often overlook cinematic presentation precisely because it “troubles” their methodology:

> if film studies generally accepts its ties to ambiguity and paradox, it too frequently ignores cinema’s physical excess: the spaces of exhibition where image and sound meet the messiness of the world. That particular moment of encounter and the multiplicity of things therein that misshape, re-enact, and reconsider the relationship between film and spectator bear a historical and theoretical urgency. (2016, 139)

My article responds to this call for an urgent reconsideration of film presentation. The next sections focus on three spaces of “encounter” with silent cinema: in the concert hall, in the studio, in the digital environment. Through these examples, I challenge Bellano’s assertion that “audiovisual functions can be understood and described only when a silent film performance is accessed through the filter of a video recording” (2014, 213). Though I have had recourse to audiovisual documents from other occasions, my analysis stems from primary experiences and the impressions they have left. By evoking these events, I hope to elicit the aesthetic and pedagogic value of attending live performances. I share Jacques Barzun’s puzzlement at those who turn their backs on music’s material context: “mere analysis [cannot] re-create or refresh one’s sense of the passage to which it applies. Sometimes, indeed, the analysis is so abstract and removed from the object that we are not reminded of the work at all” (1952, 19). His comments preface an anthology of writing that is as diverse as the sound cultures it covers. Through this collective project, Barzun suggests that essaying the lived experience of music requires a degree of creativity, or else the essence of its actualization is lost. I would add that for events otherwise unrecorded, evocation is a necessary facet of critical writing. Live performance focuses attention on aesthetic meaningfulness in a way that digital reproduction cannot. As Marvin Carlson notes: “Performance by its nature resists conclusions, just as it resists the sort of definitions, boundaries, and limits so useful to traditional academic writing and academic structures” (1996, 189). The tension between sound and image in silent cinema is especially generative in this regard, and the performative dimensions of filmgoing are nowhere more apparent.

Creating sound: in the concert hall

In this first section, I explore the experience of silent cinema within the public space of the concert hall. What follows is not intended to demonstrate a historical mode of exhibition, but to describe a specific instance of performance in the present day. Indeed, the here-and-now qualities of such events are fundamental to the difference between live and pre-recorded sound:
On this theme, Edward Said writes about the “social abnormality of the concert ritual”. Here, the combination of circumstances results in what he calls “an extreme occasion, something beyond the everyday, something irreducibly and temporally not repeatable, something whose core is precisely what can be experienced only under relatively severe and unyielding conditions” (Said 1991, 17–18). These are not conditions readily applicable to filmgoing in the sound era—and even less so for digital presentations. Yet they certainly apply to live cinema, especially for screenings of films which make great demands on accompanying musicians.

A pertinent example is Fred Niblo’s spectacular epic Ben-Hur: A Tale of the Christ (1925) and the orchestral score written for it by Carl Davis in 1987. In May 2016, I experienced four successive performances of this music with Davis conducting the City of Birmingham Symphony Orchestra: two run-throughs at the CBSO Centre, followed by a dress rehearsal and public screening at the Birmingham Town Hall.

Preparations for this kind of event must ready the musicians for the “extreme occasion” of unbroken performance. Therefore, read-throughs tend to begin with extended passages before work on details can commence. In the digital era, it is possible to relay tempi to players via a click track (heard through headphones) and to show visual markings (“streamers”) for cues on the conductor’s monitor. Yet at the CBSO Centre there was remarkably little technological guidance for the orchestra to learn Davis’s score. A crate in front of the conductor’s podium is the base for a monitor that displays a timecoded copy of Ben-Hur. To one side of the podium is a small table on which a laptop controls the video feed for the podium monitor; this is operated by an assistant who can be instructed to move the video back or forward per the timings marked on Davis’s printed score. The lack of automated instruction was one of the reasons that the CBSO rehearsals felt remarkably relaxed. Musicians might exchange whispered comments or smiles of encouragement during performance, and were free to applaud good work. Davis, too, was free to use his voice as well as gestures to communicate during practice. The martial music for the film’s Roman legions produced a visible reaction as its rhythm slowly spread through the orchestra: musicians playing through the score for the first time began bobbing and nodding appreciatively, and by the climax of the cue some were swaying in their chairs. This kind of kinetic learning reveals the physical nature of musical preparation necessary for the concentrated exertions of live events.

Regardless of the number or quality of rehearsals, the expectation of a public concert always brings its own sense of nervous energy. As Said puts it, musical performance “is rather like an athletic event in its demand for the admiringly rapt attention of its spectators” (1991, 2). While the projection of films is the primary function of live cinema, it is the presence of performers that distinguishes each event from mainstream cinemagoing. Even if musicians here are not the prime object of “admiringly rapt attention”, they are nevertheless essential to the experience. Unlike the invisible performers of a soundtrack, live concerts allow audiences to watch the music’s actualization unfold. Just as one can look out for musicians readying themselves for a dramatic cue, so musicians can be seen reacting to spectatorial gasps or laughter—furtively glancing up at the screen when free to do so.

As well as the orchestra’s collective endeavour, individual performers stand out. In live performance, percussion players often take their cue for specific effects (gunfire, whistles, fanfares etc.) from the screen rather than the conductor. It is a curious feature of liveness that soloists here achieve greater musical independence by following the film’s recorded instruction. Rhythms cut-across each other in a way that may not accord strictly with the score, but which do achieve spontaneity; rather than following a predetermined course, music can react to cinematic action. Davis has spoken about his reluctance to enforce the kind of strict timing essential for a studio recording during live shows:

Sometimes they provide musicians with a small monitor and a click track via headphones which the conductor can hear. This is very good, but of course it’s not a performance if you’re following a click track. When I do it live, I have tended to sacrifice absolutely perfect timing for the emotion of the performance. You can’t do this if you’re surrounded by streamers. I’d rather learn the film. I want to make sure my score is correct and therefore know that I’m going to be in the right place at the right time. In the live show, you can actually get away from the technology and try and deliver a musical performance. (2016, 40–41)

The rewards of this tension between temporal regulation and emotional freedom are especially evident in the climactic chariot race of Ben-Hur. This sequence is a spectacular example of live (musical) and recorded (visual) performance working together to produce drama. As Kevin Brownlow has chronicled (1968, 385–414), the filming of these scenes in 1923–24 cost the lives of dozens of horses and one stunt performer, while both lead actors—Ramon
Navarro (Ben-Hur) and Francis X. Bushman (Messala)—were involved in a near-fatal accident. Weeks of trial runs culminated in two live races filmed before an invited audience of thousands. To ensure a good performance, the chariot drivers were told the winner would get a bonus—and the crowd were encouraged to place bets on the outcome. The action was filmed by 42 cameramen positioned in every possible location around the huge Circus Maximus set, and even more angles were exploited in the subsequent weeks of additional filming: cameras were mounted on vehicles hurtling beside and before the racers, and sunk into pits beneath the horses’ hooves. Editors reduced 46 hours of raw footage into less than ten minutes of screen time.

