**The Musical Script:**

**Norman McLaren, Animated Sound and Audiovisuality**

Twentieth-century experimentation in film, animation, music, and art has been marked by intermedial and transmedial play between various art forms. Particularly alluring, to both creators and audiences alike, has been the combination of music and image, a fusion supported by a long history of audiovisual experimentation. The latter runs from the synaesthetic work of Telemann, Rimsky-Korsakov, Scriabin, Klee, and Klimt to the collaborations of Schoenberg and Kandinsky, and also can be found in the color organ spectacles of the late nineteenth century. In film, the ability to synchronize or synthesize sound and image as closely as possible has been something of a holy grail, one that, technologically speaking at least, has become easier to achieve with every passing decade. The early piano accompaniments, cue sheets, and roto scores for silent, or mute, film have today been superseded by the concurrent creation of audio and visual elements with digital media.

Throughout cinema history, the idea of synchronization has been treated differently within various schools, with issues such as commercialization, distribution, politics, ideology, realism, and the viewing strategies of an audience often distinguishing various styles of experimental film from that of mainstream practice. Recently, and in light of newly emerging forms of screen media, a cacophony of influences has surged into the aesthetic and stylistic threads that stretch between mainstream and experimental modes of filmmaking practice. This creative and eclectic energy has blurred boundaries and problematized categorization. With the channels of communication opened wide, traditional distinctions of ideology, narratology, and aesthetic form that have clearly separated mainstream cinema from live-action and animated avant-gardes have become increasingly difficult to identify.

If we consider the evolving relationship between mainstream and avant-garde cinematic practices in terms of music—or, more precisely, the connection between music and image, and the overarching audiovisual patterns that linkage creates—the fluctuating flow of information is thrown into relief. Since its earliest days, fiction film has been awash with music. It has often been theorized that the predominant role of film music (and indeed, that of synchronous sound more generally) is to lessen viewers’ awareness of the technological construct that unfolds before their eyes, and thus to encourage them to believe, on some temporary level, that what they are watching is real. In addition, well-placed music can draw out a narrative, highlight aesthetic and thematic strands between disparate individual scenes, focus attention on certain aspects of *mise en scène* to the exclusion of others, and help promote intense audience bonding, both aesthetic and emotional, with certain characters or themes within a given filmic narrative. As Nicholas Cook explains, music can pick up associations with almost anything because it can gather associations and stick to things: once holding an association, it can extend, morph or work against the former, and thus acquire significant emotional power within a film’s world.[[1]](#endnote-1)

The principal paradox of much film music—and the question that has occupied the work of many film music theorists—relates to how this mass of sonic data and stimulation is processed by audiences. For many cinema-goers, the rich and sumptuous orchestral score that propels, say, Indiana Jones throughout his entire adventure is not always consciously perceived. However, this does not mean that viewers do not process the music at all. Rather, as pioneering film music theorists such as Claudia Gorbman and Caryl Flinn have argued, this audience activity proceeds at a deep and highly influential level.[[2]](#endnote-2)

But what happens when film music is placed within the particular worlds of experimental and animated film? When it becomes loud? When it is created before the images it accompanies and is used to direct the precise forms of their animation? When it is dissonant and draws attention to itself? When it refuses to lurk quietly at the edges of an audience’s perception? Until recently, McLaren’s work has rarely been mentioned within the study of music and the moving image—and, at first glance, his innovative and unique methods may seem to have little connection to the larger world of film production. But creative legacy and influence are difficult to trace and, in any case, his methods expand the ways we can think about sound and image relations. In this paper, I examine McLaren’s highly original and experimental treatment of sound and music, to expand our understanding of the aesthetics of both experimental *and* mainstream moving image cultures.

**McLaren the Musician**

Although a noted animator, McLaren also was a pioneer of electronic music. Initially this seems strange, as McLaren considered himself to be only a “half baked”[[3]](#endnote-3) musician, having briefly learned the piano, violin, and a little music theory when he was young. As a teenager in the 1920s and 1930s, he became interested in the “excitement and high tempo” of jazz, although in 1974 he explained that his subsequent musical preferences became:

more and more classical, so that I can scarcely stand popular music except if I manage to get to a discotheque with a girl and dance […] On the whole I prefer very placid, calm, slow music. I really can't bear Beethoven symphonies, first, because I've heard them so much and they're full of sudden changes; but go back to Orlando de Lasso, and it's very placid and calm. I think my taste in music reflects something in my whole being which will come out in film too. I like the slow-moving film. I know I did *Synchromy* (1971), but I don't think that is in line with the direction I'm going.[[4]](#endnote-4)

Despite his reticence about his musicality, McLaren was invited to speak at Julliard and the Acoustical Society of America about his musical endeavours.[[5]](#endnote-5) He was a member of the National Composers’ Association and he briefly corresponded with John cage in 1951.[[6]](#endnote-6) What is strange about the respect he came to command as a composer is that McLaren did not create music in the traditional sense, but rather produced his sounds through the physical and technological medium of film, conceiving of, and working with, the latter as an as-yet-unexplored musical instrument.

