

EDITED BY

Yael

KADURI



≡ The Oxford Handbook of  
SOUND AND IMAGE  
IN WESTERN ART

THE OXFORD HANDBOOK OF

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## CHAPTER 1

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# INTRODUCTION

### *Audiovisual Spaces of Physical Comprehension*

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Yael Kaduri

THE interconnections among music and the visual arts have been a source of inspiration in Western culture for hundreds of years. However, modernism, which saw the birth of abstract painting, film, and performance art, highlighted these interconnections with a new perspective, creating a paradigm shift. At the same time, the musical aesthetic itself underwent a dramatic change that would soon admit new sonic phenomena, changing the concept of music for ever. As the accelerated pace of technological developments joined these forces, music and sound acquired a constitutive role in the development of new trends and experiments in the visual arts, the screen arts, and the performing arts. The increased interest of “non-musicians” in music and sound, and of musicians in images and space, has created a rich and varied audiovisual culture that is at the core of the fine arts at the present time.

*The Oxford Handbook of Sound and Image in Western Art* aims at presenting a panoramic view of cutting-edge discourse in this rapidly evolving field. The chapters have been written by historians and theoreticians of music, fine art, film, theatre, dance, and architecture, by curators and philosophers, as well as by artists and musicians who are also involved in research and theoretical writing. Thus, the contributors to this *Handbook* explore different kinds of analogies, mutual influences, integrations, and collaborations of audio and visual elements in different art forms: painting, sculpture, installation, architecture, performance art, animation, film, video art, visual music, multimedia, experimental music, sound art, theatre, and dance. The volume presents state-of-the-art case studies in contemporary art, connecting music, sound, and image, thus highlighting avant-garde and experimental tendencies while analyzing and contextualizing them in historical, theoretical, and critical frameworks.

Like all handbooks, *The Oxford Handbook of Sound and Image in Western Art* is not meant to be read in the order that chapters are presented, from the beginning to the end. Nevertheless, as soon as I began soliciting the chapters and talking with the contributors, my aim was to provide readers with as broad a picture as possible, so that they

could get some idea of the interconnections and constant exchanges among the varied fields of discourse and diverse forms of art, genres, collaborations, tools, and creative processes that actually shape the interconnections among sound and image in Western art at the present time.

How then the book better be read?

This introductory chapter has been written with this question in mind. Its purpose is to describe the rationale behind the overall structure of the book, the order of the chapters in each of the sections, and some of the important cross references among the chapters and the three sections. Each chapter is thus contextualized within a larger picture of historical, aesthetical, theoretical, and technological developments. I believe that reading this introductory chapter and using the index will make it easier for readers to find their way among the many different points of view that together present a coherent space of possibilities.

A good place to start is a simple suggestion from one of the reviewers of the book proposal, which turned out to be very useful. His advice was to adhere as much as possible, from the beginning, to this question: How have music and sound become so important in recent developments and trends in contemporary art? A simple answer to this question might include three points. The first point, which in a way constitutes the beginning of the whole story, is the sensorial and thus perceptual distinction between art and music. The auditory perception of form in movement along a timeline has fascinated visual artists, who try to achieve movement and temporality in “fixed” works intended for visual perception. This attempt has contributed significantly to the appearance of new visual language, as we shall see. The second aspect is the raw material of music, the intangible physicality of sound waves—an apparent paradox that has often inspired artists to look for new ways of constructing immersive plastic spaces. The third aspect, which has generally distinguished music from the visual arts, is that music is a product of a live performance of a special kind, that is, human bodies acting with a voice or an instrument in real time.

These three aspects form the basis of the accepted division of the field in the literature into different domains of research. They are also reflected in the division of this volume into three sections: Sights and Sounds; Sound, Space, and Matter; and Performance, Performativity, and Text. The aim of gathering these three subfields into one volume is to generate a conceptual net that crosses field boundaries for mutual enrichment. Indeed, as the table of content indicates, the classification is not based on genres, but rather on the predominant attitude toward the issue of music, sound, and image in each chapter.

## I. SIGHTS AND SOUNDS

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Most of the artworks discussed in the book naturally have visual and audible aspects, which are perceived simultaneously. As a matter of fact, cinema, theatre, dance, and live

music always combine these two aspects, although one is usually more important than the other. However, when the interaction between what we see and what we hear is a major focus of the piece, even if not the main one, or is at least the major focus of its analysis, expressions such as “visual music,” “musicalization,” and “music for the eyes” are widespread in the literature. These interconnections can exist or can be analyzed on a small scale, but they can also occur in larger brushstrokes; they can be consonant, contrapuntal, or even dissonant.

Modern abstract painting is usually regarded as the starting point of what is called visual music. Artist like Paul Klee and Vasily Kandinsky considered music when searching for a new visual language, and saw music as a source of inspiration for nonrepresentational painting. The gradual development of the idea of visual music in the United States is traced in Chapter 2 (“American Rhapsody: From Modern to Postmodern in Visual Music”). Judith Zilczer shows how American painters, like their contemporaries in Europe, have sought to create music for the eyes with colors and forms, as well as with lines that are inspired by graphical linear transcription of musical compositions. The invention of cinema allowed the actual movement of abstract forms and colors on the screen, in different sorts of interactions with music—whether the music was heard or not (as in the case of silent films). But the device of light projection itself was recognized by artists in the second half of the twentieth century as a means for expanding the two-dimensional surface of painting and animation into three dimensions. They started to combine sound and light in audiovisual performances and installations—both of which are central to contemporary art (see, for example, Chapters 5, 6, 12, and 13).

Apart from modern visual music in its static and dynamic versions, which are frequently mentioned in the literature in this context, modernism contributes in other, equally important ways to the issue of the interconnection between music and pictures. When the first experiments with abstract animation began, cinema did not yet have the technology for attaching sound to the moving pictures. Thus, the first short animated films that rely on music in their conception still belong to the silent movie era (see Chapter 4). However, it was not long before the first steps toward speaking cinema were taken, which soon led to a full synchronization between sound and pictures. Short animated films of that time, closely synchronized with preexisting music, can be seen as a celebration of this innovation.

Chapter 3 (“Between Generation and Suspension: Two Modern Audiovisual Modes”) analyzes in detail one of the most popular and beloved examples of this kind—“The Sorcerer’s Apprentice” from Walt Disney’s *Fantasia* (1940)—to show how musical gestures generate not only the visual actions of the characters but their motivations and psychological modes as well. Analyzing the interconnections between music and picture at the beginning of this masterpiece, Ruth HaCohen shows how Disney’s nuanced attention to minute musical gestures animates his characters subtly and uniquely, allowing him to construct a story along a timeline without words. In contrast, HaCohen presents another point of view, which also grew out of musical modernism. Here the visual precedes and evokes the music. Static musical fabrics, such as those found in the

music of Arnold Schoenberg—a painter himself—are claimed to be the result of pre-existing imagined or real visions, which the composer is trying to paint with sounds.

Indeed, the Second Viennese School's rejection of the tonal system paved the way for new pictorial and spatial motivations in music making. The first experiments took place in the acoustical laboratory of orchestral and vocal music. The emancipation of sound from the hierarchical, structural system that was dominant until the end of the nineteenth century emphasized the importance of sound as sound—as a colorful, ethereal, vibration (see Chapter 10). Hungarian composer György Ligeti (1923–2006), for example, took this idea of sound materiality much further. His music is known for its atmospheric, static quality, often linked with a spatial—as opposed to temporal—orientation. In *2001: A Space Odyssey* (1968), cinema director Stanley Kubrick chose to open the “odyssey” of his audience's experience with Ligeti's *Atmosphere* played on a black screen for three minutes. Having no visual accompaniment, the sounds have enough room to spread and touch the audience.

Electronic devices allowed music to continue exploring its pictorial and spatial qualities creatively (see, for example, Chapters 5, 9, 13, and 21). Chapter 4 (“Convergence of Time and Space: The Practice of Visual Music from an Electroacoustic Music Perspective”) connects this exploration to the invention of sound recording and the “mimetic discourse” it brought into music, which is said to have resulted in the creation of digital visual music. Bret Battey and Rajmil Fischman start with an analysis of experimental abstract films by visual artists, to demonstrate the use of various musical principles (such as strict counterpoint, rhythm, repetition, transformation, and numerical ratios) to systematically organize the temporal flow of the visuals. They confront this development with a counter-development in music, which conversely began to include mimesis. The use of recordings of the physical world in the process of musical composition, it is claimed, shifted the weight from temporal articulation to spatial orientation, with concepts such as *soundscape*, shape, and imaginary vision informing electroacoustic music. Later, composers started to use visual tools alongside musical ones to add a virtual space on the two-dimensional screen to their musical space. Battey and Fischman—both composers of electroacoustic and visual music themselves—discuss and provide examples of strategies and levels of integration of electroacoustic music with digital animation.

When speaking about audiovisual interactions, we can think of an axis with polyphonic relations between two independent layers at one pole, and a complete match—a link frequently called *synaesthesia*—at the other. In cases of the first kind, room is left for the perceiver to create the links herself. Cases of the second kind present practically the opposite situation, in a way that might risk redundancy or triviality. In visual concerts, a quite recent art form in which visuals accompany a live performance of preexisting music, usually composed by someone else, these matters are of great importance.