Breathless editing enhances the velocity of the resulting sequence, which captures all the muscle, sinew, and sweat involved in its making; the extreme physical danger of performers on and around the racetrack is palpable in every shot: when chariots crash, it is horribly evident that stuntmen are risking their lives and that horses are losing theirs; such moments never fail to elicit gasps from cinema spectators.

At the CBSO Centre in 2016, the first time the chariot race was performed came at the start of the second rehearsal session. Having gone through the film up to the start of the sequence, the players broke for lunch; during this hiatus, musicians’ conversation focused on the energy that would be needed for the first ten minutes of the next session. As the players returned and began to retune, the tiny laptop screen next to Davis was being cued for the race; live and pre-recorded performers were bustling with excitement, readying themselves for the off. When Davis explained that he had decided not to include the whip as a sound effect in this performance, the musicians made their feelings known with sounds of disappointment. Indeed, the pleasure in facing the musical difficulties here was visible on many faces. Davis’s score demands a duel between a pair of timpanists: their drums thunder the rhythm of the two rival chariot teams, while over them the brass section tussles between the leitmotifs of Ben-Hur and Messala. The sheer speed of the action on screen make this sequence an act of breathtaking musical endurance.

The ideal result of this audiovisual race is a tie between sound and image: musicians should finish at the exact same moment as the racers on screen. Live performances generate tension by the possibility of a different result—the risk of error heightens the pleasure of success. In the first full run-through by the CBSO, the film won by some distance: Ben-Hur had long since crossed the finishing line by the time the orchestra celebrated his last-moment victory. There were (good-natured) groans of disappointment from the players when Davis asked for another run-through using (in his words) “the tempo I need.” Warmed up by the first attempt, the orchestra refocused and began again; the second run-through generated fewer smiles, but the perfect result: an audiovisual tie.

The next day, the CBSO arrived at Birmingham’s Town Hall for the final rehearsal. They played through the whole of Ben-Hur’s first act without pause, while above them loomed the huge image of the film, projected on 35 mm. During the chariot race, Ben-Hur is once more tied for first with the orchestra. However, in the immediate aftermath, the winner finishes celebrating before the musicians; Ben-Hur’s mother and sister (in the next scene) seem to cower in fear at the immense volume of his celebration booming from the stage. To the audience of five people scattered around the empty hall during the dress rehearsal, even this minor error seemed a tremendous achievement. Facing an audience of 2,000 spectators that evening, the concert performance was nothing short of miraculous: the race was delivered with an ideal blend of panache and precision. This was a collective feat no less impressive than the race itself. (Indeed, the website of the CBSO advertised their 2016 performance of Ben-Hur in exactly these terms: “Prepare to be astounded, as Maestro Davis himself unleashes the raw power of an orchestra going for broke under the silver screen.”)

If Davis’s Ben-Hur score matches the physical exertions on screen during the chariot race, it also gives weight to those scenes which rely heavily on artificial visual effects. The film’s opening scenes deal with the birth of Jesus, and feature the star appearing over Bethlehem in a shower of meteors. This glittering curtain falls and fades, leaving a single star that dominates the sky—its gleams condensing into the sign of a cross; as the Wise Men and Shepherds see this apparition, the star radiates ever brighter—sending ripples of light out through the sky. While these images can seem synthetic on a television monitor, they have tremendous impact when revitalized during live performance—especially projected on 35 mm. On such a scale, and accompanied by an orchestra, spectators are invited to appreciate the human touch that created the scene’s effects: hand-operated cameras, hand-painted glass mattes, celluloid manhandled into chemical baths to tint its silver with colour.

Davis’s score for this scene is orchestrated to provide a wealth of sonic sensations: from the aural coruscation of falling meteors (glissandi bell tree, high strings/woodwind, rolling cymbals/tam-tam) to the floor-shuddering bass of the star itself (all the above plus fortississimo timpani, horns, trumpets, trombones, tuba, organ). This music evokes extreme depths and extreme heights: acoustic space expands the dimensions of the image, making its impact near supernatural. Davis uses the “Dresden Amen” theme for the Christian episodes of Ben-Hur, spelling the motif for the first time during the opening credits then withholding its full iteration until this moment
at Bethlehem. As the star grows into a luminous cross, the "Dresden Amen" is projected with immense clarity by the brass—a blast of sound that organizes the layers of orchestral timbre into meaning, reconnecting this scene with the film’s religious narrative. This is at once a moment of intellectual comprehension and of emotional revelation: the visual shockwaves from the star are transformed into music that reverberates through the concert hall. Silent images thus have physiological impact on spectators in the venue; the star’s ringing clamour is followed by the tangible dissipation of its sound.

If the above analysis evokes an instance of thrilling loudness, this is not to imply that live sound is impressive only through sheer volume. Quietness is just as affecting when freed from the confines of a soundtrack. A particularly striking instance of this in 2016 was the later scene in which Ben-Hur returns to his former home and, exhausted, falls asleep on the stone steps at the base of the wall outside. His mother, Miriam, and sister, Tirzah—both afflicted with leprosy—arrive, dragging with them (through on screen and in the orchestra) the Hur family motif, disfigured by the scraping strings that have throughout signified their illness. In his sleep, he mutters "Mother"; a solo violin raises Ben-Hur’s motif, which his mother seems to hear. The two women approach, but Miriam holds Tirzah back: “Not a sound! He belongs to the living—and we to the dead.” The Hur theme climbs to a higher register, as if lifting itself away from the sleeping figure. The low sonorities of a solo cello accompany Miriam as she crawls up to her son, while Tirzah kisses the sole of his boot. As Miriam caresses the stone beneath Ben-Hur’s head, harps accompany the cello’s refrain—low and high pitch seem equally to avoid making too loud a sound. The mother places her head in a position parallel to her son, stretching out one step below him. After kissing the step, she withdraws—but we see that she has left a tear on the stone. The two women retire, the orchestra’s strings scuffing in deep tremolo—the musical texture of their leprosy.

