

sarai READER
projections

sarai READER 9 projections



THE CINEMA AS A CONCERT HALL

Alexis Bhagat + Lauren Rosati

Preface: Four Problems of Sound Art

The Formal Problem: 'Sound art' is fundamentally a non-essential and imprecise phrase. It describes any number of distinct practices that use sound as material and engage with various concerns such as acoustics, psychoacoustics, specialisation, sculpture, language, poetry, narrative, communication, transmission. This lack of discernible essence and disparity of tradition *leads to*

The Institutional Problem: Because of this formal problem, it is difficult to provide institutional support for sound art. Partly as a consequence of the development of curricula and degree programmes in 'Music and Technology' and 'Sound Art' or 'Audio Art', great progress has been made in the past 10 to 15 years to address this problem. While institutions like Phonurgia Nova and free103point9 have pushed forward models for supporting new sound work, museums and art centres most often make forays into the intermedia of sound art through establishing a *concert series*. The simplicity of this solution acts like a kind of gravitational force, pulling sound artists to the safe surface of a table at the head of a room full of people where they plug in their laptops and perform, as in a pianist's recital, whether or not that mode makes sense for their work or their concerns. *This is related to*

The Technical Problem: Every work of sound art depends upon a *container*. This container could be a sculpture, a score, a computer, a recording medium or an arrangement of microphones and filters, to name just a few possibilities. Works also require a *platform*, such as an ensemble of machines and/or performers. With works that are directly acoustic – which either produce 'original sound' by striking or otherwise causing their container to resonate, or which work as an acoustic filter for the found sound of their site – the container *doubles* as platform. But most often, the platform is basically a playback set up – a 'PA', a mixer-amp-speaker assemblage – something that the artist can *plug into*. The *plugging* of that container into a platform is the *technical problem*.

Technical problems are easily solved. But when the Institutional Problem is added to the Technical Problem, they together *lead to*

The Situational Problem: *One concert after another*. Because institutions understand 'concerts' and because there is no standard acoustic platform for artists to 'plug into', sound artists are often required to travel to an art centre to set up a platform themselves and 'perform' their works so as to interpret and modulate the playback of their compositions, accounting for technical and acoustic variations in different sites. Artists who compose with recordings are forced to 'perform' because it is impossible for someone to just 'press play'.

And yet around the world there exists an entire network of standardised auditoriums with built-in, multi-channel sound. And they even serve popcorn. We propose the re-purposing of the cinema as a concert hall to address the *Situational Problem* of sound art. What follows is an examination of cinema history from an acoustic perspective, from its roots in the music hall to its prospects for the future.



Exterior, Koster & Bial's Concert Hall,
23rd Street near Sixth Avenue, 1892
MID-MANHATTAN LIBRARY PICTURE COLLECTION,
NEW YORK PUBLIC LIBRARY



Interior, Koster & Bial's
Concert Hall
MID-MANHATTAN
LIBRARY PICTURE
COLLECTION,
NEW YORK PUBLIC
LIBRARY



Edison's Greatest Marvel –
The Vitascope, poster, ca. 1896
NEW YORK: METROPOLITAN
PRINT COMPANY,
LIBRARY OF CONGRESS



Koster & Bial's Music Hall,
West 34th, near Broadway,
poster, ca. 1896
CREATED AND COPYRIGHT 1896 BY
THE STROBRIDGE LITH. CO., CINCINNATI,
LIBRARY OF CONGRESS

Koster and Bial's Music Hall

Koster and Bial's Music Hall can be seen as a precursor to the modern movie theatre. John Koster and Adam Bial were German-American brewers who opened a concert hall and saloon at the corner of 23rd Street and Sixth Avenue in Manhattan in 1879, but their combination of booze and vaudeville was seen as too racy, so they were shut down by the city's 'vice squad' in 1892.

At the same time, the impresario Oscar Hammerstein's Manhattan Opera House on 34th Street and Sixth Avenue had completely failed. Looking to reinvigorate the business with new management, Hammerstein hired Koster and Bial. This became *Koster and Bial's Music Hall*, which opened two days after the opera house closed. In 1896, a screen was installed, and Koster and Bial's became the site of one of the first public exhibitions of a projected film, using Thomas Edison's Vitascope. (A plaque at the site, now occupied by Macy's department store, designates it as "the site of the first public projection of a moving picture"; however, the Lumière Brothers' screening of the Cinematographe at Le Salon Indien du Grand Café in Paris predates the Vitascope screening by several months.)