McLaren’s development of film as a new form of musical instrument set him apart from the clashing, aggressive form of audiovisuality promoted by many schools of early-twentieth-century experimental filmmaking. Sergei Eisenstein, for instance, called for audiovisual dissonances that would whip his audiences into a frenzy, a form of counterpoint in which music and image entered into a battle of equal voices, each vying for an audience’s’ primary allegiance; Hans Richter attacked mainstream cinema for offering its audiences “sugar” and sought the services of experimental and avant-garde composers to soundtrack his work; Salvador Dalíand Luis Buñuel aimed to push their films into surreality by placing randomly selected music atop randomly compiled images.[[7]](#endnote-7) Contrast such creative rhetoric and practice with the Classical Hollywood philosophy of audiovisual unity propelled by the luscious European compositional voices of Max Steiner—*Gone with the Wind* (Victor Fleming, 1939) and *Casablanca* (Michael Curtiz, 1942) in particular—and Erich Wolfgang Korngold working in close conjunction with coherent plotlines that left audiences with a gratifying sense of narrative and thematic closure. In terms of their distinctive approach to screen music, McLaren’s films operated between, but also against, these two dominant poles of audiovisuality in the first half of the twentieth century. McLaren instead situated himself within the nascent, and as-yet-open-ended, genre of visual music.

McLaren’s interest was not in the seamless accompaniment of moving image with music, nor with the gap that opens up when the visual and the sonic are placed in clashing formations. Rather, he was fascinated by the ways in which music and image could be created simultaneously, the ways in which they could generate each other and coexist onscreen. Although there is no evidence to suggest that McLaren was a biological synaesthete, the concept of cross-sensory experience can be detected at work within his creative thought and practice from the very earliest stages of his career. As a teenager, for instance, he experimented with smells, and this later found its way into an image-odor experiment at the National Film Board in Canada.[[8]](#endnote-8) McLaren’s investigations into the relationship between sound and image were of an artistic and intellectual nature, and he worked upon them through the medium of animation. In 1968, McLaren argued, “I certainly don’t see animation as an extension of static forms of art, such as painting and drawing. It seems to me that a link that exists in that way is very slender, and really quite meaningless. In the motion picture film, it’s the motion that counts. Any art which doesn’t move seems to me to be in one category, and all the arts that are connected with motion are in another category.”[[9]](#endnote-9)

This binary opposition between the static and sequential arts led to the development of a highly distinctive form of audiovisuality within McLaren’s oeuvre. His works frequently explore and/or exemplify the contention that if music and the animated image were indeed both derived from a sense of flow, or motion, then they could be more closely synchronised than could other forms of multi-media.

McLaren was not alone in his audiovisual experiments, however, and he was not the first artist-filmmaker to investigate the close synchronization of music and image. In 1922, for instance, László Maholy-Nagy published articles on the possibilities of a synthetic sound that was created without recourse to traditional instruments. Maholy-Nagy’s now sadly lost 1932 film *Sound ABC* makes use of what its maker called an “opto-acoustic alphabet;” he notes, “We can write acoustic sequences on the sound track without having to record any real sound. Once this is achieved the sound-film composer will be able to create music of a counterpart of or even unheard of or even nonexistent sound values . . .”[[10]](#endnote-10) To create this alphabet, symbols were scratched directly onto the optical track of a filmstrip: for *Sound ABC*, Maholy-Nagy explains that he “used all types of signs, symbols, even the letters of the alphabet, and my own fingerprints. Each visual pattern on the sound track produced a sound which had the character of whistling and other noises.”[[11]](#endnote-11)

Other artists quickly followed suit. By the 1930s, filmmakers at the Scientific Experimental Film Institute in Leningrad had begun to create what they referred to as “ornamental animation in sound,” while the Berlin filmmakers associated with Absolute Film (Hans Richter, Walther Ruttmann, and Viking Eggeling) were producing intense visual forms of music that lay, in Ruttmann’s words, “somewhere in between music and painting.”[[12]](#endnote-12) Near-simultaneously in New Zealand, Len Lye was creating a form of synaesthetic primitivism in his abstract and sonic films.

However, it was McLaren’s first encounter, as a student at Glasgow School of Art, with the work of Oskar Fischinger that encouraged the young artist to turn his hand from printmaking and painting to film. Fischinger was a pioneer of visual music; for example, his *Motion Painting No. 1* (1947), was a response to Bach’s Brandenburg Concerto No. 3 (first presented in 1721). In 1932, Fischinger issued *Sounding Ornaments*, a written statement explaining his method for encoding graphics along one edge of a film strip, which would manifest as sound when run through a machine, thus enabling the work to, in the artist’s words, “speak for itself directly through the film projector.”[[13]](#endnote-13) Both methods of working—the visualisation of pre-existent music and the creation of music through the direct handling of film stock—became highly influential upon the young McLaren. After a showing at the University’s Film Society of Fischinger’s *Study No. 7* (1931), a film set to Brahms’ 5th Hungarian Dance (1869), McLaren recalls that: “I thought, that’s it! Film is the medium to express my feelings about music.”[[14]](#endnote-14) He continued by noting of *Study No. 7* that the film “was entirely abstract, but very fluid abstraction. This was for me like the realization of a dream. I dreamt of forms, and here was someone else dreaming of different forms to music, but he actually had turned it into a movie. I was greatly influenced by that film.”[[15]](#endnote-15) This influence is clear in McLaren’s subsequent work, as we shall see below.