Chapter 5 (“When Music Unfolds into Image: Conceiving Visual Concerts for Kaija Saariaho's Works”) was written by the creators of the visuals, thus giving the readers the opportunity to learn from within about a most sophisticated, successful example of visual concerts. The point of departure is music written by contemporary Finnish

composer Kaija Saariaho, considered to be rich in visual qualities itself. Jean-Baptiste Barrière and Aleks Barrière describe their motivations and creative process—starting with a formal analysis of Saariaho's scores, continuing (with the aid of advanced programming devices) with the creation of dynamic visuals that structurally correspond to the music along the timeline, and culminating with the last adjustments of the computer videos accompanying the live performance in real time. In a way that is similar to what happens in VJing, real-time photos of the performers and their musical instruments are processed together with preexisting visuals, to correspond with real-time sounds.

Recent developments of this kind cannot be imagined without digital sound analysis and synthesis. Advanced technologies have allowed creators to analyze a brief sound into thousands of particles, which are encoded in programming scripts exactly like visual data—that is, with zeroes and ones. Being able to work with the same signals to produce and manipulate sounds and visuals is important for real-time audiovisual intersections in contemporary art forms (see Chapters 12, 13, 19, and 21). These strong correlations, however, do not necessarily produce automatic translations. Solo live audiovisual performances in the club culture and in more artistic contexts (such as festivals of multimedia art or expanded cinema) provide representative examples. Though relevant information and documentations can be found on the Internet, academic research into this phenomenon has only just begun.

Chapter 6 (“Sculpting Image and Sound: On Herman Kolgen’s Audiovisual Projects”) presents a case study of a Canadian-based artist who usually creates the sound and the video himself as equal components of his works—whether live audiovisual performances or installations. Through interviews with the artist, Cornelia Lund reveals Kolgen’s unique understanding of his creative process as “*audiocinetic*” *sculpture*. Using preexisting and digitally connected audio and video materials, Kolgen performs his videos on a real timeline, adjusting them to the specific physical space of each performance. No less interesting is his interest in the analogical mode of audiovisual combinations, such as playing live music to a video through the mediation of a visual score.

Indeed, despite the intensive use of digital media in these fields today, analogical methods have not disappeared, and can be found side by side with highly advanced devices (see, for example, Chapters 15, 16, 18, and 19). Contemporary live audiovisual performances, which include significant happenings on stage that are not limited to controlling a MIDI keyboard or operating a laptop, are good examples. The emphasized physical presence of bodily gestures, instruments, and the like might create a more or less independent visual layer that is not digitally connected with the screened visuals if exists (see, for example, Chapters 5, 6, and 12). This independent visual layer corresponds analogically with the other layers, whether audio or visual.

Indeed, being seen and heard at the same time, traditional music live performances always present these analogical interconnections: we see the musicians acting with their bodies together with the musical instruments to produce sound. In the second half of the twentieth century, what is called *music theatre* grew precisely from extreme manipulations of this apparently non-essential factor (see Chapter 16). But in Chapter 7



(“Seeing Sound, Hearing the Body: Glenn Gould Plays Webern’s *Piano Variations*”) Nicholas Cook claims that the visual aspects of musical performances might be significant even in less extreme cases, though the musicological and aesthetic discourse tends to ignore them completely. These aspects, it is claimed, exist even in sound recordings of music, as part of the corporeality of humanly played music. Nevertheless, eccentric examples, such as studio films of Glenn Gould playing the piano—the subject of this chapter—provide a special opportunity for experiencing music with both one’s ears and eyes. Cook presents in detail the careful matching of the analytical and formal aspects of the music and Gould’s exaggerated swaying movements and hand crossings. These choreographical gestures give us an idea of how the complicated contrapuntal interweaving characterizing Webern’s serial music is structured, even though we cannot hear it in the music alone.

It is now clear that the concept of *gesture* is central to the issue of the interconnections between music and vision. Minute musical gestures can organize human behavior in narrative animation (Chapter 3); successions of higher-level gestures in contemporary music provide an extraordinarily fruitful platform for visual equivalents, accompaniments, or interpretations (Chapters 4 and 5); and the musician’s bodily gestures can be crucial for our experience of music, whether live or recorded (Chapter 7). It goes without saying that the classical ballet works closely with music gestures as well. Contemporary dance also contributes to the “link by gesture” between body movements and music.

Contemporary choreographer Mark Morris, who is known for working closely with musical scores and integrating live music into his pieces, is the subject of Chapter 8 (“Choreo-Musical Relationships in Mark Morris’s *All Fours* (2003)”). Closely analyzing a case study, Rachel Duerdan explores the way that Morris and his dancers work in an intimate interaction with Bartok’s music on both the macro and the micro levels. Morris, following Bartok, develops and interweaves minute motives to create a tight contrapuntal macro-structure for the whole piece. Moreover, this close relationship between choreography and music, it is claimed, functions on a metaphorical level as well, due to the crucial difference between music as an invisible, ethereal art and choreography as physical, earthly art, with this metaphorical level generating the meaning of Morris’s abstract piece.

## II. SOUND, SPACE, AND MATTER

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Just as most of the art forms discussed in this volume have both visual and audible aspects, most, if not all, also engage space just by producing sound. But apart from a physical byproduct, the issue of space can be the focus of a particular piece, or at least a major constituent of its motivation. And just as painting—the two-dimensional composition of colors and forms—is usually chosen to represent the visual arts in discussions of the interfaces between sight and sound, so is architecture the natural candidate

for considerations of space and sound. Indeed, numerical ratios and formal analogies between music and architecture have occupied Western civilization from the time of Pythagoras.

But what makes the story complicated, and therefore very interesting, is that in contemporary postmodern experiments music is no longer merely the movement of pure, abstract forms in time, and architecture is no longer merely a temple for visual contemplation. Music has been expanded more and more to include environmental sounds, vibrating frequencies, homemade instruments, linguistic utterances, noise, and silence; and architecture has gone through quite a similar progression, with its discourse today including non-material spaces, environments, human habitats, performances, destruction, and void. Enhanced by advanced digital technologies, this aesthetic shift opened the door for endless experiments, which give a new context to theoretical issues such as medium, matter, and process in creating and perceiving art.

Chapter 9 (“‘Sound Houses’: Music, Architecture, and the Postmodern Sonic”) traces some of these radical changes in both music and architecture since the mid-twentieth century, changes that author Nicholas Till calls the “acoustic turn” (following Petra Maria Meyer; see Chapter 12) and the “spatial turn.” Till shows how these shifts actually brought music and architecture, or sound and space, closer to each other, in a way that gave rise to new artistic expressions in postmodernism.

From the rich variety of examples discussed in this context, a useful distinction between two paths can be drawn. The first starts with the inclusion of electronics in music, goes on to sound projections and music spatialization, and ends up with contemporary composers who give such a significant role to acoustical factors that they frequently compose their pieces for specific venues or buildings, or for specific arrangements of the musicians at the performance space. This path has to do with the shift of music from notes to sounds (which actually began with atonal music, as mentioned; see also Chapters 4 and 10)—a shift that opened the way for all kinds of collaborations among musicians and sound designers with artists of other disciplines (see Chapters 11, 12, 13, 19, 20, 21). The second path starts with Futurism and its encounter with noise and environmental sounds, and goes on to sound experiments by musicians, starting with John Cage. The interest in soundscapes and sound ecology opened up possibilities that brought sound (or music, as John Cage would insist on calling it) to museums, galleries, and public spaces, where sound art, as a sort of fine art, belongs. The combination of these two paths is the zone where music challenges the question of space in postmodern and contemporary art. The next four chapters discuss representative case studies, giving the reader an opportunity to see some points of this overall picture from within.

Chapter 10 (“Microsound and Macrocosm: Gérard Grisey’s Explorations of Musical Sound and Space”) discusses the work of the French composer Grisey, one of the leaders of a musical trend of the 1970s and 1980s called *spectral music*. Julia Kursell and Armin Schäfer show how macro musical spaces such as multimovement or multilayer compositions are derived from the micro space of a single recorder sound, which itself lasts only a brief moment. New discoveries in acoustics have led to the conclusion that

our ears synthesize a sum of sinusoid frequencies and their energetic transformations over time into a single microscopic psychoacoustic space, which itself tells us nothing about the source of the sound waves. The analysis of sound into its partials, which for the first time was visually represented by a spectrograph, was the starting point for Grisey's music. The authors contextualize and analyze some of his pieces in detail, demonstrating how his music has translated these minute acoustic grains into completely different scales of space and time.

Separating sounds from their sources for the creation of sound spaces turns out to be a useful tool in the hands of artists from different disciplines. Camouflaging the source of sounds is one way of doing that. Another possibility is keeping the sources recognizable but *invisible* (examples of which are discussed in Chapters 14, 19, and 22), which brings us back to the issue of sounds and sights. Unique in this respect are the audio walks of Canadian contemporary artist Janet Cardiff, which are the subject of Chapter 11 ("The Affective Experience of Space: Janet Cardiff and George Bures Miller"). A new invention, these works take the participants on a walk along a track in an urban space, guided by a soundtrack heard over earphones. Aside from the instructions, which are spoken by Cardiff, the soundtracks include other textual components such as reflections, narratives, and memories, as well as sound effects, music, and soundscape noises, recorded on the same track. Using several theoretical notions, such as De Certeau's reflections on the city and the affective spaces it involves, phenomenologist Ihde's concept of the heard and invisible space, and Freud's idea of the uncanny, Mirjam Schaub suggests a critical discourse about the special experience the audio walks offer walkers in perceiving the intricate interaction between the acoustic space of the soundtracks and the visible spaces through which they walk.