Interior of the first Nickelodeon theatre,
Pittsburgh, Pa., November 1907
PHOTO: MOVING PICTURE WORLD

The Roxy Theatre
on 49th Street, 1932
PHOTO: SAMUEL H. GOTTSCHO
GOTTSCHO-SCHLEISNER COLLECTION
LIBRARY OF CONGRESS



Nickelodeon to Roxy

The Nickelodeon developed soon after, in the early 20th century. This type of small neighbourhood movie theatre that played films for a nickel first opened in Pittsburgh, Pennsylvania, in 1905. Nickelodeons would typically play short narrative films, films of vaudeville acts, stop-action sequences or sporting events. These theatres began to decline with the advent of the feature film, beginning with *Birth of a Nation* in 1915, and as cities grew and industry consolidation led to larger and more comfortable movie theatres.

Both Koster and Bial's theatre and the nickelodeon had central corridors with seats facing a frontal screen; they were, in other words, designed to maximise one's ability to see the film. As movies became more popular, movie palaces were built in the late teens and 20s, featuring elaborate modern design, luxurious interiors, giant screens and theatre boxes. By 1920, more than 20,000 movie palaces were operating in the US. Many major motion picture studios financed and built early movie palaces designed for orchestras to play music to accompany projected films, including the Roxy Theater in New York City. Built by Samuel Lionel 'Roxy' Rothafel at a cost of \$10 million, it was dubbed 'The Cathedral of the Motion Picture', given the 6,200-seat capacity it opened with in 1927.

Introducing the Soundtrack

In 1927, the sound film arrived with *The Jazz Singer*, the first commercially successful sound film or *talkie* (short for 'talking picture'). *The Jazz Singer* was not a true talkie, however, but was rather a hybrid of sound and silent, featuring long musical interludes with silent era intertitles that illustrated the dramatic dialogue. Musical numbers were performed by the singer Al Jolson. The first Indian talkie, *Alam Ara*, premiered in Bombay four years later. Silent films were still made well into the 1930s, but were eventually eclipsed by the sound film; the theatre transformed, as a result, from a place for **seeing** to a place for **experiencing** – from facing-forward to immersion.

When Walt Disney's *Fantasia* was still in development, Disney met with conductor Leopold Stokowski to discuss the film's classical music score. Stokowski suggested that Disney contact the engineers at Bell Labs, who were working on a multiple-microphone stereo recording technology. Intrigued by the technology, Disney thought it would be wonderful if, during the movie's "Flight of the Bumblebee" segment, the musical sound of the bumblebee could be heard flying all around the audience, not just in front of them.

After much research, *Fantasia* (released in 1940) became the very first film to incorporate surround sound. Yet the additional equipment necessary to reproduce Fantasound was too costly to roll out on a widespread basis, and only two Fantasound systems were sold, one to New York's Broadway Theater and one to the Carthay Circle Theater in Los Angeles. These installations cost \$85,000 each and included 54 speakers placed throughout the auditorium. Fantasound also required an audio engineer separate from the projectionist to literally 'play' the soundtrack at every screening. This scenario led Disney to produce two scaled-back road show versions of the Fantasound system with three channels and without surround sound, at a cost of \$45,000. Expensive and unwieldy, Fantasound was never used again but became significant for conveying the idea and setting the stage for specialisation and the future of stereo sound.

3-4-5

The 'true stereo' three channels of *Fantasia* were standardised in the 1950s as Fox CinemaScope, a synchronised multi-channel sound format which recorded sound onto strips of magnetic tape coating the film stock, using a technique innovated by Hazard Reeves of the Reeves Soundcraft Corporation. Since the strips of tape were printed onto the spaces around

the perforations, there were four available bands; thus quadrasonic sound – featuring Left, Right, Centre (Dialogue) and Effects – was born. Reeves later went on to develop the six-channel sound of the Cinerama format, but it was Quadrasonic that would be modified to become the newly adopted standard. Sound engineer John Mosely, who developed Quintaphonic sound, used a ‘matrix’ system to record four channels of sound on to only two magnetic tracks. Separating the Stereo into four channels (Left, Right, Left Surround, and Right Surround), Quintaphonic, or ‘Sound in the Round’, provided true surround sound. A distinct centre/front channel for dialogue was recorded on to one of the remaining magnetic strips.