Ben-Hur awakes. He places his foot down onto the lower step, not realizing he has almost stepped on his mother’s tear; the plucked note of a harp suggests the fallen drop and—as did his mother before him—Ben-Hur seems to hear the motif in the orchestra, but remains unaware of his family hiding nearby. This scene is the film’s most moving, and its dramatic irony is worked into the music through the motifs that trigger mutual reminiscence among characters and spectators. Davis’s score plays upon the idea of presence and presentiment—on screen and in the auditorium. The effect is made stronger by the fact of the music’s generation by live musicians. While this sequence seemed powerfully intimate for those in the near-empty hall at rehearsal in 2016, the filled concert space later magnified the moment’s empathy. While a DVD presentation might trigger these connective experiences, the sense of dramatic continuity in a live concert is unrepeatable.

The public performance of Ben-Hur in 2016 created another such instance through accident. Near the end of the film, Christ’s crucifixion is followed by earthquakes that wrack Jerusalem, climaxing in the collapse of the huge Senate building. This remarkable screen effect is achieved through the combination of matte painting, models, and superimposition. Davis’s score grants the catastrophe an immense sonic impact: the weightless fiction of silent images attains preternatural mass in performance, where the venue’s interior trembles in response to a full orchestral fortissimo. In the 2016 concert, this musical climax was mistimed: the sound of Jerusalem’s masonry hitting the ground preceded its image by around five seconds. Yet even here, the silence of the building’s slow-motion disintegration possessed an uncanny gravitas. In the presence of an orchestra, silence itself acquires heightened impact. For these few moments, conductor, players, and audience were united in rapt attention to the film’s solo performance. One cannot quantify the effect of a live performance as one can describe the size of screens or venues, but its dimensions are fundamental to a film’s aesthetic significance. Silent cinema is most fully revealed in the circumstances of “an extreme occasion”.

Capturing sound: in the studio

Having offered an example of live sound as a theatrical event, this section examines the production of a silent film soundtrack for commercial release. As well as highlighting the role of recording technology in reshaping music-making, I want to interrogate how performers (and scholars) relate to mediated sound. As my introduction outlined, aesthetic and commercial motivations coincided in the desire to fix permanent soundtracks to filmstrips. The economic impact of this move is still being felt. Though live cinema is currently undergoing a resurgence, the goal of most silent film restoration is distribution on home media formats. To do so, all silent films are transformed into sound texts. DVD and Blu-ray provide one or more audio tracks which are pre-synchronized with the video track. The viewer may be able to choose from different audio options (alternate scores, commentary, silence), but the fact remains that there is no live element to the digital content. Thus, while digitization offers unprecedented levels of access to the content of film history, it also poses significant challenges to the way in which modern audiences experience silent cinema.

The constructive forms of compromise between silent film music and digital recording are
particularly evident within the environment of the modern recording studio. During September-December 2015, Carl Davis recorded his 332-minute score for Abel Gance’s *Napoléon* (1927) with the Philharmonia Orchestra at Angel Studios, London. Such a location seems an unnatural habitat for a symphony orchestra. Entering from the street above ground, visitors must descend a large flight of steps, then negotiate a warren of corridors punctuated by panelled doors. At the end of this journey, the studio floor resembles an under-stage pit, filled with a jungle of music stands and wiring. Yet nowhere here is there an outlet for the sound, and under one’s feet are numerous duct-tape zigzags concealing the network of wires from a host of electronic devices. Placed in the confines of such a space, it is as if the music is being prepared for domesticity. Indeed, the spatial orientation of the musicians has been reversed from that of a live concert. In a public venue, the conductor faces the screen and the orchestra looks out to the audience; in the studio, the conductor faces the glass window of the control room and the orchestra can see only a wall beyond him. In the studio, Davis looks over the players towards the control room (Figure 2).

Rather than one large screen from which to take instruction, there are numerous small screens. On the studio floor, Davis has an LCD monitor beside his printed score; this screen relays the images visible within the control room. In the control room, each member of the production team has their own monitor. There are also two screens mounted above the window facing the studio floor, and another monitor below it. The top right screen displays the take number and a colour to indicate whether recording is under way. Top left and bottom right screens display the video track. The latter is a low-quality version of the film, which represents the final version only in the accuracy of its frame-rate. This video is overlaid with digital “streamers” that indicate the place of audio cues. These visual cues are determined by the production team, who calculate in advance the exact tempo required to match measures in the score with scenes in the film. These elements can be amended as required during the recording, so that a new tempo calculation will automatically alter the position of the streamers in the video track.

The orchestra cannot see any of these visual indications, so for them (as well as Davis) the tempo is related through a click track. Each player is therefore required to wear headphones to hear this track and the control room’s instructions. One or two players augment audio instruction with a metronome app on their phones: by placing this device in front of the score on their stands, they can set a tempo and watch the bright (but silent) digital screen display a replica of the traditional back-and-forth pendulum. The control room manages the number of channels through which sound is passed from the studio floor microphones, and from the control room to individual headphones. Thus, the studio can address any musician individually to the exclusion of others—or address the studio collectively.

The nuances of power in the above are subtle: paper score, digital score, video track, digital streamers, click track, and control room each contribute to shape and regulate the sounds being produced. Indeed, the music one can see being produced through the glass does not reach those on the other side without mediation. The control room is insulated against direct sound from the studio floor. At the start of each session, microphones are tested: what appears as a unified performance is suddenly split into a series of interrelating sounds that are thrown from speaker to speaker in the control room. The woodwind section might be visible at the centre of the studio floor, yet their music is channelled through the left-hand speaker in the control room. Live performance becomes controllable—
tameable, fixable—as soon as a microphone is placed to relay its sound. Though it maximizes the acoustic quality of sound on the recording, the prime function of digital technology in the studio is to allow the images to dictate terms—far more so than in the context of a live performance.

Another key difference is that of continuity. Live performance consists of a single, uninterrupted “take” accompanying the film—and concert rehearsals are geared towards this ultimate event. In the studio, no extensive play-through is required because no single performance is going to be enacted. The complete recording is an assembly of perfected details, not a document of continuous performance. This being the case, the score is broken down into discontinuous sequences and these fragments are played repeatedly until the desired performance is achieved. The order in which music is recorded depends entirely on the soundtrack producer. A schedule is decided in advance to make best use of personnel and their energy levels: specialist performers or instruments may be available one day, but not the next; difficult passages may be best achieved by warming-up with other material, and so on. Sections of a score involving smaller ensembles or single players are often saved for the end of a day’s recording: this way, the time (and cost) of musicians is not wasted. During the Napoléon sessions in 2015, recordings were arranged so that sections involving the full orchestra took place earlier in the day; thus, the number of players present slowly dwindled during the afternoon, leaving only a quartet or soloist for the final evening session. This exceedingly careful provision of musical practice is not possible when rehearsing for live performance, nor is it desirable: such scheduling entirely disarranges the continuity of both film and score.