The combination of several sensory experiences in perceiving the theatrical space of a contemporary piece is the subject of Chapter 12 ("Sound, Image, Dance, and Space in Intermedial Theatre: Past and Present"). The piece is the result of a collaboration between a sound designer, a choreographer, students of architecture, experts in highly advanced media, and scholars, one of whom (Petra Maria Meyer) is the author of the chapter. The production was planned for a specific architectonic space—a 360-degree planetarium with a "media dome"—inserting the spectator into the middle of an audiovisual space. Meyer presents the theoretical background of the piece: the development of the acoustic turn in the theater and its scenographic consequences; Merleau Ponty's concept of phenomenological space as "being in the middle"; and Jacques Lacan's concepts of the Other and the Mirror. The analysis of a particular intermedial theatrical piece against this background provides a glimpse into a sort of creative collaboration that has given rise to many other recent live multimedia performances.

Chapter 13 ("Body Soundscape: Perception, Movement, and Audiovisual in Contemporary Dance") traces a current trend in contemporary dance, which is a result of close collaborations between leading choreographers and electronic musicians/sound artists/sound designers, often involving video/light/setting artists as well. In these works, the concept of the body is key in two respects: the *body of sound* and the body of the performers. Enrico Pitozzi shows how choreographers use sounds with different

sources—including organic sounds produced by the bodies and movements of the dancers themselves—to construct the acoustic body of their works. The performance space thus becomes an immersive audiovisual environment, a sort of audiovisual installation, enclosing the performers and the spectators. The spectator's perception is involved in completing the audiovisual spatial experience, consisting of real-time manipulations of movement, sound, vision, time, and space and their mutual influences on the stage.

The crucial role of the participants in the works discussed thus far is the result of their simultaneous experience of space and sound and their immediate contact with the materiality or physicality of the artistic medium. How can this kind of immersion be achieved in cinema, where the viewer is positioned in front of a two-dimensional screen and a linear text? Surround sound does create an illusion of three-dimensionality, as do 3D visual technologies. But such illusions are the opposite of the physicality we are discussing here: They take the audio-viewer away from the here and now to another world. In so doing, these techniques enhance the general attitude of narrative films, of disconnecting the viewers from their own space and time, and moving them into the diegetic realm of the movie. Unlike 3D audio and visuals in mainstream cinema, the approach that is now called live cinema or expanded cinema (see Chapters 6 and 19) might allow the audio-viewer to experience the real space where the projection (sometimes on more than one screen) takes place.

Nevertheless, full-length features in independent cinema might offer interesting examples of physical or *haptic* qualities in cinema without altering the conventional positioning of the viewers. It is likely that music and sound would play a significant role in the creation of these qualities, not only as components equal to the visuals, but also as a source of inspiration for the visuals. Chapter 14 ("Acoustical Properties: Practicing Contested Spaces in the Films of Philippe Grandrieux") provides a representative example. Based on a critical survey of scholarly writing about contemporary French filmmaker Philippe Grandrieux, and detailed analyses of chosen scenes in his feature films, Randolph Jordan shows how the unsettling films lead the viewers to become sensually involved in the process of perceiving, and to be aware of the physicality of cinema as a medium. This experiential participation, Jordan shows, is the result of constant shifts and intervenes between various registers of acoustic and visual spaces—from the very abstract (thanks to the use of experimental cinematic techniques) to the very realistic. In that way the plots, unsettling themselves, are conveyed less by dialogues, and more by this audiovisual medial treatment.

Medium, however, might not only be an instrument for conveying the message, but may be the message itself, as McLuhan famously claimed. This can happen when the materiality of the artistic medium itself is the main issue of the work. Various sorts of manipulation might be used here, as we have seen, but the most extreme might be the omission of that component which apparently defines the medium: sound in the case of music, colors and forms in painting, and moving pictures or soundtrack or both in the case of cinema.

The aim of this "nothingness," it is claimed in Chapter 15 ("Silence and Void: Aesthetics of Absence in Space and Time"), is to sensitize viewers/listeners by leaving them as

broad a space as possible to pay a great deal of attention to the medium itself. Dieter Daniels starts with the seminal silence piece by John Cage, 4'33", and contemporary parallel pieces of absence in the fine arts and cinema. In addition to the artistic medium, the multisensorial experience of the real space and time of the perceiver (in contrast to the internal time and space of the piece) are brought into consideration as part of the artwork. He then presents the cross-medial possibilities invited by the performance, installation and recording of silences and voids over the years.

### III. PERFORMANCE, PERFORMATIVITY, AND TEXT

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Music as a performing art is the point of departure for the last section. The new light shed by modernism and the avant-garde on the performative aspect of music have led it—together with sound and text—to become active in new ways in contemporary dance and theatre, as well as in the visual arts. We have seen this to some extent in the previous chapters, where new mixed art forms that include live music were discussed. In audiovisual performances (Chapters 2 and 6) and visual concerts (Chapter 5), for example, a real-time production of audio is integrated with a real-time production of moving images, in which photos of the performers and/or their instruments might be part of the processed visual materials. The spatial and acoustical turns in music led some composers to create concerts for particular spaces, while bringing into consideration the position and location of the performers, their movements across the space, and their gestures, facial expressions, and costumes (Chapters 9 and 10).

It is hard to imagine these experiments with the choreographic or dramatic qualities of the physical aspect of music making without what can be called the *performative turn* in music. As noted earlier, live music has always had a visual aspect, though it is not usually considered part of the aesthetic essence or meaning of the musical piece. In other words, it is not a part of the piece itself, which should be distinguished from its *reproductions* in concrete performances (for an elaboration of this point of view and the suggestion of an alternative view, see Chapter 7). The performative turn in music shifts the weight from text—the piece as a notated entity—to performance. Does this necessarily mean giving up notation, or the concept of the piece itself? And if not, what would then be the link between the text and reproductions of it? Or between the creator and the performers of the piece? Is the audience expected to actually hear the performative turn in the sounds themselves? If so, it would mean giving up the illusion of creating pure, ethereal musical structures through physical events in favor of highlighting the *indexical* links between the bodily actions and their acoustic results. Is the signifier, then, inherently linked with the signified, and thus included in the artistic content of the piece?

The Futurists' pioneering experiments with bodily action, linguistic utterance, music making, and the operation of objects, as well as various combinations of these, opened the door for this field of sensibilities, which is no less fruitful today than it was a hundred years ago. Nevertheless, the questions were clearly asked, engaged, and played with, for the first time, by John Cage. Chapter 16 ("Toward a Theory of Experimental Music Theatre: 'Showing-Doing,' 'Non-Matrixed Performance,' and 'Metaxis'") explores what Björn Heile calls the *classical* experimental music theatre (to distinguish it from other kinds of current experimental music theatre), starting with Cage and his successor in this respect, Maoricio Kagel, and culminating with some current examples that continue this tradition. While concentrating on pieces with a musical score, which base all theatrical movements on physical elements of music making, Heile anchors the performative-turn issues mentioned earlier in a concrete historical and theoretical context. He also demonstrates the subtle way in which this sort of music theatre gains its uniqueness, as an art form between music and theatre, with players/actors who are not acting (in contrast to theatre) but doing (as in music).

The unique traditional principle of music performance in comparison with dance and theatre—the apparent subsidiarity of the performative action and its indexical link with the medium of music—make it possible to create *self-reflexivity* in music through what Heile calls "showing-doing." Though some of the pieces he describes have a kind of theoretical text for the purpose of self-reflection, the "classical" experimental music theatre raises the audience's conceptual awareness of the performative in music, the "doing" element, mainly by simply showing it. With dance, where bodily gestures have always been the medium, it is different. Though much can be shown by the dancing body itself, linguistic discourse finds its way into dance as a tool of self-reflexivity.

Chapter 17 ("Showing Dance: Lecture Performances in Dance since the 1990s") discusses the layers of meanings in this new format, called *lecture performance*. According to Gabriele Brandstetter, the lecture performance interweaves the artistic presentation of materials that are directed to sense perception with the functional presentation of theoretical and narrative/biographical texts, intended for the *logos*. Thus the lecture performance reflects the blurring of the boundaries between art creation and art criticism at the present time. In order for the dancers to speak "themselves," music, which is so central to dance (and which delineated the structure and dramatic content of a piece in the classical ballet) must be silenced. Through a discussion of some examples, Brandstetter shows the subtle ways in which various kinds of mixes between textual contents and bodily gestures, together with music, silence, and various vocal qualities, are joined to "show" and "tell" us about dance as a performance art.

It is interesting to note the affinity of the idea of performativity as discussed thus far with the dialectical axis between materiality or physicality, on the one hand, and conceptuality or self-reflexivity, on the other (see also Chapter 15). Following John Cage, the happenings of Fluxus and Post-Fluxus were deeply inspired by this concept of music performativity, which they in turn passed on. Chapter 18 ("Object and Idea: Music in the Art of Kandinsky, Duchamp, Paik, and Marclay") explains how these ideas have penetrated fine art in modernism, in a way that still influences multimedia artists



today. In addition to considering music a paradigm of purism in art (as demonstrated by the visualization of music in abstract paintings; see Chapters 2 and 4), modern artists have seen music as a model for *performative synthesis*, in the view of Simon Shaw-Miller. The quality of synthesis characterizing music stems from visual objects such as scores and musical instruments that are involved in music's performative materiality. Shaw-Miller shows how this idea of musicality (which he contrasts, yet also links, with the purist concept) led to Marcel Duchamp's transition from painting to *readymade*, as Duchamp uses preexisting objects to "perform" a conceptual idea, thus activating the audience's awareness through the physical substance of art. Shaw-Miller then discusses postmodernism and contemporary art, showing how this trend of seeing music as a model for *performative synthesis* was followed by Nam Jun Paik and Christian Marclay (both artists with a significant musical background), who use objects when visualizing music in their video art, performance art, and installations.