By the 1970s, the four-channel magnetic sound system was mostly obsolete. In addition to installing additional speakers in theatres, Mosley and his team had to repair and align the basic magnetic playback equipment. Every theatre that wanted to play Quintaphonic sound had to be specially equipped to accommodate this new format. The Who’s *Tommy* (1975) was the first film to use Quintaphonic sound but was also the last, as it was unable to compete with the superior Dolby Stereo format which was developed at the same time. Recorded optically, Dolby Stereo was much less expensive than 35mm magnetic film and could be played in a variety of cinemas.

Quadrasonic sound remained an experimental musical format, and 5.1 would become the new cinema standard. The Centre channel for dialogue from behind the screen would forever distinguish cinematic from musical sound recordings.

Dolby Stereo, introduced in 1975, was a two-track optical recording that was matrix-split either into four channels of sound (Left, Centre, Right, Surround) or into a six-channel recording with five-channels of Quintaphonic and an additional ‘Low Frequency Effects’ subwoofer channel. *A Star is Born* (1976) was the first widely released movie to make use of this technology, but it was *Star Wars* (1977) that completely transformed the industry, making surround sound a necessity for every movie theatre interested in staying in business. With its swooping ‘special effects’, the success of *Star Wars* inspired theatre owners to upgrade their systems, and led other producers and studios to embrace the surround sound format. George Lucas and Lucasfilm Corporation tightly controlled the release of *Star Wars*, only allowing it to be presented in cinemas where the soundtrack played back correctly (to their ears). With huge demand for the sequel, *The Empire Strikes Back*, Lucasfilm developed THX (based on the title of Lucas’ 1971 debut, *THX 1138*), a certification program that approved the acoustics and playback system of cinemas.

The dominance of Dolby over competing audio formats and certification programs like THX led to a standardisation of the audio-visual experience in theatres around the world. It also inadvertently contributed to the rise of ‘art house’ cinema, which played works in mono or two-track stereo on legacy or non-standardised equipment, and was separate from the system of industrial film distribution.

The Cinema as an Opera Hall

As Michel Chion, the world’s foremost critic of film sound, has written of this standardised landscape:

But a sort of general poetic fog, a background noise, still envelops the films of the 1930s and ‘40s, while the sound of the ‘70s and ‘80s, because of technical evolution, becomes increasingly analytic. Each element is separate from the others, and the silence between sounds can become more palpable... Today we are in the age when Dolby is discovering the beauty of silence around sounds, particularly around voices. Think of Kurosawa’s *Dreams*, Kieslowski’s *Double vie de Veronique* or Lynch’s *Wild at Heart* and *Lost Highway*. Because of very loud and

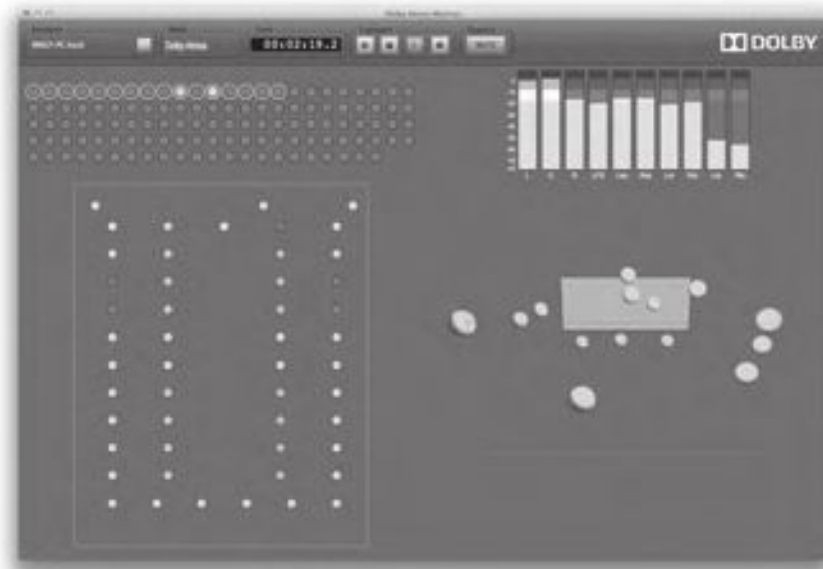
rhythmic passages of rock music, one forgets that the latter two films have many sequences in which auditory emptiness envelops confidences, and scenes where dialogue is slow and sparse.