Like many visual music filmmakers, McLaren believed that narrative was to be avoided; he felt, “The spoken word is often used to adulterate and rob the cinema of its purity.”[[16]](#endnote-16) This rejection of dominant conventions of screen dialogue and voiceover placed great emphasis on non-linguistic forms of sound as the prime mode of sonic expression within moving image work. McLaren frequently spoke about music as providing the inspiration and fundamental structure for much of his oeuvre. In 1968, for example, he explained, “If a person’s a static artist and a musician, the chances that he or she will be an animator are much higher, because he’s interested in motion—the whole flux and flow of what’s happening. Music is organized in terms of small phrases, bigger phrases, sentences, whole movements and so on. To my mind, animation is the same kind of thing.”[[17]](#endnote-17) Accordingly, McLaren often conceived of his films as falling into loose, yet traditional, musical forms, such as ABA sonata, rondo, or theme-and-variations. This tendency is perhaps most explicit in his 1964 film *Canon*, in which both picture and sound are structured according to the form of a musical canon, giving rise to a perfect formal synthesis. Other films, such as *Mosaic* (1965) and *Synchromy*, followed the form of Hindu classical music.[[18]](#endnote-18)

Although McLaren played around with different forms of music in his early years, it was during his time at the National Film Board of Canada that he began to make serious forays into the realm of visual music. It was at the NFB that he met several influential musicians, including Maurice Blackburn, the Board’s staff composer from 1942 (and for 41 years). Blackburn provided the music for nine of McLaren’s films and many, many more for the NFB. Significantly, in 1971, Blackburn also founded the Atelier de conception et de réalisations sonores, a studio for electro-acoustic music research at the NFB. Also at the Board during this time was Louis Applebaum, a prolific composer of film music who collaborated with Hans Richter and later experimented on what was to become the synthesizer.

**Musical Style**

Given his firmly established musical interests and the sympathetic environment offered by the NFB, it was little wonder that McLaren’s work became increasingly sonic in nature. Looking at McLaren’s output as a whole, it is possible to identify several distinct ways in which he used, or thought about, music. The first of these involved close creative collaboration with composers. Although he employed a recording of [Glenn Gould](http://www.closeupfilmcentre.com/search_results/keyword/glenn+gould) playing Bach’s preludes and fugues in Spheres (1969), McLaren preferred to use original music, stating in 1971 that: “I think the filmmaker who uses existing music gets a free ride. And film music of any type can cover up weaknesses in the visuals. It is an easy way out”.[[19]](#endnote-19) His collaborations included: [Ravi Shankar](http://www.closeupfilmcentre.com/search_results/keyword/ravi+shankar) for [A Chairy Tale](http://www.closeupfilmcentre.com/search_results/keyword/a+chairy+tale) (1957); Maurice Blackburn, who appropriated a panpipe melody for [Pas de Deux](http://www.closeupfilmcentre.com/search_results/keyword/pas+de+deux) (1968) and provided the music for *A Phantasy* (1952); Oscar Peterson’s jazz ensemble for [Begone Dull Care](http://www.closeupfilmcentre.com/search_results/keyword/begone+dull+care) (1949); and folk fiddler Eugène Desormaux for *Fiddle-De-Dee* (1947).

These collaborations took different forms. For *A Chairy Tale* and *A Phantasy*, for instance, the visual side of the film was fully completed before Shankar and Blackburn got to work on the music, following a relatively conventional method of scoring. In other films, such as *Boogie Doodle* (1940), the music came first, an inversion that produced some interesting results. McLaren noted of his creative process, “I've often said I never use a script, and in the sense of a written-on thing, I never use it. [But] in another sense, I do use scripts—any film where there is music to start with, and to which I make the picture, there is a script—a musical script.”[[20]](#endnote-20) The structure of a given work, in other words, became musically dictated. *Begone Dull Care*, a film made with long-term collaborator Evelyn Lambart, is the best-known example of this way of working. The music, by jazz musician Oscar Peterson and his jazz ensemble (piano, double bass and percussion), was recorded first, although it was the result of a close partnership between director and musicians from the outset. During a four-day rehearsal period, McLaren, although coming with his own visual images that gave structure to Peterson’s improvisations, acknowledged that there was “much give-and-take between us, in the sense that Peterson often did things on the piano that, for me, gave rise to new visual ideas. His abundant improvisations were, therefore, an inspiration to Evelyn Lambart and myself. The shaping of the music evolved almost bar by bar, and certainly phrase by phrase.”[[21]](#endnote-21) The result of the bar-by-bar evolution was a loose ABA form (fast-slow-fast) that dictated the structure of the film.