It follows that the studio is a far stricter environment than a rehearsal space—and its environment is more intolerant of performative and acoustic error. In the studio, verbal communication and performance cannot coincide; instructions must take place in-between takes, never during them. (Even the studio cannot issue commands, as their voice could be picked up by the microphones.) When players know that they won’t be required for a cue, they are free to read magazines or browse the internet on their smart phones; they can even leave the room, or (over different days) be substituted by alternative players. The only thing they mustn’t do is give away their physical presence in the studio during recordings. Per the engineer’s announcements to the orchestra, the most common reason for a retake is the presence of “noise in the room”. This can be any extraneous sound that draws attention to the material context of the recording: the rustle of a paper score, the creak of a chair, the breath of a performer. Though sound is abstract, its origins are material: music cannot be performed without printed scores, physical instruments, human musicians, and physical exertion. These elements go unseen by those who use the digital recording, and sound engineers seek to minimize the material conditions of musical production.

This is not to say that there is no time for appreciation in the studio. Once the control room relays the end of a take, players can applaud the performance of players and enter discussion with the conductor. The studio even creates many of the interactions between live musicians and filmed performers that are so evident in live events. In a solo session for Napoléon in 2015, Davis takes the part of a character playing music on screen. In the control room, Joséphine de Beauharnais’s piano-playing is mirrored by Davis at the same instrument in the studio (Figure 3). Other combinations of present and absent musicians are achieved through more complex digital means. On another occasion, hurdy-gurdy player Ray Attfield is alone with Davis on the empty studio floor. The soloist cannot see the scene which is relayed on various monitors in the control room. On screen, the seated Maximilien Robespierre motions for the hurdy-gurdyist to resume, and follows its rhythm with repetitive flicks of his hand; sitting in the studio, Davis’s hand spells out a rhythm for the soloist to follow; both musicians oblige, churning out music in the same fashion. The next day, the sound of the (now absent) hurdy-gurdy is played alongside a click track through the headphones of the assembled orchestra. They must synchronize their accompaniment to these two tracks, one of which will be mixed with the sounds they produce.

The redubbing of solo performers is only the most obvious example of digital manipulation of performance on the soundtrack. Multiple sequences of time are overlaid into a single track. While longer takes are preferable to preserve the continuity of performance,
smaller sections within these cues are often replaced by subsequent takes. On a digital recording, music can thus be “perfected” in a way not possible in live circumstances. This results in very different expectations for live and for studio performance. During recording sessions for *Napoléon*, a recurrent comment Davis made to players was that in a concert performance he would give them greater allowance to over- or under-run. In a live context, musical phrasing can—indeed, must—have leeway to move; otherwise, it would not be a performative interpretation. Yet there were brief moments when adherence to the click track was abandoned. One short sequence in Davis’s composition is scored for solo viola. After being rehearsed, multiple takes were recorded: for some, the player wore headphones and listened to a click track; for others, they performed without technical support. In this instance, it was the opinion of the soloist, the composer, and the sound team that the best take was done without the click track.

I have detailed the recording process at length to illustrate how far digital technology controls the soundtrack’s performative dimensions. Yet the concern over a sound studio’s restrictive qualities are hardly new. Half a century ago, the pianist Alfred Brendel reflected on the way that recording conditions influence an artist’s musical expression:

At first a convenient means of preserving the fleeting, unrepeatable impression of a performance, the record, and with it the recording artist, soon laid claim to greater things: all elements of improvisation must stand back in favour of an ideal performance, a definitive rendering divested of any fortuitous aspects. The taking of risks—for which one needs self-confidence—lost its attraction and relevance. The image of the machine in its impassive efficiency gained power over many minds; it became an obsession to strive for perfection. In mistrusting their own nature, artists denied themselves access to the nature of music. The usual symptoms of this are that emotions become either completely dried up or wilfully superimposed. Often, both extremes are to be found in the same person; the vital area between them remains largely unfrequented. (1966, 26–27)

All the above reservations might be applied to the recording of a silent film soundtrack. The need for the closest possible synchronization dominates other considerations. Flexibility is minimized to provide the best audiovisual synthesis. This kind of sound-image relationship is in perfect accord with the scholarly desire for a fixed “study object” (Bellano 2014, 211)—but it is absolutely distinct from live performance. Indeed, the analyst’s dream exactly accords with the artist’s nightmare. As Brendel observes, the musician always fears that the critic is “only too ready to impale him, like an insect, on one of his renderings” (1966, 16).

Though many performers still share this worry, others have been more positive about the benefits of recording technology. Writing in the same year as Brendel, the pianist Glenn Gould praised the “inclination” of electronic media “to extract its content from historic date”, arguing that this “extraction” overcomes critics’ reliance on contextualization to perform aesthetic evaluation. Musicians should engage with new technology to produce art that is appropriate for the electronic age: “the performer’s once sacrosanct privileges are merged with the responsibilities of the tape editor and the composer” (Gould 1966). As Gould highlights, a studio recording is a blend of multiple takes: different fragments of time are conjoined or overlaid. The final soundtrack may not change over time, but it is itself a synthesis of multiple performances—the conciliation of multiple unique occasions. From different standpoints, Brendel and Gould both alert scholars to the importance of how studio processes shape performance. As Robert Philip reminds us:

This is especially relevant in the digital era, where reliance on reproductions (DVDs, soundtracks) rather than original materials (celluloid prints, live performance) renders scholars liable to overlook the distance between themselves and the culture they study. Commercial motivation likewise discourages consumers from questioning the relative “authenticity” of pre-digital material being presented on new media. Indeed, Michael Loebenstein contends that “in the current digital culture, all the historicity in the analogue production process is [treated] like an obstacle to the actual appreciation of the work” (Cherchi Usai et al. 2008, 208–209). In just this way, the discourse surrounding digital soundtracks promises to bypass the “obstacles” of live performance and produce the ideal realization of a score. It is therefore essential to recognize the fact that, “At root, every sound is evidence of work” (Milner 2009, 15). It is exactly the “work” involved in studio music production that I have sought to highlight with the example of *Napoléon*. While the extraordinary dimensions of Gance’s film and Davis’s score are obvious during any theatrical presentation, the effort required for their home media incarnation deserve equal emphasis. By acknowledging the creative choices involved in producing the soundtrack, musicians and scholars can achieve a more transparent working relationship with early cinema’s digital afterlife.
Transporting sound: in the digital environment

Beyond the environmental conditions of the studio are those of the spaces in which recordings are experienced. This section is concerned with the aesthetic and cultural consequences of silent cinema’s migration from the context of live presentation to commercial distribution. I take my cue from Alan Durant’s observations on the ways new media fundamentally alter the “social experience of ritual or assembly” inherent in musical culture—especially the dimensions of “scale, ambience of ceremony, or mass performance” inherent in live events (1984, 5).