How can cinema, which is by definition an art of technical reproduction, aspire to the condition of music as a performative art? Since cinema shares temporality with music, it might have greater potential than painting to elaborate a performative process over time. Nevertheless, like painting, cinema does this by highlighting its own materiality: projected moving pictures, played soundtrack, and the various ways that they can be interconnected (some examples of cinematic experiments of this kind are discussed in Chapter 15; see also Chapter 6).

Chapter 19 ("Audiovisual Aesthetics in Contemporary Experimental Cinema") traces what we might call *performative materiality* in contemporary experimental cinema, while referring to historical precedents. Gabriele Jutz concentrates on filmmakers who have chosen to return to celluloid and analog techniques of producing and projecting pictures and sounds to provide a new perspective. Contemporary *live cinema*, Jutz claims toward the end of the chapter, abolishes the traditional gap between film production and screening, while manipulating the use of the physical materials of cinema in real time and pushing cinematic techniques to their limits. This performative turn in experimental cinema, which reminds us of Cage's undermining of the traditional separation between a musical piece and its actual performance, is also reflected in the other examples discussed in the chapter, all of which lack the live-performance aspect of being produced on stage in real time. Jutz explores various sorts of deviation from the traditional production and synchronization of image and sound: camera-less images that sometimes are used for producing sounds as well; handmade sounds that are painted instead of recorded on the sound strip; images and sounds generated by exposing the film rolls to a chemical process; and so on. The final products seem to preserve the liveliness of the physical process that created them, thus revealing a performative quality that is the subject of these films.

*Vocal performativity* is the subject of the last three chapters of the volume. Naturally, the issue of the text, which has already arisen in the previous chapters, is at the focus here. Linguistic texts can be used within art pieces mainly (if never solely) as a functional tool for "telling" (as in some examples discussed in Chapters 16, 17, and 19). In other cases, however, the physical qualities of language—the visual properties of the

written words and the musical properties of the spoken words—are no less, and sometimes even more, important than their semantic content (examples can be found in Chapters 11, 12, 15, 18, and 19).

Modernism and postmodernism contribute to the long history of the relationship between music and text in many subtle, complex ways, which enrich the discourse about audiovisual aesthetics, acoustic spaces, and performativity in music, theatre, cinema, and even dance. Music notation itself, as a text, has undergone interesting developments to include graphical elements, as well as linguistic instructions, in a way that affects the concept of music performance (see also Chapters 10 and 16); apart from highlighting the performative action, these experiments have produced wonderful examples of visual notation, a sort of visual music (different from those presented at the beginning of this volume).

Chapter 20 (“The Spatial Expansion of Language in Sound Poetry of Western and Eastern Europe”) explores the sophisticated art of *sound poetry*—a kind of laboratory used to elaborate these ideas. Endre Szkárosi understands the written texts of sound poetry as visual notated spaces that can be realized in performative vocal spaces. He starts with the origin of the field in the early twentieth century, with Futurism, and briefly surveys its development in Europe, emphasizing the physical aspects of visual sound poetry and its performative realizations, such as three-dimensionality, musicality, and the use of gestures. He then focuses on the unique aspects of Hungarian sound poetry as it has developed since the communist country was first opened to Western avant-garde influences in the 1970s, and ends with a discussion of current concerts of “art music” bands, which combine the secrets of sound poetry with new technologies to create total, multimedia experiences.

Post-dramatic theatre, with its focus on aspects other than dramatic characters and their psychological developments, offers a fruitful platform for experiments with theatrical vocal performativity. As music has moved toward theatre by showing what it is doing, so theatre has moved toward music by putting its speaking to physical action. In the spirit of Antonin Artaud, vocality joins sounds, objects, bodily gestures, unrealistic costumes, lights, colors, and abstract settings to enhance the sensual and physical aspects of theatre, at the expense of the traditional linear dramatic plot (see the discussion of the acoustic turn in theatre in Chapter 12).

Concentrating on one of the most creative experimental-theatre groups that have been active since the 1980s, Chapter 21 (“The Dramaturgy of Sound and Vocality in the Theatre of Societas Raffaello Sanzio”) discusses the shift from speaking written words to *acting* (in the sense of carrying out an action) *with words*—a shift we can easily link with the shift from acting (this time in the sense of embodying a role in theater) to doing, as mentioned earlier (Chapter 16). As with sound poetry, the spoken language stands less for its logos and more for its corporeal phonetic quality. Moreover, Valentina Valentini describes how the company uses objects, images, the shapes of letters, and the like as sources for invented languages, and how these abstract languages are turned into performative physical acts through the human voice and its electronic processing. Using concepts such as sonorous gestures, linguistic acts, and



vocal scores, the author explores the vocal/verbal layers of the company's works and their connections with their visual layers.

The acting voice in cinema is the subject of Chapter 22 ("Between Speech, Music, and Sound: The Voice, Flow, and the Aestheticizing Impulse in Audiovisual Media"). Concentrating mainly on features, John Richardson explores the phenomenon of the performed human voice in a more "popular" field, which differs from the experimental theatre, lecture performances, and sound poetry discussed earlier in that the voice is never performed live. Nevertheless, film directors are showing a growing interest in a cinematic voice that deviates from the linguistic function of speech, partly as a result of the influence of less popular art forms (those just mentioned, as well as experimental film, video art, sound art, performance art, and the use of voice in electronic musical compositions). Richardson proposes a taxonomy of what he calls the aestheticizing of the voice in the sense of stylizing its sensual flow by playing with timbre, pitch, rhythm, tempo, articulation, intonation, silences, and the like—in short, its musicalization. Various kinds of aestheticized voice, such as highly accelerated or decelerated speech, fetishized voice, or technologically manipulated voice, might be integrated with other components of the soundtrack (Foley, music, and environmental sounds) and with the visuals or poetic content of the text in a way that gives the examples discussed the quality of auteur films.

## IV. CONCLUDING REMARK: AUDIOVISUAL SPACE OF PHYSICAL COMPREHENSION

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In this introductory chapter I tried to map the modern and contemporary audiovisual cultural space by repeating on concepts such as the spatial, acoustic, and performative *shifts*, or musical, material, synthesizing, and vocal *performativity*, as well as by the repetition of important theoretical principles such as the creative dialectics between the abstract and ethereal, on the one hand, and the concrete and physical, on the other; the manipulations of matter, medium, time, and space as tools for theorizing within art; or sense perception in contrast to conceptual understanding. The present description thus emphasizes a central aspect of this audiovisual space to my view, which is the way it allows us to comprehend *philosophical* issues at the heart of modern and contemporary Western art with our *senses*. I believe that this volume leaves enough space and raveled edges to open the way for further creative developments, not only by scholars but also by practitioners as well. In this way I hope it will contribute to the increased current tendency in the art world of blurring the boundaries between theory and practice.

S E C T I O N   I

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SIGHTS  
AND SOUNDS

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## CHAPTER 2

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# AMERICAN RHAPSODY

## *From Modern to Postmodern in Visual Music*

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JUDITH ZILCZER

### I. INTRODUCTION

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WHAT is visual music? A conflation of two distinct artistic traditions, visual music in contemporary culture combines imagery and sound through a variety of technological means and a seemingly endless array of formats to create intensified, multisensory aesthetic experiences. Neither pure fine art nor music, visual music nonetheless has remained from its modernist inception an essentially visual tradition, usually augmented in various ways by an aural dimension.<sup>1</sup> Although a number of composers have been involved actively in the creation of what has come to be known as visual music, the core of this vein of artistic production has deep roots in the modern visual arts. The history of the modernist origins and development of this hybrid art form in the United States reveals the reasons for the largely visual focus of much of American visual music in the postmodern era.

Early in the last century, British critic Roger Fry coined the term “visual music” to commend works of art that “give up all resemblance to natural form, and create a purely abstract language of form—a visual music” (1913, unpaginated). In his appeal for an essentially nonrepresentational art inspired by music, Fry was not alone. Few creative ideas have equaled the seductive lure and revolutionary impact of visual music. While the intellectual origins of this new hybrid aesthetic ideal may be traced to color theories of the Renaissance and the Enlightenment, it was the advent of modernism that proved catalytic for the full development of the concept and practice of visual music.<sup>2</sup>

The opening decades of the twentieth century saw painters from Manhattan to Moscow renounce mimetic representation for the formal rigors and spiritual transcendence of visual art divorced from reproduction of the visible world. In pursuing abstraction, rather than representational art, modern artists embraced music as a paradigm for

visual art. Whether by allusion, metaphor, or evocation, the appropriation of music became central to the creative processes of the most innovative of the early modernist painters.