Motivated by the triparte structure of Peterson’s music, the three sections of *Begone Dull Care*—which were painted frame-by-frame directly onto 35mm clear film and etched onto 35 mm black film—are clearly distinct from one another. The breathless first section is clearly animated to pre-existing music, as each instrument commands its own flurry of activity. The florid piano solo prompts fast visual motion: sometimes a blur of water-coloured vibrancy that includes recognisable objects and, at other times, the rapid appearance and disappearance of white shapes. The double bass breaks are represented by a red screen with softer black shapes, and the tutti stabs are symbolised by harsh black, white, and red horizontal and diagonal lines scorching across the screen. The change in musical direction to a slower pace in the second part of the film is signalled by a complete visual shift, as the fast edits give way to graceful white shapes that float across the black screen like an experimental dance. The quickened pace of the work’s third section again forces the images into a frenzy of motion. The consecutive projection of a series of images from a single drawing creates the illusion of movement: the images take on a jittery quality and the colours begin to proliferate across the screen. Here, McLaren’s visual creations react not only to musical structure, but also to rhythm, tempo and density—the more intense and florid the musical surface, the more movement and colour is let loose across the screen.

In *Begone Dull Care*, McLaren provides viewers with a distinctive way to listen to Peterson’s music, drawing out certain rhythms and poly-rhythms and visually privileging one texture or chord over another. Although relatively abstract, the audiovisual play at the heart of this work lies very much within mainstream audiovisual tradition. Audiences are attuned to crave synchronicity: we see something in film, we hear it; it gives a good illusion of pertaining to the real. But the synchronicity between sound and image is not simply rhythmic here. The volume and density of the sounds respond to the brightness of the images because, as Randy Jones and Ben Nevile explain in their work on contemporary visual music, “amplitude and brightness are measurements of the same physical concept—intensity of the stimulus—in the audio and visual domains, respectively.”[[22]](#endnote-22) The result is an affective overload: the senses are literally battered from all angles. Drawing out certain emotional or narrative strains, which encourage an audience to read or respond to a given film in one preferred way, in *Begone Dull Care* McLaren and Lambart invite us to hear the music as they do.

**Synthetic Sound**

*Begone Dull Care* is an example of a metaphorical visual response to music, driven by the formal qualities of the sound produced by Oscar Peterson and his fellow musicians. Like Fischinger, however, McLaren also sought to combine music and image at an even more fundamental structural level, by creating not a musical script but an audiovisual one. In pursuit of this goal, he began to work with the idea of hand-drawn, synthetic sound, a concept not unlike Fischinger’s above-mentioned *Sounding Ornaments*. Here, sound was not created by, or imitative of, conventional musical instruments—or, indeed, anything external to film production technology: McLaren noted how he “like[d] to look on this new medium as a fresh new musical instrument in itself.”[[23]](#endnote-23) He developed several different ways of producing synthetic sound: first, by scratching or painting directly onto film stock, and second, by using a form of camera-based sound that he referred to as “‘animated sound’ because it was shot frame by frame, onto the soundtrack area at the edge of the picture.”[[24]](#endnote-24)

The first of these methods is a camera-less technique that enables sound to be produced by painting directly onto the soundtrack area along the side of clear 35mm film—as in *Dots* and *Loops* (both 1940)—or by using knives, razor blades, or needles to scratch along the edge of black leader in order to control “rhythmic and metric distribution of sounds very carefully”—as in *Mosaic*.[[25]](#endnote-25) When run through a projector, the images created in one of these two ways produced sound, as the voiceover narration of the 1951 documentary about McLaren, *Penpoint Percussion*, explained: “If sound will make a pattern on film, a pattern on film will make a sound.”[[26]](#endnote-26) The same work shows the extent to which volume is controlled by the size of the engravings made onto film stock, tone quality by the shape of the marks (lines produce a harsher sound than the smoother noise of round shapes, for instance), and pitch by the distance between lines (lines lying far apart from each other create low noises, while lines sitting close together produce high-pitched sound). Harmony or texture is created by placing two or more patterns along the same section of film. McLaren explains the resultant sounds as “a small orchestra of clicking, thudding, buzzing and drum-like timbres.”[[27]](#endnote-27)

Two examples of early hand-drawn sound can be found in the shorts *Dots* and *Loops*. The sound and image shapes were drawn directly onto clear film with black ink, with colour added during the printing stage. Although not particularly musical in the traditional sense (there is no instrumentation or color, for instance), these early films were produced well before the advent of audiotape. As a result, they represent one of the first instances of electronic music and operate as a precursor to the synthesizer and the 8-bit video game soundtracks of the 1980s.

McLaren’s hand-drawn sounds also could be combined with instrumental counterparts to create an early form of electro-acoustic music. In *Blinkity Blank* (1955), for instance, a score by Maurice Blackburn for clarinet, flute, oboe, bassoon, and cello was punctuated by McLaren’s hand-scratched rhythms to form what has become a revolutionary piece of experimental visual music. In 1953, Blackburn had received a grant to study aleatoric music in Paris. When he returned, McLaren gave Blackburn, as the latter explained matters in 1972, “free rein to experiment with the *Blinkity* soundtrack,” which was created before work began on the accompanying images.[[28]](#endnote-28) McLaren knew that he was aiming for a minimal visual track in which he “would be sprinkling the images only here and there on what was for most of the time empty black film,” [[29]](#endnote-29) and he thus asked Blackburn to allow silence to feature in his musical composition. Influenced by his time in Paris, Blackburn’s score was partially aleatoric. Written without key-signature on a three-line stave, the composer provided his performers with only rhythmic structure and invited them, without rehearsal, to improvise the pitches in what he described as a “semi-free” manner.[[30]](#endnote-30)