In all these aspects, there are striking differences between the public and the private experience of silent cinema. At the end of film presentation on home media, it is standard practice to acknowledge those involved in the digital restoration via rolling credits. These ahistorical addenda to the historical text are often accompanied by additional music—usually excerpts from the preceding soundtrack. This is a fundamentally different aesthetic mode to live cinema, the duration of which is defined by the musicians’ performance in accord with the length of the film’s historical body. Accordingly, the emotional impact of a definite end-point is essential. In Davis’s work, this ranges from the tremendous percussive impact of a definite end-point is essential. In Davis’s work, this ranges from the tremendous percussive volume that concludes his 1983 score for Victor Sjöström’s The Wind (1928), to the despairing dying-down into silence of his 1986 score for Erich von Stroheim’s Greed (1924). The resonance of these two profoundly contrasting endings is all the greater when the audience confronts the immediate cessation of each fictional world. This aesthetic shock is considerably lessened in the editions of The Wind and Greed prepared for broadcast and commercial release on VHS/laserdisc; here, end-credits are accompanied by music that is narratively divorced from the preceding scenes. Concluding a live concert in this manner would be ridiculous: theatres have avoided such a迁徙 to the theatre in Berlin during the transmission. The broad-assembly of some considerable size. Records, however, are largely played in more modest venues, privately, for the pleasure of one or two people. The acoustics of the record are therefore always an illusion. What illusion should we settle for? […] The recording engineer does not ask what the most authentic sound would be for each piece, but—and rightly—what sound will give the most pleasure to modern ears. (2004, 149–150)

Silent film soundtracks are likewise forced to address the issue of illusionism. Most digital productions seek to provide that which early sound technologies promised in the 1920s: an idealized musical rendering, free from the imperfections to which live performances give rise.

Though this desire is a consequence of our own historical expectations, there are potential drawbacks to using live recordings as the basis of silent film soundtracks. A pertinent example is the edition of Jacques Feyder’s Love (1927) released on DVD by Warner Bros. in 2009. This features an orchestral score by Arnold Brostoff that was recorded live at Royce Hall on the UCLA campus in 1994. What is especially noticeable about this soundtrack is not so much the music as the noises from spectators. For much of the film, the audience finds comedy in all the wrong places: moments of melodramatic sincerity are greeted with prolonged giggling and tender love scenes inspire mocking laughter. Though a live recording has the potential to engage subsequent viewers with an event’s unique atmosphere, in this instance the soundtrack becomes disruptive. Though it is alienating rather than immersive, the DVD nevertheless documents a particular historical reaction. The audience does gradually warm to Love, as dramatic moments eventually draw audible gasps—and the film earns rousing applause at its conclusion. This shifting soundscape may be understood easily when attending a live performance, but it is a surreal experience when removed to the context of home media. What renders the DVD problematic is that the viewer at home cannot see the audience.

A more complex example of this issue can be found in the multiplatform release of the 2010 restoration of Fritz Lang’s Metropolis (1927). This edition featured Gottfried Huppertz’s original score and was premiered simultaneously in live orchestral performances at the Alte Oper in Frankfurt and the Friedrichstadtpalast in Berlin. The latter event was broadcast live on the Franco-German television channel ARTE, as well as being shown on an outdoor screen erected at the Brandenburg Gate. The broadcast included introductory material (shot in studio and on location) and was followed by a documentary about the restoration. Though ARTE synchronized non-live video of Metropolis with live sound from the Friedrichstadtpalast performance, there were cutaways to the theatre in Berlin during the transmission. By reinforcing the context of this event, the
broadcast thus invited domestic viewers to share as much of the live experience as possible (Figure 4).

When the 2010 restoration of *Metropolis* was released as a DCP to theatres in the UK later that year, this context underwent significant alteration. As the studio recording of Huppertz’s score was not yet ready for commercial distribution, the DCP for the theatrical release in September 2010 used for its soundtrack the live performance televised by ARTE in February. Without the contextual frame of the original broadcast, the aural evidence of an off-screen audience throughout this digital copy was a subtle but persistent anomaly for those present in cinemas. The strangest quality of these unacknowledged spectators was evident at the end of the film. When broadcast, the live performance of *Metropolis* concluded with thunderous applause and cheers within the Berlin theatre. The television transmission then offered viewers live footage of the auditorium, where the musicians could be seen receiving this reaction. But for release in UK cinemas, the orchestra’s final chord was subject to a rapid fade to preternatural silence—and this empty soundscape continued for the subsequent rolling-text restoration credits. The most volatile evidence of the film’s context within a live performance was thus excised. This is a curious—though commercially understandable—instance where one communal experience of music must be hidden to maintain the coherence of another. There is also an irony in the contrast between the examples of *Love* and *Metropolis*: it was deemed less desirable to replicate the “live” experience of film within a cinema than at home. And while photos from the various venues of the 2010 premiere of *Metropolis* are still available on the website of the Friedrich-Wilhelm-Murnau-Stiftung, the contemporary Blu-ray/DVD release contains no record of these live performances.

To make sense of any live audiovisual element, one must be provided with a clear context. There is surely ample justification in revealing not simply the sounds of a live cinema performance, but the sights: to reveal musicians and spectators within the auditorium. Since the 1990s, the Italian silent film festivals Le Giornate del Cinema Muto (Pordenone) and Il Cinema Ritrovato (Bologna) have recorded virtually every single live screening event. While these invaluable recordings are not available to the public because of copyright restrictions, performances from various other events have been made freely available on YouTube. These videos demonstrate a range of attempts to preserve aspects of live performance through new media, though in seeking to do so they inevitably encounter aesthetic difficulties.