In their quest for abstract form in emulation of music, certain of the American modernists attempted to achieve an intersensory mode of representation. Rather than reproduce visible reality, these artists instead chose to translate sound into visible images. The constraints of formal purity in abstract painting and technological barriers, however, combined to restrict the full range of visual music experimentation until the postmodern era of the late twentieth and early twenty-first centuries. Inventions such as light projection, film, animation, and sound recordings, to say nothing of computer technology, have given contemporary artists the means to create multisensory, environmental works that defy the purely formal artistic parameters of modernism. In charting the growth and transformation of the ideal of visual music in the United States from the twentieth-century modernism of American abstract painter Arthur Dove to the contemporary postmodernism of installation artist Jennifer Steinkamp, this chapter will demonstrate the evolution of this hybrid art form from an essentially visual focus toward a fuller integration of the visual and aural dimensions to fulfill the interdisciplinary potential of this new art form.

## II. THEORETICAL SOURCES AND AMERICAN CRITICISM

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The musical paradigm for visual art, while gaining international currency, had particular resonance in early twentieth-century America. It was, after all, the American expatriate painter James McNeill Whistler, who framed the analogy that later would provide a theoretical basis for abstract painting: “As music is the poetry of sound, so is painting the poetry of sight, and subject matter has nothing to do with harmony of sound or color . . .” (1967, 127–128). Whistler’s maxim became a central theme in American art criticism. Chicago collector Arthur Jerome Eddy, an early biographer of the painter, echoed Whistler’s musical analogy when he claimed, “. . . there is a music of color even as there is a music of sound and there should be a delight in color composition even as there is a delight in sound composition, and this delight should be . . . fundamentally distinct from . . . the subject of the composition” (1903, 183–184). Utopian idealism and mystical aspirations united such progressive critics and venturesome artists in their quest for a purity and intensity of aesthetic experience that they attributed to music. Charles Caffin, speaking for the vanguard group associated with New York photographer and gallery impresario Alfred Stieglitz, summarized their reasoning: “The terms of music are borrowed by the pictorial and plastic arts. . . . A word is no longer a plane mirror, but infinitely suggestive. Thought . . . is shaping itself into a new realization of the spiritual” (1907, 19–20).

It remained for Arthur Wesley Dow, a highly influential art educator and writer, to bring Whistler's ideal of musical analogy into studio practice. Not only did Dow incorporate the painter's ideas in his widely read book *Composition* (1900), but he also encouraged his students to compose paintings or drawings while listening to recorded music. The invention of the phonograph and commercial distribution of disc recordings permitted Dow and his students to surround themselves with musical sound in the studio classroom. Such practice stemmed from Dow's belief that music was "the key to the other fine arts, since its essence is pure beauty" (1900, 5). Dow believed that "[l]ine, mass, and color have pure aesthetic value whether they represent anything or not." Such essentially radical formalism prompted him to argue that artists cease "to make representation a standard" (1917, 116–117). Rather, he urged that the visual arts be compared to music. In the 1910s and 1920s, several of Dow's most gifted students would follow his precepts and invent daring abstractions in direct response to music.

### III. MUSICAL ANALOGY AND AMERICAN ABSTRACT PAINTING

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Among the many American vanguard artists who flirted with the notion of visual music, Dow's former students Max Weber (1881–1961) and Georgia O'Keeffe (1887–1986) each produced series of abstract works directly inspired by music. Their use of musical sources may be traced directly to Dow's teachings. According to O'Keeffe, Dow's students at Columbia University were required to draw while listening to recorded music:

One day . . . I heard the music from his [Dow's] classroom. Being curious I opened the door and went in. A low-tuned record was being played and students were asked to make a drawing from what they heard. So I sat down and made a drawing, too. . . . This gave me an idea that I was very interested to follow later—the idea that music could be translated into something for the eye. (1976, unpaginated)

Responding to such improvisational studio practice, O'Keeffe produced a series of bold, abstract drawings, which she dubbed her *Specials* (1915–1917). In their sinuous linearity and sensuous organic forms, O'Keeffe's abstract drawings had few equals among the most advanced works of the early modernists. By 1919 she went on to create luminous abstract oil paintings, *Music—Pink and Blue I* (private collection) and *Music—Pink and Blue II* (Whitney Museum of American Art, New York) (two versions), and the still more ethereal *Blue and Green Music* (1921, Art Institute of Chicago), in which lush veils of color were meant to convey the all-encompassing experience of musical sound.

While O'Keeffe's musical compositions exuded sensuality, Max Weber's musical ventures revealed a more intellectual bent, albeit one imbued with mystical allusions. Between 1912 and 1917, Weber composed a group of abstract pastels and oil paintings

devoted to musical themes. A graduate of Dow's program at Columbia, Weber would have been exposed to musical experiences in the studio classroom. Unlike O'Keeffe, however, Weber had also lived and worked abroad in Paris, where he benefited from the tutelage of Henri Matisse and the example of Pablo Picasso's Cubist paintings. Fusing his Parisian experiences with his American training under Dow, Weber created Cubist abstractions with nearly monochromatic geometric planes arranged in grid-like patterns. In private correspondence and published interviews, Weber insisted that his "music pictures" were intended to be visualizations of musical works. In 1915, he told a Baltimore news reporter that his painting *Memory of a Symphony* (now lost) "has been understood by many" as a visual translation of a piece of music.<sup>3</sup> His search for an almost synesthetic correspondence between sound and image related to his theory of a fourth dimension, which he believed represented a higher reality. In more colorful abstract pastels and virtually monochrome paintings such as *Interior with Music* (1915, Ertegun collection, New York), Weber attempted to evoke "the silent inner breathing of the atmosphere of the four dimensions . . . audible, luminous music for the soul. It is the spirit symphony heard by the senses in attendance" (1916, 39–40). For Weber, musical analogy expressed his yearning for a higher state of consciousness—a superior reality.

Although the musical basis for O'Keeffe's and Weber's abstract works can be attributed to Dow's profound influence, the precise musical sources for individual works elude identification. For the viewer, the musical allusions might seem mysterious, if not meaningless. Accordingly, the degree to which the two succeeded in transposing the aural into a visual aesthetic experience remains problematic. Yet in each case, the musical inspiration prompted both artists to produce powerfully effective visual works.

#### IV. ARTHUR DOVE AND AMERICAN JAZZ

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Among the first generation American modernists, it was Arthur Dove (1880–1946) who emerged as the most adept at transposing musical experience into compelling visual compositions. In a career spanning more than forty years, he derived sustained inspiration from music. Like many of his contemporaries, Dove was convinced that painting could attain the emotive power of music, for he believed that "[art] is nearer to music, not the music of the ears, just the music of the eyes" (1929, unpaginated). Between 1913 and 1917, he repeatedly incorporated allusions to music in his earliest abstract oil paintings and pastels. Much like Dow's students, he also developed a habit of composing works while listening to music. Unlike Weber or O'Keeffe, however, Dove became so involved with the creative possibilities of such musical inspiration that he devised a linear notation system to transcribe music on ticker-tape-like, long sheets of paper. According to Suzanne Mullet Smith, who knew the painter, Dove considered such graphic transcriptions analogous to musical scores, rather than interpretive visual works in their own right (frame 1043, 1950, re-edited 1976). Such line drawing then

would provide the basis for abstract, linear paintings, in which the musical source was virtually eclipsed by the new visual image.

While the graphic drawings that had served as a tool for Dove's jazz paintings no longer survive, the painter's reliance on such improvisatory compositional practice underscores his intuitive and highly subjective approach to musical inspiration. In visual terms, Dove's creative methods yielded works that resembled those produced by the similarly spontaneous practice of automatic writing favored by the European Surrealists. With his focus on linear transcriptions of musical sound, Dove differed from many of his contemporaries, who based their musical analogies on a presumed correlation between musical scales and the color spectrum of visible light. Where such sound-light analogies posited a physical, quasi-scientific basis for visual music, Dove's creative process reflected an intuitive, almost kinesthetic response to musical experience.

By 1926, Dove's pursuit of "music for the eyes" and his long-standing enthusiasm for American popular music coalesced in a series of works directly inspired by jazz. Working from recordings of George Gershwin's compositions, he created at least



**FIGURE 2.1.** Arthur G. Dove, *Rhapsody in Blue, Part II*, 1927. Carbon pencil, oil glaze, and metallic silver paint on illustration board, 21 x 15 inches.

Private collection, New York (photo: Arthur Dove Scrapbooks), Downtown Gallery Papers, Archives of American Art, Smithsonian Institution, Washington, DC.



six paintings with specific reference to contemporary music, including two versions of Gershwin's landmark *Rhapsody in Blue* (1927, both private collection), *I'll Build a Stairway to Paradise—Gershwin* (1927, Museum of Fine Arts, Boston), *Orange Grove in California—Irving Berlin* (1927, Museo Thyssen-Bornemisza, Madrid), and *Rhythm Rag* (1927, location unknown). In dual tributes to Gershwin's jazz rhapsody with its allusion to the "blues," Dove transformed the composer's chromatic analogy into painted analogs for music in a collage and an oval oil painting (see Figure 2.1). Fittingly, blue is the dominant color of both works. Similarly, orange predominates in the painting *Orange Grove in California—Irving Berlin*.

In each of the jazz paintings, the fluidity of Dove's meandering lines paralleled the impromptu inventions and syncopated rhythms of jazz. Dove believed that line in painting could approximate the improvisational autonomy of musical melody: "The line," he wrote, "was a moving point reducing the moving volume to one dimension. From then on it is expressed in terms of color as music is in terms of sound" (1927, unpaginated).<sup>4</sup> With his jazz paintings, Dove evoked the fast-paced tempo of twentieth-century life, and, in so doing, he came as close as any American modernist to achieving visual music on the two dimensional canvas.