McLaren then synthesized images, etched directly onto black film and colored by hand, with the music. His plot is simple and loose: a bird attempts to escape its cage, explodes in a riot of color, and then seems to die; after a brief interaction between two new colored objects, an egg appears and a new bird is born. While the images dance loosely around the music on an infinite black background, McLaren’s scratched rhythms act almost like sound effects, pulling the audio and visual elements tightly together. Although they are never heard with the conventional musical instruments, at times a conversation is struck up between the soundtrack’s two main sonic elements. As in *Begone Dull Care*, audiovisual synchronicity comes in many forms: sometimes different images are assigned their own sounds (at one stage, the bassoon is represented by large green images, while red splashes of visual counterpoint join the oboe before the clarinet takes over). Later, the images respond to the musical dynamics withshapes that increase and decrease in size; at another stage, the images move in silence. Most of the time, however, there is absolute audiovisual rhythmic unison.

As noted above, McLaren’s second method of audiovisual composition included the camera, and can be considered a form of card-animated electronic music not unlike an early synthesizer or the single-frame process of creating animation. Together with Evelyn Lambart, McLaren would draw a deck of sound cards, each with a pattern depicting pitch and tone. This formed something akin to a piano keyboard that enabled exact notes to be produced when the cards were photographed and again placed along the soundtrack area of the filmstrip. With the help of 60 to 72 cards, this photographic method could enable a compositional range of up to six chromatic octaves. Before transferring his images to film, however, McLaren worked out the sounds in an acoustic manner. Discussing his compositional method, he explained that: “I work it out on piano, I fiddle away working out patterns, they’re not tunes, so they’re sort of formal patterns, and I notate them. And then I photograph them.”[[31]](#endnote-31)

This method of audiovisual composition formed the basis for what is arguably McLaren’s best-known work, the Oscar-winning live-action based *Neighbours* (1952), created using pixilation and variable speed shooting. *Neighbours* is a short film about two friendly neighbors who kill each other and their families over a small flower that sprouts on the border between their two gardens (the shocking killing of the two combatants’ respective wives and babies was removed for the Academy Award version of the film). McLaren described *Neighbours* as:

My first serious attempt at making music [...] I always had the urge within me to do the music for my films. I felt if I’d had a thorough musical education, I would have been able to write music for almost all of my films. The musical structure of *Neighbours* is pretty unified. There is one theme stated behind the titles, and that theme keeps re-appearing in different forms. By the time the fight comes it’s so elaborated that you can scarcely recognize it.[[32]](#endnote-32)

Unlike the music for *Begone Dull Care* and *Blinkity Blank*, however, this theme did not come before the creation of the image track for *Neighbours*, but was created afterwards. McLaren noted in 1971 that, “I had music in mind. So we shot the various motions with a certain rhythm to them. When they [i.e., the film’s warring protagonists] walk, they walk at a certain tempo [...] this was all worked out carefully, in order to facilitate doing music”.[[33]](#endnote-33) The use of stop-motion filming and a variety of shooting speeds had a significant impact on the audiovisual synchronicity of *Neighbours*. McLaren was able to garner almost complete control over the tempo of his actors’ movements, which could “be infinitely modulated from the slowest speed to the fastest” in order to “create hyper-natural exaggerations and distortions of the normal behavior, by manipulating the acceleration and deceleration of any given human movement.”[[34]](#endnote-34) Moreover, unusual or impossible forms of human bodily motion could also be created, such as sliding while sitting or standing on one foot, or disappearing only to reappear in a completely new location. When movements shot at a slower tempo reached normal speed, McLaren was able to make the actions accord to “precise metrical lengths” in order “to tie in with steady musical beats and phrases of the as-yet-unmade soundtrack […] for purposes of integrating human action with music (in a rather ballet-like way) this method is of considerable value.”[[35]](#endnote-35) As a result, most actions visible onscreen are accompanied by musical gestures that become almost cartoon-like in their strict synchronicity with the image (at certain stages the sounds take on the tone of the white picket fence, of speech and of ripping and punching) despite their unusual and other-worldly timbre, creating music that at first appears more reactive to the accompanying image track than had been the case for the sonically driven *Begone Dull Care*.

Although this synchronicity is apparent from the beginning of *Neighbours*, the unusual electronic music, even though in a major key, contributes a strange dissonance to the opening image of the happy neighbours smoking their pipes in a relaxed and sunny setting. The flower over which the two men will destroy themselves and those around them appears to a rising major scale. The bloom performs a jaunty dance to a simple cadence, with little to suggest the potential for the great disharmony that it will cause. As soon as the characters smell the flower, the musical timbre and mode begin to change and the actors start to move in impossible jerky movements, hovering around the garden in an aroma-induced ecstasy. However, the unusual electronic sounds (initially in a major mode) give a clue to the awful outcome of the film’s narrative. The images seem to develop into the timbre of their soundtrack, phasing into sync as the film progresses—until a rupture occurs when the families of the two protagonists appear after the destruction of their houses. At this point, cartoon-like music is placed against the horrific images as the two men’s shocked and passive wives are (quite literally) kicked to one side.