An interesting comparison can be made between two videos from 2015, each documenting screenings of *L’assassinat du duc de Guise* (Charles Le Bargy/André Calmettes, 1908) accompanied by Camille Saint-Saëns’s original score. The first video—showing Assaf Leibowitz conducting the Orquesta de Camara de Valdivia—is evidently more interested in the performers than the film. The lighting prioritizes the musicians’ visibility, and the layout of the players allows for greater acoustic clarity. As a result, the
screen is some distance away from the audience and the light spill is noticeable (Figure 5). By contrast, a performance of the same score by the Orchestra Tascabile shows the musicians huddled in near-darkness underneath the screen (Figure 6). By modern standards, this latter situation offers a more “cinematic” environment—but to do so the performers are obscured. It can also be noted that, for the sake of digital viewers online, the latter video has digitally replaced live footage of the screen with a superimposed video track of the film: yet another indication of the event’s aesthetic priorities. More complex digital manipulation can be seen in a 2009 video of Jean Epstein’s La chute de la maison Usher (1928), featuring the Ensemble dell’Orchestra Sinfonica di Pescara performing a score by Ivan Fedele. As with the video of the Orchestra Tascabile and the Duc de Guise, a superimposed video track here replaces the live screen. Yet because the 2009 performance was recorded on multiple cameras, this imposition conflicts with the montage of various viewpoints within the theatre. While the view from the back of the auditorium offers a clear establishing shot, subsequent close-ups of one or more performers break the illusion of a large screen in a fixed position: the film occupies the same space within the frame, regardless of the surrounding context (Figure 7).

All these examples demonstrate the difficulties of adequately documenting the liveness of silent cinema. This is regrettable, as a record of performance practice is a valuable form of cultural document. (Any such filmed material from the silent era would rightly be considered precious.) In this respect, silent cinema could learn from experimental digital performances presented on home media. As Ana Carvalho highlights, such videos on DVD “allow a full insight into the projected and diffused outcomes [of the original event], and include views of the space and the position
of the audience within the space.” Though they cannot replicate the effects of lighting and sound changes per the live experience, such digital packages at least provide “descriptive evidence” of artists’ work (Carvalho 2015, 171). Tentative steps in this direction can be found in silent film DVD “extras” that document the recording of their soundtracks. On the 2015 BFI Blu-ray of D.W. Griffith’s The Birth of a Nation (1915), one such video combines footage from the 1993 recording sessions of John Lanchbery conducting the Symphony Orchestra of Radio-Television-Luxembourg with the video track of the digital restoration. The 16:9 widescreen format of the Blu-ray image enables room for the studio session to appear alongside the film itself, revealing the human origins of the otherwise invisible soundtrack (Figure 8).

What all visual documents provide is a sense of context for the music that we would otherwise hear only as a disembodied soundtrack. This is as much the case with a modern digital recording as with one from 1927. One problem encountered by silent film soundtracks is the fluctuating body of the texts they accompany. Whereas recordings are fixed objects, scores are documents that can contract or expand for any given performance. While a canonical work like Metropolis attracts enough funding to allow the score to be re-recorded as new restorations arise, many other films cannot afford this luxury. An interesting example is F. W. Murnau’s Faust (1926), first released on DVD in the UK by Eureka Entertainment in 2002 and re-released in 2006. Though both these digital editions feature the same 1995 recording of Timothy Brock’s orchestral score, the videos this soundtrack accompanies are very different. The 2002 DVD utilized a copy of Faust deriving from an “export” print distributed in territories outside Germany during the 1920s. The 2006 release utilized a more recent restoration based on a “domestic” print. As well as a nine-minute

Figure 7. Recorded performance (with superimposed video) of the Ensemble dell’Orchestra Sinfonica di Pescara in 2009 (YouTube).

Figure 8. The Symphony Orchestra of Radio-Television-Luxembourg in 1993, digitally synchronized in 2015 (BFI).
difference in overall runtime, there are numerous textual divergences in these two prints: alternate takes, intertitles, editing choices etc. Rather than incur the exorbitant expense of commissioning Brock to rewrite and rerecord his score to accommodate these myriad differences for their 2006 release, technicians at Eureka digitally re-edited the soundtrack used in 2002. The unfortunate consequence of this action is that the music is continually asynchronous with the images. At times, this may not be obvious—but at others there is a 30-second difference between a musical cue and its intended place in the film.

Without exceptional economic support, most silent films are unlikely to receive the kind of treatment afforded *Metropolis*. Expensive distribution rights often leave little budget to pay musicians, studios, or recording engineers for the sake of a new score. Few companies would wish to release the equivalent of a “performing edition” if they knew a definitive restoration were imminent. Though its content can offer alternative audiovisual material (extra scenes, soundtracks etc.), an authored DVD cannot accommodate new material. Independent of images, music can be freely adapted to suit new venues, performers, audiences—or any other contextual difference that might arise. In the silent era, large-scale scores would have to be re-orchestrated for smaller—or less capable—ensembles, or jettisoned entirely in favour of new work. This is an opportunity denied to soundtracks: once synchronized, sound and image are mutually unretractable.

**Conclusion: remembering sound**

To conclude, I return to a question posed at the outset of this article: How should contemporary scholars regard their encounters with silent cinema sound? Alan Durant highlights the problems involved in writing about the live music experience:

> The difficulty of finding a vocabulary to speak of musical forms within their social contexts, whilst at the same time accounting for their expressive or affective potential, makes extremely precarious any notion of response that makes claim to something more than personal impression. In addition, the range of relations involved in a musical performance or experience involve considerations far more complicated than can be handled within present boundaries of formal musical analysis. (1984, 3)

Put more simply, the shock of sound can overwhelm the spectator entirely. Here is how Ann-Kristin Wallengren recalls her first encounter with live silent cinema, a performance of *The Wind* with Carl Davis’s music:

> I was totally knocked down by the experience. The magic of silent film with live music […] became apparent to me […] with a score that made us feel the film’s sand between our teeth and the heroine’s mental breakdown in our guts. Afterwards my knees were shaky, I was rambling, I was totally filled with emotion, and I know that I behaved in a way not appropriate for a level-headed film scholar. (2016, 192)

Wallengren’s account of this formative experience is noteworthy for its repeated recourse to physical sensations, and for the guilt at losing critical sobriety. Others argue this “magic” is an essential facet of performance, one that is impossible to adequately record. Peggy Phelan asserts that live art’s “independence from mass reproduction, technologically, economically, and linguistically, is its greatest strength”. As such, even the retrospective process of interpretation becomes a form of reproducivity—a “betrayal” of the live event it transcribes: “Performance honours the idea that a limited number of people in a specific time/space frame can have an experience of value which leaves no visible trace afterward. Writing about it necessarily cancels the ‘tracelessness’ inaugurated within this performance promise” (1993, 149, 146).