## V. MOBILE COLOR MUSIC

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The occasional successes of such painted music analogs notwithstanding, the essentially static, two-dimensional art of painting proved problematic as a vehicle for visual music. Recognizing that movement and duration in time distinguish music from visual art, a succession of vanguard innovators vied with one another to create a new, hybrid art form with projected lights. Variouslly termed "color music" or "mobile color," the idea of such an art of projected light was predicated in part on an assumed correlation between the color spectrum and musical scales.

From the late nineteenth- and early twentieth-century "color organs" of Bainbridge Bishop and Mary Hallock-Greenewalt to architect Claude Bragdon's outdoor song and light performances, American artists experimented with numerous devices to attain a more dynamic form of visual music.<sup>5</sup> The invention and commercial viability of the motion picture in the early to mid-twentieth century offered the possibility of linking projected light with moving images in the reproducible medium of film. American painter Stanton Macdonald-Wright (1890–1973) and German-born émigré filmmaker Oskar Fischinger (1900–1967) each made significant strides to transcend the limits of painting and the uneven results of color organs through the adaption of cinematic methods to achieve truly dynamic visual music.

Early in his long career, Macdonald-Wright, a California-born painter, emerged as a passionate advocate for musical analogy in visual art. Working in collaboration with fellow American Morgan Russell in pre-World War I Paris, he had combined researches into classical contrapposto in figure composition with the spatial dynamics of color to

create a style of abstract painting that he and Russell chose to call "Synchromism." Not content with the limits of easel painting, the pair also undertook experiments to design a kinetic light machine using the most rudimentary of tools, principally wax paper and candlelight (South 2001). In his unpublished autobiography, Macdonald-Wright recalled:

As early as 1911, Russell and I had envisaged some possibilities along the lines of a new kinetic art. To familiarize ourselves . . . with colors and tones on large spaces, we would sit on the floor with a Beethoven score and our palettes, and put on long pieces of card board or canvas touches of color . . . that we thought to conform to the sound and form of the notes. (undated, p. 82)

Such efforts were not unlike the contemporaneous works of Weber, O'Keeffe, or Dove. Over the course of three decades, Macdonald-Wright went beyond simple graphic transcription of sound to create animated, abstract imagery with a series of increasingly sophisticated mechanical devices that combined stop-motion film with colored light. As he explained in a 1972 letter to Jon Tuska:

I deem the whole movement to be an articulation point of the old painting and the new art of kinetic color and form. The cinema now provides the medium for this different approach because it gives time extension, . . . [a] natural method of sequence and development that both poetry and music have inherently. (Ibid., p. 82)

From the time he returned to his native California in the 1920s until his death in 1973, Macdonald-Wright continued to produce innumerable series of color abstractions and drawings to be photographed for animated filmstrips of what he considered a new kinetic art. As he pursued such experiments during the 1920s, Macdonald-Wright kept abreast of developments in the field by rivals in the art of projected light. The Danish-born American pioneer of light art, Thomas Wilfred (1889–1968), had succeeded in designing a rear-screen projection light organ known as the Clavilux, which he played in performances throughout 1920s and 1930s. In March 1924, Macdonald-Wright attended one of Wilfred's light concerts at the Academy of Music in Philadelphia, but the performance left him unimpressed. In a letter from March 1924, he shared his critical response with his erstwhile collaborator Morgan Russell, who had remained in Paris:

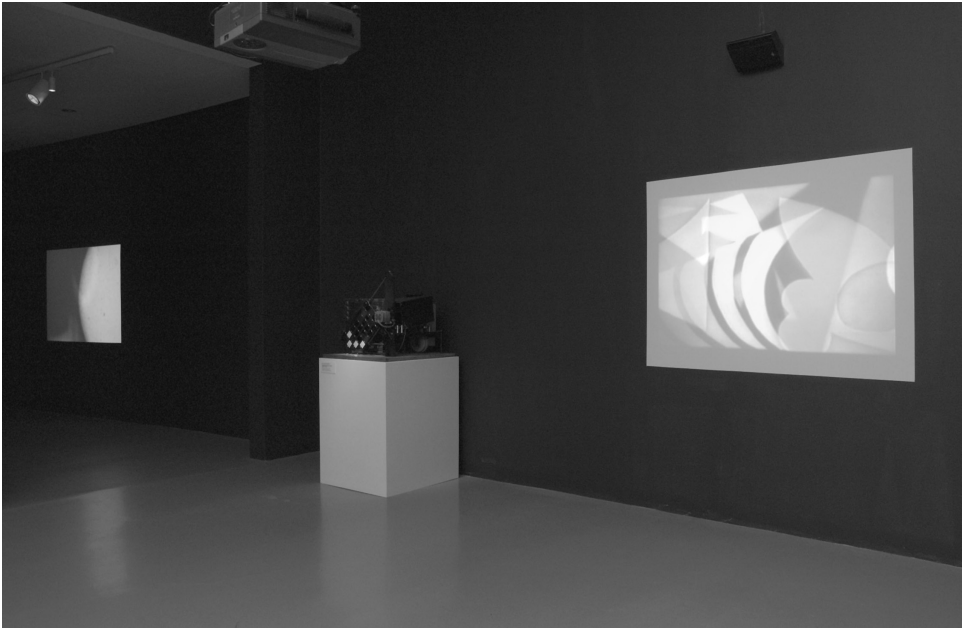
Last night I went to see a performance of a color organ called the Clavilux. . . . The colors were fair, the forms made were monotonous and too limited, not to say geometrical, and last, their inventor [Wilfred], who also played upon the instrument was so stupidly inartistic that the machine had no chance. With our machine, the forms are whatever the artist can draw as is the movement of them and the color. Its possibilities are absolutely unlimited. (Ibid., p. 93)

Nonetheless, Morgan Russell was intrigued by the concert program that Macdonald-Wright had forwarded to him and expressed a longing to create such an instrument. It

required decades of arduous work, however, before Macdonald-Wright would produce an instrument to rival, if not surpass, Wilfred's Clavilux.

Wilfred meanwhile went on to refine the Clavilux in the form of smaller, self-contained units that featured permanently programmed light compositions. Although he had occasionally performed on his larger light instruments to musical accompaniment, Wilfred remained skeptical of such collaboration and instead preferred the silent beauty of his optical light displays. In scale and presentation, though, his self-programmed "domestic" model Clavilux instruments foreshadowed the intimacy of music videos that developed later in the twentieth century, minus the musical dimension.

By the 1950s, Macdonald-Wright finally succeeded in designing one of several hybrid instruments that he called the Synchronome Kineidoscope (see Figure 2.2, at the left). Originally conceived between 1945 and 1950, the only surviving machine, built to his specifications in the 1960s, operates with three filmstrips of Macdonald-Wright's hand-painted sumi-ink drawings running in opposing directions at variable speeds through a projector equipped with color filters. He intended his film to be projected onto a mural-scale screen measuring about fifteen by forty feet in a theatrical setting. The specially designed projector requires two operators to control the variable speeds of the three filmstrips.



**FIGURE 2.2.** Stanton Macdonald-Wright. *Synchronome Kineidoscope*, 1960–1969. Metal, plastic color filters, and motor (left) beside screen excerpt of documentary performance by Randy Sprout, 2004.

Silent color video, courtesy of Mrs. Stanton Macdonald-Wright, Los Angeles, both installed in *Visual Music*, exhibition, June 23–September 11, 2005, Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, DC (photo: Lee Stalsworth).

Macdonald-Wright wanted his new work to be performed with full orchestral accompaniment in order to engulf the audience in an all-encompassing, multisensory experience. For the musical component, he seems to have favored the classical repertoire. His widow reported that Aram Khachaturian may have composed a score inspired by one of Macdonald-Wright's Synchrome Kineidoscope performances (Sprout 2003). Unfortunately, there is no further evidence of Macdonald-Wright's collaboration with musicians or composers. In its complexity of design and its dependence on live performance, his Synchrome Kineidoscope resembled the color organs of the earlier twentieth century. Yet the scope and beauty of Macdonald-Wright's inventive use of the film medium presaged the more ambitious, multimedia projects of the later twentieth century.