The placement of typical cartoon-like sound against such shocking images is deeply uncomfortable for an audience as it forces them to react to and negotiate the ruptured audiovisual space. The passivity of the wives, who fail to respond to the violence, is undermined by a viewing experience that is highly active. As a result, the soundtrack signifies on two separate levels. In terms of synchronization, it is quite mainstream; but in terms of its unusual electronic timbre, it is other-worldly, distant, dissonant, and confusing. The images also reflect this disquieting double layer of narrative: real characters, a clear plot and a semi-realistic setting are threatened by the stop-animation that operates at a remove from realistic movement, forcing the actors into angular gesticulations and awkward, nightmarish slips and slides. The energy here, as in tonal music, is created by the movement between dissonance, or suspension, and resolution. *Neighbours* can be seen as an audiovisual journey along just such lines: the film moves from clashing signifiers to close emotional concurrence, even though the work’s resolution is a highly disturbing one.

Looking elsewhere in McLaren’s oeuvre, his 1971 film *Synchromy* provides an even closer audiovisual union than that demonstrated in *Neighbours*. The same colored pattern cards used to produce the earlier film were utilised again on the later one, this time placed on both the picture and sound areas of the film so that what viewers see and hear are produced by the same graphic elements. As a result, McLaren was able to match sound and image to the millisecond in order to create a clear synaesthetic impression. In *Synchromy*, McLaren’s method of photographing the 72 cards covering a range of six chromatic octaves frame by frame was refined to enable precise control over the volume of every note of the composition, as well as forming chords, counterpoint, and harmony, which McLaren again composed on the piano. In the case of this film, the music was composed first. As the narrator of the 1971 BBC documentary *The Eye Hears, the Ear Sees* puts it, McLaren “is doing something that no one in the world has ever done before: he’s writing a film on the piano.” McLaren then elaborates on this idea, explaining to viewers how *Synchromy* started with a single musical part, later to be joined by another, and finally by a third (mid-pitch, treble and bass). These three parts were shot on separate strips of film, which were recorded and finally mixed in the normal manner onto magnetic tape and thence to standard optical track for release prints.[[36]](#endnote-36) The film’s audio track was then colored and multiplied to provide the layers of depth apparent in the kaleidoscopic visual track.

Ordinarily, when listening to music or watching a film, one line, or constituent part of the work being experienced is privileged over the other (although the relationship can continually oscillate). When listening to two simultaneous lines of music—as in a fugue, for instance—the receiver can choose which to focus his or her attention on: it may (depending on the individual listener) be the first to enter, the highest, the one with the faster notes, the one that moves by step rather than by leaps, and so on. So, too, can a film viewer choose to engage with one line—visual or aural—within a given film more than the other, although it should also be said that the viewer typically receives both lines, but processes them at different perceptual levels.The present writer, for example, receives McLaren’s work in general as visual music: as the visualisation of sound, rather than vice versa. But as more parts are added to a particular audiovisual work under consideration, it can become more difficult to focus on one primary line and attention may shift to a more holistic form of engagement. In *Synchromy*, McLaren achieves a single audiovisual voice where neither sound nor image can successfully be extricated from the other.

**Lines of Exploration**

McLaren was a pioneer of film audiovisuality and electronic music, and his work in direct sound, particularly, has inspired many who have followed in his path; the exploration of sound and image continues to be an active area of investigation, taking on a wide range of forms and reflecting shifts in technology. In recent times, computer technologies and digital media, such as Jitter (Max) and Max MSP, have enabled an expansion of McLaren’s kind of process-based sonic film into fluid and sometimes interactive and immersive environments. In 2000, for instance, Yasunao Tone created *Wounded Man’Yo 2/2000*, utilising audio software Sound Designer 11 to transform the movement of his computer mouse as he traced eighth-century Japanese characters into glitchy, acoustic oscillation sequences.[[37]](#endnote-37) Here, the exchange from optical to audible phenomenon was possible without immediate interpretative intervention; and, like McLaren’s animated sound, the space between noise and image was minimal.

More generally, the possibility for real-time improvisation and the easy sonification of an animated or videoed image has given rise to live VJing in different spheres, including the live music scene and various forms of interactive art. One example is NoiseFold, a collaborative partnership between David Stout and Cory Metcalf. In their work, visual data is sonified live to produce concurrent electronic noise. In *Alchimia* (2008), Stout and Metcalf used “infrared sensors, microphones and MIDI-controlled instruments to animate an evolving matrix” of virtual, real-time 3D animation, as the artists explain: “The 3D forms are capable of emitting their own sounds, resulting in a surprising array of sonic expressions induced by the shape, size, luminance, and movement of the visual object itself. […] the sound is not an illustration of visual properties, but rather the direct and simultaneous result of manipulating the visual field.”[[38]](#endnote-38) At heart, the questions and considerations driving the quest for audiovisual synchronicity remain relatively stable, but as technology has developed the effects of hand-drawn or closely synchronised sound can be more easily and/or expansively achieved.