Yet if commentators are to provide any sense of cultural material, they must attempt to engage with these “traceless” qualities. Musician Philip Carli writes eloquently about the need to pursue “scholarly emotionalism” in performance practice, and highlights an issue key to subsequent evaluation:

> Musicologists, musicians and film scholars are, to a large extent, unaware of their interaction and common ground […] The aesthetic of the performer is strong in both a person playing for a silent film and a person describing, restoring or presenting a silent film. (1995, 298)

As Carli suggests, film scholars can learn from musicologists’ approach toward performativity. In his exploration of the musical imagination, Nicholas Cook emphasizes:

> it is the circumstances of listening rather than the sounds themselves that are decisive in determining the listener’s response […] [T]he music that is heard is […] irremediably tied to its context. And this is as much to say that the music is being heard primarily as performance and not as form. (1990, 13, 37–38)

From this, it is apparent that the analysis of a soundtrack is a different undertaking from the understanding of live musical performance. Cook warns against exactly the kind of formal analysis posited by Marco Bellano and Martin Marks, which ties music to text rather than context:

> A formal analysis is a kind of mechanism whose input is the score, and whose output is a determination of coherence or an aesthetic judgement. In other words, it purports to establish or explain what is significant in music while circumventing the human experience through which such significance is constituted. (1990, 241)
As I suggested in my introduction, a reluctance to address the “messiness” of cinematic presentation can produce analysis that excludes film’s performative dimensions. Live cinema is a challenge because it unsettles the analyst’s assumption of a fixed text. Scholars must adapt to the circumstances of each performance—and accept that the total work of art is changeable and likely to wriggle free of any imposed interpretation. I concur with Anthony Storr’s assertion that “it is manifestly absurd to restrict the way we talk and write about music to language which deliberately excludes any reference to what makes a musical work expressive and capable of causing arousal” (1992, 78). Tauel Harper characterizes this aesthetic immersion as “jouissance”, “a feeling of pleasure that is experienced through the incommensurable uniqueness of the event” which cannot be reproduced (2015, 17).

This need for direct engagement also has a public aspect. Marvin Carlson writes that attending live theatre involves a “Process of cultural and personal self-reflexion and experimentation”; the shared presence of performers and spectators “inevitably [brings the experience] into the realm of the political and the social” (1996, 198–199). The sounds of spectators laughing, applauding, shouting, or singing are an integral part of live cinema. One vivid example of this occurred during a screening of Gance’s Napoléon at the Royal Festival Hall, London, in November 2016. Near the end of the film, Bonaparte announces: “Europe will soon become a single people, and anyone, wherever they travel, will always find themselves in a common homeland.” At the London screening, this intertitle attracted a steady accumulation of applause that swiftly became a standing ovation, shot-through with passionate cheering (and one or two boos). (Similar reactions occurred at contemporary DCP screenings of Napoléon at the BFI Southbank.) Reacting emotionally in front of a television at home is different from doing so as part of a crowd in public space. Gance’s historical dream of a united Europe—voiced in 1927 by a figure speaking in 1796—was suddenly a living idea, and the reaction it provoked in the aftermath of Brexit in 2016 reminded those present that they were still part of a community with shared values, capable of collective expression.

This moment was not “fixed” as an object of study, yet it offered a visceral insight into the political power Napoléon possesses. Without the exigencies of live cinema, our understanding of historical culture would be all the weaker. The potential of Gance’s film is of course present in whatever context it is presented, but conditions are unlikely always to make such instances manifest. I have known many occasions when a film that succeeds spectacularly when shown live fails utterly to impress in an educational environment. The visceral impact of Ben-Hur is a case in point, as is the breathtaking scale of Napoléon—these films simply cannot fit inside a classroom. The sense of not being able to do justice to the cinematic experience is disheartening personally for teachers, but is also concerning pedagogically. How can students have a tangible purchase on media culture without being given a true sense of its aesthetic potential? Education is about sharing experience as well as knowledge—yet silent films deserve a degree of presentation that is impossible for most institutions to realize.

In the study of opera, these ritualistic dimensions are discussed more readily. As Carolyn Abbate and Roger Parker write: “scores encourage the idea of opera as a text rather than as an event. Memory, on the other hand, goes back to an event—something heard out loud, possibly also seen on stage” (2015, xvii). Peter Conrad likewise highlights the fruitful tension between the historical text and its contemporary actualization:

Opera is a live performance, where things can change and be made new on the inspiration of the instant; but it is also a book, foreknown and unalterable. The stage may seem comically free, but the text is tragi-

This situation is replicated in live cinema, where performative freedom interacts with the “fated” text of the film. In music, no single audio or video recording is taken to be the work of art: all are variant incarnations of the text. (One experiences Mozart’s Don Giovanni in as much as one experiences a performance of Mozart’s Don Giovanni.) Might it not be better to treat silent films in this way? While a DVD offers a carefully-arranged presentation of audiovisual material, it can offer only one possible iteration of the total work of live art. No matter how many alternate soundtracks are provided, they all remain impervious to change. Ideally, a silent film DVD would not be sold (or taught) as an object set apart from the exigencies of time; rather, it would offer itself as one instance of an evolving cultural work.

Scholars should be as flexible as their objects of study. Bellano is right to insist that we pursue comparatively for silent film scores: a single visual text may yield infinite musical interpretations. Early cinema requires each generation of audiences and performers to engage in creative reinterpretation. “That […] is the fate of dramatic art”, Conrad writes: “if it is to continue living, it must outlive its possessive creators, and entrust itself to the care of the interpreters who will […] recreate it” (1987, 346). In contrast to the “fixed” analysis proposed by Bellano, I contend scholars should engage with the essentially “unfixed” nature of early cinema. Silent films have a past and a future life that extends beyond any recorded soundtrack—and beyond any one experience of their presentation.
To a much greater extent than later films, silent cinema is tied to memory. As I have argued throughout this article, the acoustic dimensions of early texts exacerbate their tendency to change over time. Music may be written with precise synchronism in mind, but there can never be a “perfect” live performance—just as there can never be a final analysis. The projection of one particular print with one particular score will be unique on every occasion: musicians will change; performances will deviate; venues will possess varied acoustics; audiences will react differently. All these factors provide different points of aesthetic emphasis; audiovisual synchronism inevitably slips and shifts. This is not a drawback, nor any reason to abandon live performance in favour of pre-recorded music; rather, it is a necessary condition of live cinema. Expectations of absolute synchronism are a result of recording technology from a later era. Persistent irregularity is one of the great benefits of live cinema; the vagaries of liveness continually provide fresh insights into films. While synchronized texts do not change across their life on screen, a silent film perpetually reinterprets itself and enables those who participate in its exhibition to do likewise. The live experience of silent cinema frequently defies interpretative expectations—but for this very reason is endlessly rewarding.

Acknowledgments

I would like to thank Carl Davis and Jessie Stevenson for letting me attend recording sessions for Napoléon (in 2015) and rehearsals for Ben-Hur (in 2016).

Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Paul Cuff is an Associate Fellow within the Department of Film and Television Studies at the University of Warwick. His research interests include adaptation, silent cinema, screen and radio comedy, and sound/music. Cuff’s most recent monograph is Abel Gance and the End of Silent Cinema: Sounding Out Utopia (2016).

References

Abbate, C., and R. Parker. 2015. A History of Opera: The Last 400 Years. London: Penguin.
Abel, R., and R. Altman, eds. 2001. The Sounds of Early Cinema. Bloomington: Indiana University Press.
Albano, C. 2016. Memory, Forgetting and the Moving Image. London: Palgrave Macmillan.
Auslander, P. 1999. Liveness: Performance in a Mediatized Culture. London: Routledge.

Barker, M. 2012. Live to Your Local Cinema: The Remarkable Rise of Livecasting. London: Palgrave Macmillan.
Barrun, J. 1952. “Introduction: Music and Words.” In Pleasures of Music: An Anthology of Writing about Music from Cellini to Bernard Shaw, edited by J. Barrun, 11–26. London: Michael Joseph.
Bellano, M. 2014. “The Tradition of Novelty – Comparative Studies of Silent Film Scores: Perspectives, Challenges, Proposals.” In The Sounds of Silent Films: New Perspectives on History, Theory, and Practice, edited by C. Tiéber and A. K. Windisch, 208–220. London: Palgrave Macmillan.
Berghaus, G. 2005. Avant-Garde Performance: Live Events and Electronic Technologies. London: Palgrave Macmillan.
Brendel, A. 1966. “Notes on a Complete Recording of Beethoven’s Piano Works.” In Music, Sense and Nonsense: Collected Essays and Lectures, edited by A. Brendel, 15–28. 2015. London: Robson.
Brown, J., and A. Davison, eds. 2013. The Sounds of the Silents in Britain. Oxford: Oxford University Press.
Brownlow, K. 1968. The Parade's Gone By. . . New York: Knopf.
Carli, P. C. 1995. “Musicology and the Presentation of Silent Film.” Film History 7 (3): 298–321.
Carlson, M. 1996. Performance: A Critical Introduction. New York: Routledge.
Carvalho, A. 2015. “Live Audiovisual Performance and Documentation.” In Besides the Screen: Moving Images through Distribution, Promotion and Curation, edited by V. Crisp and G. M. Gonring, 162–176. London: Palgrave Macmillan.
Cherchi Usai, P., D. Francis, A. Horwath, and M. Loebenstein. 2008. Film Curatorship: Archives, Museums, and the Digital Marketplace. Pordenone: Le Giornate del Cinema Muto/Oesterreichisches Filmmuseum.
Conrad, P. 1987. A Song of Love and Death: The Meaning of Opera. London: Chatto & Windus.
Cook, N. 1990. Music, Imagination, and Culture. Oxford: Clarendon.
Cuff, P. 2016. “Silent Cinema: Material Histories and the Digital Present.” Screen 57 (3): 277–301. doi:10.1093/screen/hjw028.
Davis, C. 2016. Carl Davis: Napoléon (1927). Threefold Music CDC028. Compact disc liner notes.
Dixon, S. 2007. Digital Performance: A History of New Media in Theater, Dance, Performance Art, and Installation. London: MIT.
Donnelly, K. J., and A.-K. Wallengren, eds. 2016. Today’s Sounds for Yesterday’s Films: Making Music for Silent Cinema. London: Palgrave Macmillan.
Durant, A. 1984. Conditions of Music. London: Palgrave Macmillan.
Gould, G. 1966. “The Prospects of Recording.” Accessed January 31, 2017. https://www.collectionscanada.gc.ca/glenngould/028010-4020-01-e.html.
Harper, T. 2015. “Aura, Iteration, and Action: Digital Technology and the Jouissance of Live Music.” In The Digital Evolution of Live Music, edited by R. J. Bennett and A. Cresswell Jones, 17–27. Waltham: Chandos.
Kennedy, D. 2009. The Spectator and the Spectacle: Audiences in Modernity and Postmodernity. Cambridge: Cambridge University Press.
King, N. 1984. “The Sound of Silents.” Screen 25 (3): 2–15. doi:10.1093/screen/25.3.2.
Loiperdinger, M., ed. 2011. Early Cinema Today: The Art of Programming and Live Performance. London: John Libbey.
Manovich, L. 2001. The Language of New Media. London: MIT.
Marks, M. M. 1997. Music and the Silent Film: Contexts and Case Studies, 1895–1924. Oxford: Oxford University Press.
Melnick, R. 2012. American Showman: Samuel “Roxy” Rothafel and the Birth of the Entertainment Industry, 1908–1935. New York: Columbia University Press.
Milner, G. 2009. Perfecting Sound Forever: The Story of Recorded Music. London: Granta.
Phelan, P. 1993. Unmarked: The Politics of Performance. London: Routledge.
Philip, R. 2004. Performing Music in the Age of Recording. New Haven: Yale University Press.
Radbourne, J., H. Glow, and K. Johanson, eds. 2013. The Audience Experience: A Critical Analysis of Audiences in the Performing Arts. Bristol: Intellect.
Rees, A. L., D. White, S. Ball, and D. Curtis, eds. 2011. Expanded Cinema: Art, Performance, Film. London: Tate Gallery.
Rosen, C. 2004. Piano Notes: The Hidden World of the Pianist. London: Penguin.
Said, E. W. 1991. Musical Elaborations. New York: Columbia University Press.
Sanden, P. 2013. Liveness in Modern Music: Musicians, Technology, and the Perception of Performance. London: Routledge.
Sexton, J. 2007. Music, Sound and Multimedia: From the Live to the Virtual. Edinburgh: Edinburgh University Press.
Slowik, M. 2014. After the Silents: Hollywood Film Music in the Early Sound Era, 1926–1934. New York: Columbia University Press.
Storr, A. 1992. Music and the Mind. London: HarperCollins.
Szczepaniak-Gillece, J., and S. Groening. 2016. "Afterword: Objects in the Theater." Film History 28 (3): 139–142.
Tieber, C., and A. K. Windisch, eds. 2014. The Sounds of Silent Films: New Perspectives on History, Theory and Practice. London: Palgrave Macmillan.
Wallengren, A.-K. 2016. "To Be in Dialogue with the Film: With Neil Brand and Lillian Henley at the Master Classes at Pordenone Silent Film Festival." In Today’s Sounds for Yesterday’s Films: Making Music for Silent Cinema, edited by K. J. Donnelly and A.-K. Wallengren, 192–215. London: Palgrave Macmillan.
Youngblood, G. 1970. Expanded Cinema. New York: Dutton.