While Macdonald-Wright evolved toward a new conception of visual music from a background in easel painting, Oskar Fischinger belonged to the nascent community of early twentieth-century vanguard filmmakers. To this new field, Fischinger brought unique skills, for he had training in both music and architectural draftsmanship. Originally employed as an engineer, Fischinger became enamored of abstract film, or "absolute cinema,"—the banner of the 1920s abstract film movement—when, in 1921, he attended the Frankfurt premiere of Walter Ruttmann's groundbreaking abstract film, *Lichtspiel Opus 1*, which was accompanied by a musical score. Fischinger was so moved by the performance that he quit engineering to devote himself completely to the art of filmmaking.<sup>6</sup>

Working primarily in Munich and Berlin throughout the 1920s and early 1930s, Fischinger not only mastered cinematographic techniques, but he also produced a series of radical experimental works that demonstrated the creative potential of his chosen medium. His innovations included a wax-slicing machine to produce animation, complex patterned abstract film, multiple projection performances, and black and white animation experiments synchronized to music.<sup>7</sup> Fischinger later explained his creative focus on the interaction of image and sound:

*The flood of feeling created through music intensified the feeling and effectiveness of this graphic cinematic expression, and helped make understandable abstract film. Under the guidance of music, . . . there came the speedy discovery of new laws—the application of acoustical laws to optical expression was possible. As in dance, new motions and rhythms sprang out of the music—and the rhythms became more and more important. (1947)<sup>8</sup>*

Fischinger's dual quest to synchronize image and sound in order to perfect abstract film prompted concurrent experiments in drawn synthetic sound in his series *Ornament Sound Experiments* from 1932. Fischinger believed the basis for such experiments in "drawn music" resided in "the wave—vibration or oscillation" of sound captured in graphic form:

If you look at a strip of film from my experiments with synthetic sound, you will see along the edge a thin strip of jagged ornamental patterns. These ornaments are

drawn music—they are sound: When run through a projector these graphic sounds broadcast tones of a hitherto unheard of purity, and thus . . . fantastic possibilities open up for . . . music of the future. (1932, 28)

Fischinger's relatively brief involvement with these *Ornament Sound Experiments* notwithstanding, his primary focus remained the visual purity of abstract film. Despite his apparent attempts to link image with sound, he would later emphatically deny that his films were intended as "illustrations of music."<sup>9</sup>

Fischinger's early radical experimentation, while widely acclaimed, became untenable in 1930s Germany under the Nazi regime. With modern art and abstract film suppressed, he managed to continue to expand cinematic vision through his intermittent commercial work in advertising film, which eventually drew the attention of Paramount. The studio brought Fischinger to Hollywood in 1936. His brief stints at Paramount and other studios in the late 1930s would prove frustrating for his creative independence. In spite of such difficulties, Fischinger's presence in the United States transformed American cinema. His technical mastery and creative vision inspired admiration and energized the growing vanguard film community.

For the remainder of his career, Fischinger persisted in his quest for creative freedom and aesthetic purity in the visual music genre. Hilla Rebay of the Museum of Non-Objective Art and the Guggenheim Foundation in New York supported his experimental works with several grants, the first of which allowed the filmmaker to buy back from Paramount and complete his masterwork, *Allegretto*, 1936–1943 (see Figure 2.3). In correspondence with his patron, Fischinger claimed that the celluloid drawings for *Allegretto* were the "first Non objective Film ever made in this technik"



FIGURE 2.3. Oskar Fischinger, *Allegretto*, 1936–1943, film still.

© Fischinger Trust, courtesy Center for Visual Music, Los Angeles.

(1944). By combining color in a cel-layering technique, Fischinger intended to approximate musical harmony and counterpoint. The resulting luminosity and visual complexity of *Allegretto* marked the completed film as a seminal and masterful work of visual music.

Yet Fischinger had to resort initially to self-financing in order to distribute the film, which was screened in a limited number of museum venues. While he would continue to pursue such abstract experimental works into the late 1940s and early 1950s, lack of adequate support forced him to channel his creative energies into oil painting for the latter part of his career. It is ironic that Fischinger, who opened the door to contemporary abstract film, which would supplant easel painting as the primary vehicle for visual music, should himself revert to the very medium that modernist painters such as Macdonald-Wright had found wanting. On another level, however, Fischinger's late involvement with easel painting underscores the primacy of visual aesthetics for visual music based in the abstract film medium. The German-born film pioneer remained true to the tenets of absolute cinema, just as his modernist-painter counterparts adopted musical analogies in pursuit of "pure painting." Responding to the same intellectual forces that shaped the development of modernist abstraction in painting, Fischinger subscribed to an essentially idealist philosophy in which spiritual aspirations accounted for the creative imperative. As late as 1949, he would assert that the artist listens "to an inner voice and the work follows an inner dictation. Above all . . . there is a CREATIVE NECESSITY, an inner law" (1949). Throughout his life, Fischinger persisted in the modernist belief that "music is not limited to the world of sound; there also exists a music of the visual world" (1951, unpaginated). That conviction would continue to animate Fischinger's admirers and heirs among the next generation of vanguard artists and filmmakers. His reputation and body of work had a far-reaching and long-lasting impact on the avant-garde film community and the future of visual music.

## VI. LIGHT PROJECTION, INSTALLATIONS, AND THE EMERGENCE OF THE POSTMODERN

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Fischinger's mastery of abstract film animation and his successful union of images with sound in the format of wide-angle screened projections were matched by the achievements of such pioneers as Len Lye, Harry Smith, and John and James Whitney. From the 1940s through the 1980s, these American film pioneers continued to expand the cinematic vocabulary that gave fuller expression to the visual music paradigm of moving imagery coupled with musical sound.<sup>10</sup> Although most of these film artists employed projected imagery on the two-dimensional cinematic screen, all shared the goal of achieving intense, multisensory aesthetic experiences. To that end, a few made forays into collaborative performance screenings at music concerts. In the early 1950s,



for example, Harry Smith screened his abstract films at San Francisco jazz clubs, where film and live music became one, albeit briefly.<sup>11</sup>

It remained for a younger generation of postmodern artists to transcend the formalist limits and two-dimensionality of both painting and film. In their search for the most compelling sensual experience of visual music, they would look to the intersection of vanguard and popular culture. Although a number of modernists, such as Claude Bragdon and Oskar Fischinger, had experimented in the very early twentieth century with rudimentary light installations, it was in the 1960s and 1970s that ephemeral works, including happenings, rock concerts, and lights shows, opened the door for the development of immersive environments that blend light, images, and music.

An important precursor of postmodern visual music was the series of concert performances organized by filmmaker Jordan Belson and composer Henry Jacobs at the Morrison Planetarium in San Francisco from 1957 through 1959. Their Vortex concerts featured a variety of images, patterns, and light effects, as well as fragments of abstract film imagery projected onto the sixty-five-foot dome of the circular planetarium theater. Jacobs selected an international program of vanguard pioneers of electronic music, including Luciano Berio, Ligeti, and Karl Stockhausen, as well as Jacobs's own works. The venue of the planetarium afforded them the use of a sophisticated multidirectional sound system. To the aural dimension, Belson would add as many as thirty projection devices from the planetarium's star and rotational projectors to kaleidoscope and slide projectors, strobes, and rotating prisms. Although no photographic documentation of the performances survives, eyewitness descriptions make clear that the combined effect was both mesmerizing and overwhelming.

Belson later recalled that the complex projection systems allowed him and his collaborators to transform the experience of space completely:

... not only was the image free of the frame, but free of space somehow. . . . There was no frame of reference. . . . We were able to project over the entire dome, so that things would come pouring down from the center, sliding along the walls. At times the whole place would seem to reel. (Youngblood 1970, 389)

According to the program notes for Vortex IV, the organizers intended to create

a new form of theater based on the combination of electronics, optics and architecture. Its purpose is to reach an audience as pure theater appealing directly to the senses. . . . In Vortex there is no separation of audience and stage or screen; the entire domed area becomes a living theater of sound and light. (Keefer 2005–2009, unpaginated)

That goal of creating an immersive environment represented the antithesis of the pure formalism inherent in the musical analogies of many of the early twentieth-century abstract painters. The totality of intense, multisensory experience would subvert the hierarchy implicit in the conventional relation of viewer/audience and subject. Instead, multimedia installations/performances fostered the non-hierarchical union of

audience with art. By incorporating the third dimension through the synthesis of light projection with musical sound in a vast theatrical space, Belson and Jacobs breached the formal and technological barriers that had restricted earlier attempts at visual music. The magnitude and breadth of their engagement with and subversion of architectural space anticipated the scale and theatricality of postmodern visual music. Their achievements heralded the advent of postmodern installation art in the late twentieth and early twenty-first centuries.

The very ambition of such large-scale works, however became difficult to sustain. Expensive and ephemeral, the light shows and happenings of the late twentieth century were rivaled by the emergence of alternate media for the more intimate experience of visual music. Television, another venue of popular culture, became a technological tool for certain of the visual music practitioners. American video pioneer Stephen Beck (b. 1950)—a trained engineer—combined the use of an electronic music synthesizer with a modified television, oscillators, and analog mixers to transpose audio signals into abstract visual imagery.<sup>12</sup> His inventions led the way to a more domestically scaled form of visual music that uncannily approximated the intimacy of the abstract easel paintings of modernist pioneers of visual music. Such music video devices also echoed the early to mid-century inventions of Wilfred, whose self-programmed home model Clavilux instruments resembled the television cabinet consoles of the mid-twentieth century.

Beyond the innovations of video and installation art, the emergence of computer programming in the late twentieth century offered visual music artists another means to experiment with the fusion of image and sound. Filmmakers John Whitney (1917–1995), Lilian Schwartz (b. 1927), John Stehura (b. 1943), and somewhat later Larry Cuba (b. 1950) all began during the 1960s through the 1980s to devise methods of digitization and motion graphics that heralded a broader spectrum of visual music imagery.<sup>13</sup> Whitney even codified his theories of visual music in the influential treatise *Digital Harmony* (1980). The innovations of Whitney and other digital media pioneers would provide a springboard for their younger successors of the postmodern generation.

## VII. POSTMODERN VISION

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With the wealth of new technologies available to postmodern artists today, visual music has expanded in range and scope. Freed from the strictures of formalism, contemporary artists pursue issues of space and conceptual ideas that the modernist pioneers rarely, if ever, considered. Some practitioners, such as the duo Joseph Bernard (b. 1959) and Cindy Hammer (b. 1959), take a cerebral approach to the correlation of image with sound. In their installation *Projection + Sound* (1999–2001/2005), a darkened gallery space is filled with monochromatic veils of richly saturated, projected light that seamlessly changes hue as a soundtrack plays live recordings of found sound samples that Hammer modifies for the playback accompanying the light display. Such



arbitrary pairing of sight and sound differs fundamentally from the modernists' quest to translate music into visible images or to merge the two into transcendent aesthetic experiences. Artists such as Bernard and Hammer brought a spirit at once more analytic and playful to the project of marrying image and sound, since they no longer subscribed to the idealist and transcendent aspirations of the earlier twentieth-century modernists.