McLaren often took music as a starting point for film production and used sound to structure and determine the form and content of their moving images. That said, in works like *Blinkity Blank* and *Neighbours*, he fused his animated sounds with moving images in a way thatsimultaneously formed an unusual and highly innovative soundworld *and* created a synchronous flow. While McLaren’s practice can be linked to the larger sphere of the avant-garde, his objectives are not only relevant there; they also can be linked, perhaps unexpectedly, within the scope of more mainstream feature film practices. As traditional narrative shapes have flexed over the years, surface gesture has risen to the fore: this change manifests itself through heightened, eclectic musical scores fused tightly, not only with sound effects and dialogue, but also with a newly enhanced visual style that emphasises colour, texture, speed, and mood over traditional forms of character development and narrative progression. Often image and music are tightly fused, with little indication of which came first, or indeed, which is leading the director or audience alike. This style is apparent in films such as Fight Club (David Fincher, 1999), Run Lola Run (Tom Tykwer, 1998), Amélie (Jean-Pierre Jeunet, 2001), Moulin Rouge! (Baz Luhrmann, 2001), City of God (Fernando Meirelles and Kátia Lund, 2002), and *Eternal Sunshine of the Spotless Mind* (Michel Gondry, 2004). In all of them, music takes centre stage for minutes at a time; characters, although not animated, seem to be propelled by the musical ebb and flow of the soundtracks that surround and envelop them, as in *Fight Club* and *Run Lola Run*; plotlines can give way to musical tableaux that form dream-like, or ghostly, sequences in which image appears to be ‘sticking’ to sound, as in *Eternal Sunshine*.

Audiovisual synchronisation, the use of music and sound to determine the pace and structure of a narrative, and the simplifying of plot to allow room for more experimental forms of expression can all be traced back to the experiments of McLaren and his contemporaries. McLaren sought close synchronicity, played on the conventions of animation sound and produced accessible forms of visual music reminiscent of the sonic montage sequences popular in the fiction feature. Today, that exploration into synthetic sound has diversified into participatory and improvisatory environments within the realms of computer-driven experimental cinema as well as the musically driven forms of the post-Classical fiction feature. In terms of its approach to music McLaren’s oeuvre straddles the divide between diverse cinematic forms and is a key individual link to the overarching development of contemporary audiovisual culture.