Michel Chion, *The Voice of Cinema*¹

Contemporary cinema's capacity for high-volume is inseparable from its capacity for quiet, for silence. Lynch's *Wild at Heart* is exemplary here, from the deafening electric guitars in the opening scene to the silence of jail, to the larger-than-life vocals of Sailor's performance of Elvis Presley's *Love Me Tender* during the closing credits. While most Hollywood and Bollywood directors have ignored the capacity for silence and have instead utilised Dolby sound for ever louder explosions and musical numbers, an unlikely group has charted a future course for the cinema as a concert hall. Since 2006, the New York's Metropolitan Opera has transmitted live via satellite to cinemas around the world. As Peter Gelb of the Metropolitan Opera explained:

The prototype for these relays came from pop music. A marketer at Sony reminded me how David Bowie launched his album *Reality* in 2003. He played a concert for 450 people at the Riverside Studios in London, which went out to 88 cinemas in 26 countries. I thought, why not apply the model to opera?²

The Met Opera: Live in HD broadcasts illustrate the numerous gates and back-doors that digital cinema – which decouples picture and sound from the physical medium of the film – has punched into the walls of proprietary cinema technology in recent years. Previous to the cross-over to digital cinema, a project like *The Met Opera: Live in HD* would have been impossible to present in a Dolby-equipped theatre and on an ongoing basis. Cinemas were not constructed to receive transmissions, and Dolby sound processors were connected directly to film projectors and decoded only the optical soundtrack running on the



Dolby Atmos Plug-in Monitor
User Interface
COURTESY: DOLBY

film. David Bowie's unique 2003 concert was made possible through a dedicated collaboration between Columbia Records and DTS, the manufacturer of a competing multi-channel audio format to Dolby, which decodes digital sound independent of the film projector. In the digital cinema age, transmission via the Internet or live satellite broadcast has replaced shipments of film-reels. With the Met's efforts, the future of the cinema as a concert hall seems a little more secure.

Nevertheless, live-broadcast only exists as an option for the most popular of art forms. Thankfully, the digital cinema era offers unprecedented possibilities for composers of multi-channel music, audio art and installations to – at last! – simply 'press play'.

After Pax Dolby: Postscript on the Future

On 4 June 2012, the lights dimmed at the Dolby Theatre in Los Angeles for the premiere of the animated film *Brave* by Pixar Studios. The occasion also marked the premiere of a third, 'atmospheric' dimension of immersive sound. Sound designer Erik Aadahl described this sound system, the Dolby Atmos, just before the premiere:

I've been thinking about this format and designing material to play in this format and realizing... that [it] is like an instrument now.³

The "object-based sound mixing" of Dolby Atmos is one of two leading formats – the other being Isocons's wave-field synthesis – that are bringing new dimensions to cinema sound.⁴ In a few years, a multi-sensory cinematic experience (hearing and seeing, as well as smelling and touching) may be *de rigueur*, and we may look back on 5.1 surround sound as quaint. But until then, the opportunities of this period of Pax Dolby, with its uniform standards and simple access, should not be ignored. It won't last forever. ■

Notes

- 1 Michel Chion. **The Voice of Cinema** (Columbia University Press, 1999 New York), p. 168.
- 2 Peter Conrad. "Opera from New York in your hometown? Easy. Just go to the pictures". In **The Observer**, 21 April 2007. Available at: <http://www.guardian.co.uk/music/2007/apr/22/classicalmusicandopera.features1> (last accessed 11 March 2013).
- 3 Kristopher Tapley. "Tech Support: Dolby Atmos ready for its close-up with the premiere of Pixar's 'Brave'". In **HitFix**. Available at: <http://www.hitfix.com/in-contention/tech-support-dolby-atmos-ready-for-its-close-up-with-the-premiere-of-pixars-brave> (last accessed 12 March 2013).
- 4 David Hancock. "Cinema sound becomes a competitive environment again". In **Screen Digest**. Available at: http://www.screendigest.com/news/2012_05_cinema_sound_becomes_a_competitive_environment_again/view.html (last accessed 12 March 2013).