1. Nicholas Cook, “Theorizing Musical Meaning,” in *Music Theory Spectrum* 23: 2 (Autumn 2001), 170-195. [↑](#endnote-ref-1)
2. Claudia Gorbman, *Unheard Melodies*: *Narrative Film Music* (Indianapolis, IN: Indiana University Press, 1987); Caryl Flinn, *Strains of Utopia*, *Gender, Nostalgia and Hollywood Film Music* (Princeton, NJ: Princeton University Press, 1992). [↑](#endnote-ref-2)
3. In 1974, McLaren explained, “In one sense, I’m musically educated, and in one sense I’m not. I learned piano at six for one year only, and then I learned violin for three years between the ages of 9 and 12. The violin is purely melodic, except for double-stopping; and it was my bitterest regret in my teens that I was not studying piano. But during the study of violin, we had classes in musical theory and I learned quite a lot from that. I pushed it aside at that time, but later on I found it very useful [...] as you grow older, your tastes change.” McLaren quoted in Donald McWilliams, *Norman McLaren on the Creative Process* (Montreal: National Film Board of Canada, 1991), 29. [↑](#endnote-ref-3)
4. McLaren quoted in McWilliams, 47. [↑](#endnote-ref-4)
5. See Crystal Chan, “How to Write a Film on a Piano”, in Sight and Sound 24:4 (2014), 52. [↑](#endnote-ref-5)
6. This correspondence occurred in December 1951. See “The John Cage Correspondence, 1901-1993”, at findingaids.library.northwestern.edu/catalog/inu-ead-mus-archon-527 (accessed 23 July 2014). [↑](#endnote-ref-6)
7. See for example, Robert Robertson, *Eisenstein on the Audiovisual: The Montage of Music, Image and Sound in Cinema* (London: I.B. Tauris Academic, 2009); Hans Richter, *The Struggle for the Film*, (1934-1939), trans. Ben Brewster (St. Louis, MO: Wildwood Press, 1986), p.7. [↑](#endnote-ref-7)
8. McLaren speaks about his experiments with smells in “Synaesthetic Story”, in McWilliams, *Norman McLaren on the Creative Process*, 34-35. [↑](#endnote-ref-8)
9. McLaren quoted in McWilliams, 19. [↑](#endnote-ref-9)
10. Maholy-Nagy quoted in Louis Kaplan, *Laszlo Maholy-Nagy: Biographical Writings* (Durham, NC.: Duke UP, 1995), 36. [↑](#endnote-ref-10)
11. Maholy-Nagy quoted in Kaplan. [↑](#endnote-ref-11)
12. Leningrad filmmakers quoted in Norman McLaren, *Animated Sound on Film* (Montreal: National Film Board of Canada, 1950); Ruttmann quoted in Dieter Daniels, “Sound & Vision in Avantgarde & Mainstream [1]”. Online at http://www.medienkunstnetz.de/themes/image-sound\_relations/sound\_vision/print/. [↑](#endnote-ref-12)
13. Oskar Fischinger, “Sounding Ornaments” (1932). Online at http://www.oskarfischinger.org/Sounding.htm. [↑](#endnote-ref-13)
14. McLaren quoted in “Beginnings,” *McLaren’s Workshop App* (National Film Board of Canada). Online at https://itunes.apple.com/gb/app/mclarens-workshop/id622560819?mt=8. [↑](#endnote-ref-14)
15. McLaren quoted in Donald McWilliams, “Norman McLaren: A Filmmaker for all Seasons,” *McLaren’s Workshop App*. [↑](#endnote-ref-15)
16. McLaren quoted in McWilliams, *Norman McLaren on the Creative Process*,17. [↑](#endnote-ref-16)
17. Ibid, 29. [↑](#endnote-ref-17)
18. McLaren explains this method of structuring his films in more detail: “*A Phantasy*, *Begone Dull Care* and *Spheres* have an ABA sonata form (*A Phantasy* - moderato, allegro, moderato; *Begone Dull Care* - allegro, lento, presto; *Spheres* – poco andante, allegro, poco andante). *Short and Suite* has a rondo form, ABCBDB etc. *Canon* has an ABC form. *Fiddle-de-dee*, *Hoppity Pop*, *La Poulette grise*, *Serenal* and *Le Merle* being based on folk dance and song, have a repeating form, Al, A2, A3, etc., and in a loose way the visuals have a theme-and variations form. Other films have the traditional form of Hindu classical music: *Lines Vertical*, *Lines Horizontal*, *Mosaic* and *Synchromy* are the best examples, and to a lesser extent, *Neighbours*, *Opening Speech* and the last item of *Canon*.” Quoted in McWilliams, *Norman McLaren on the Creative Process*, 23. [↑](#endnote-ref-18)
19. Ibid, 31. [↑](#endnote-ref-19)
20. Ibid, 23. [↑](#endnote-ref-20)
21. Ibid, 82. [↑](#endnote-ref-21)
22. Randy Jones and Ben Nevile, “Creating Visual Music in Jitter: Approaches and Techniques,” in *Computer Music Journal* 29:4 (2005), 56. [↑](#endnote-ref-22)
23. McLaren quoted in Crystal Chan, “How to Write a Film on a Piano”, 52. [↑](#endnote-ref-23)
24. McLaren quoted in McWilliams, *Norman McLaren on the Creative Process*, 90. [↑](#endnote-ref-24)
25. McLaren quoted in “Mosaic,” *McLaren’s Workshop App*. [↑](#endnote-ref-25)
26. *Penpoint Percussion* (Norman McLaren, 1951). [↑](#endnote-ref-26)
27. McLaren quoted in Chan, 52. [↑](#endnote-ref-27)
28. Blackburn quoted in “Blinkity Blank,” *McLaren’s Workshop App*. [↑](#endnote-ref-28)
29. McLaren quoted in McWilliams, *Norman McLaren on the Creative Process*, 89-90. [↑](#endnote-ref-29)
30. Blackburn has spoken about his compositional strategy in some detail: “The music was written without key signature on a three line stave (instead of the usual five lines); the spaces betweenthe three lines were not used, therefore there were only three possible note positions to indicate pitch. If a note appeared on the top line, it indicated that the instrument played in its high register; a note on the middle line—in its low register. The limits of the three registers were set beforehand for each instrument. Inside that register, the musician was completely free to choose whatever note he wished. The notes, however, indicated the precise time value and rhythmic pattern, time signatures and bars being used in the usual manner. It was therefore possible to conduct the orchestra and give some coherence to the group of instruments. Signs for the control of dynamics and signs for instrumental colour were used in the conventional manner. The best results of this "semi-free improvisation" were achieved by taking the orchestra practically by surprise and recording without rehearsals, thus ensuring as complete a divergence of inspiration in each musician as possible, a complete freshness of improvisation and a complete disregard for all consciously agreed key signatures. Occasional percussive rhythms were added by engraving directly on a separate 35 mm optical track, which was fed into the final mix.” Quoted in McWilliams, *Norman McLaren on the Creative Process*, 89-90. [↑](#endnote-ref-30)
31. McLaren speaking in *Penpoint Percussion*. [↑](#endnote-ref-31)
32. Quoted in McWilliams, *Norman McLaren on the Creative Process*, 29. [↑](#endnote-ref-32)
33. Ibid, 31. [↑](#endnote-ref-33)
34. Ibid, 67-68. [↑](#endnote-ref-34)
35. McLaren prefaces this quote with an explanation: “we often wished the actions to be of precise metrical lengths, so while shooting at slow speed we would count out the number of each frame as it went by in the camera, thus the actors could arrange to be at such and such a spot on the 60th frame, to have their arms raised at the 80th frame, and their hands touch on the 90th frame, to start rotating on the 100th frame and to decelerate to a standstill over a period of sixty frames, etc.” Ibid, 69. [↑](#endnote-ref-35)
36. Ibid, 90-91. [↑](#endnote-ref-36)
37. You can listen to an excerpt from Wounded Man’Yo at Yasunao Tone «Wounded Man´yo 2/2000». Online at http://www.medienkunstnetz.de/works/wounded-many-o-2-2000/audio/1/ (accessed 20 July 2014). [↑](#endnote-ref-37)
38. NoiseFold quoted at “Emmanations 2012,” *Noisefold*. Online at http://noisefold.com/performance/ (accessed 20 July 2014). [↑](#endnote-ref-38)