Other visual music adherents continue the more emotionally charged and intuitive project of the modernist pioneers of visual music. Among the most creative and accomplished of the current generation of visual music practitioners, Los Angeles-based artist Jennifer Steinkamp (b. 1958) has expanded the legacy of visual music in film to encompass three-dimensional space. Steinkamp is heir to the earlier generation of visual music filmmakers, for she was introduced to their achievements in the early 1980s, when she studied with the influential teacher Gene Youngblood at Cal Arts. Fischinger's animations in particular helped spark her interest in light projection and animation.

Building on that tradition, Steinkamp uses computer-generated imagery, multiple projectors, and sound to create installations that envelope the viewer within a captivating virtual environment. Steinkamp explains that she uses the full technological arsenal of computer programming and light projection to "dematerialize architecture" and thereby transform, if not subvert, the experience of three-dimensional space:

In my artwork I use computer animation to craft immersive interactive projection installations. The three-dimensional computer graphics that form the basis of my abstract animation take full advantage of the computer's ability to create motion and points of view that are not available by any other means. I use multiple video projectors strategically placed in space; the projections of the animation are then fitted or re-mapped into architectural situations. The art can then be experienced physically in relationship to one's movement through the space. (2001, 109)<sup>14</sup>

That emphasis on submerging the viewer within the projected light installation distinguishes Steinkamp's postmodern perspective from modernist tenets that maintain an aesthetic distance between viewer and art object. In installations such as *Swell* (1995, Museum of Contemporary Art, Los Angeles)<sup>15</sup> or *Loop* (2000, Corcoran Gallery of Art, Washington, DC),<sup>16</sup> Steinkamp uses projectors to transect architectural space with projected imagery that engulfs the viewer/participant. For *Swell*, the dazzling, spectral imagery evokes galactic or interstellar space; in *Loop*, ribbons of spectral bands transform the rotunda of the museum gallery into shimmering curtains of colored light.

In many of her works, Steinkamp has gravitated to abstract imagery for her animated light projections. Whereas modern artists embraced abstraction as an emblem of aesthetic integrity, Steinkamp prefers the abstract over the representational, because she considers such images indeterminate: "What is the viewer's relationship to an abstract image? This thought has had a profound effect upon my contemplation of abstraction and subjectivity." Her interest in subjectivity springs from a deep concern with feminism. In that spirit, she seeks to reorient the relationship between viewer and art. For Steinkamp, abstract imagery and immersive light installations serve to "de-center and

reconstitute the viewing subject as we know it.” That approach allows the viewer to enter into the installation space as full participant.

Steinkamp’s architectural light installations also incorporate soundtracks that underscore the movement—both implied and actual—of imagery and viewer through space. She considers music integral to her installations: “Music creates the atmosphere, adding mood and emphasis to certain visual elements. The soundtrack creates a sonic dimension in the space; the physical space is transformed by the audio.” For Steinkamp, both sound and image serve to redefine three-dimensional space.

Unlike earlier visual music practitioners, Steinkamp actively collaborates with composers to create her installations. Her creative methods involve direct exchanges and development of ideas with a composer, who becomes, in essence, a co-creator of the final installation. Steinkamp explains:

When collaborating, I come up with the structure, or space for the piece. I usually create a virtual scale model on the computer, then discuss the ideas behind the work with the composer. We get together a few times, testing the sound in relation to the space and image.

In *Swell*, for example, she worked with composer Bryan Brown, whose ethereal soundtrack evokes sensations of wind and rushing water that simulate intergalactic forces moving in deep space. Brown’s music complements the celestial imagery suggested by Steinkamp’s animated light projections. Steinkamp believes that their collaboration on this work taught her to consider more seriously “our perceptual relationship to physical space.” Similarly, for *Loop*, Steinkamp collaborated with composer Jimmy Johnson, with whom she has worked most frequently. His lilting score intensified the experience of the rainbow-like curtain of projected lights in the Corcoran Gallery’s rotunda. In 2000, the two again teamed up to create the aptly named installation *Aria* for the Fremont Street Experience in Las Vegas, Nevada.<sup>17</sup> In this monumentally scaled work, Steinkamp and Johnson conceived of an abstract light and sound work projected on a ninety-foot-high video canopy stretching over four city blocks. In Steinkamp’s own words, *Aria* “follows in the visual music traditions of *Fantasia* and the corridor sequence from *2001: A Space Odyssey*. . . . The canopy, dancing with light becomes music while the sound is rendered visual.”<sup>18</sup> Steinkamp’s and Johnson’s *Aria* embodies the new possibilities for creative synergy between the visual and musical arts in twenty-first-century visual music.

## VIII. CONCLUSION: VISUAL ARTISTS AND VISUAL MUSIC

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From early twentieth-century abstract paintings and experiments in projected light to contemporary immersive environments, visual artists working in the modernist tradition provided much of the impetus for merging fine art with music. Abstract painters

and vanguard filmmakers played a pivotal role in the origins and development of visual music. While they all shared the ambition to approximate the emotional impact and aesthetic integrity of music in the visual realm, their strategies and creations have varied widely. Over the past century, the most successful and compelling works of visual music have been those that approach parity between the visual and musical elements. Oskar Fischinger's films, the Vortex concerts, and Jennifer Steinkamp's immersive light installations exemplify the aesthetic unity of the best visual music creations. Just as visual music in the postmodern era extends and expands this visual artistic tradition, the dream of unifying the visual and musical arts continues to inspire contemporary artists who embrace a hybrid ideal that originated at the dawn of the twentieth century.

## NOTES

1. With the current expansion of the field of visual music, this hybrid art form eludes precise definition. See Ox and Keefer (2006–2008).
2. For theoretical sources, see especially Gage (1995, 227–268) (Chap. 13: “The Sound of Color”) and Gamwell (2002, 149–161) (Chap. 7: “Wordless Music and Abstract Art”). For broader coverage, see Vergo (2005, 2010).
3. “Maker of Curious Pictures in Town. Weber Unburdens Soul and Discusses His Rivals,” *Baltimore Evening News* [March 1915], Bound clippings, Max Weber Papers, Archives of American Art, Smithsonian Institution, microfilm roll no. NY59-6, frame 359.
4. See also Suzanne Mullett Smith and Gordon Smith, “Music of the Eye: The Development of an Idea,” unpublished lecture, American University, Washington, DC, 1950, re-edited 1976, Suzanne Mullett Smith Papers, Archives of American Art, Smithsonian Institution, Washington, DC, microfilm roll no. 1043, frame 1274, and Zilczer (1984). DeLue (2011) focuses on Dove's use of recording technology to achieve an abstract sonic experience visually. See also Cooper (2005).
5. For the history of color organs, see Mason (1958), Peacock (1988), Moritz (1997), and Brougher, Zilczer, et al. (2005, 70–76).
6. For some biographical information based on Oskar Fischinger Biography, see Center for Visual Music (2006), [www.CenterforVisualMusic.org/Fischinger/OFBio.htm](http://www.CenterforVisualMusic.org/Fischinger/OFBio.htm).
7. For Fischinger's early film experiments, including *Kreise (Circles)*, *Wax Experiments*, and *Studie Nr. 8*, see <http://vimeo.com/user4392897/videos> (accessed 12/16/2015).
8. “My Statements Are in My Work,” *Art in Cinema* (San Francisco Museum of Art, 1947); reproduced on [www.OskarFischinger.org/MyStatements.htm](http://www.OskarFischinger.org/MyStatements.htm), © Elfriede Fischinger Trust, all rights reserved.
9. Fischinger explicitly rejected the notion that his work involved the illustration of music in an unpublished typescript, dated 1947 (later incorporated into a letter to artist Hans Richter). See <http://centerforvisualmusic.org/Fischinger/OFCorresp.htm> (accessed 12/16/2015).
10. For an overview of this history, see Youngblood (1970), Brougher, Zilczer, et al. (2005, 96–175), Alexander (2010), and Naumann (2010).
11. For more reading see Cindy Keefer (2005–2009), in <http://www.centerforvisualmusic.org/CKSLAexc.htm> (accessed 12/16/2015).

12. See Beck, Excerpt from "Direct Video: Electronic Artforum for Color Television," and Beck website (accessed 12/16/2015).
13. For further reading see Schwartz, the Lillian Feldman Schwartz Collection, Stehura's website, and Moritz (1996).
14. All subsequent citations of the artist are from this essay unless otherwise noted.
15. [http://www.moca.org/museum/pc\\_artwork\\_detail.php?acsnum=96.13&keywords=Steinkamp&x=26&y=2&](http://www.moca.org/museum/pc_artwork_detail.php?acsnum=96.13&keywords=Steinkamp&x=26&y=2&) (accessed 12/16/2015).
16. [http://jsteinkamp.com/html/body\\_corcoran.htm](http://jsteinkamp.com/html/body_corcoran.htm) (accessed 12/18/2015).
17. <http://jsteinkamp.com/html/fremont.htm> (accessed 12/16/2015).
18. <http://jsteinkamp.com/html/fremont.htm> (accessed 12/16/2015).

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## CHAPTER 3

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# BETWEEN GENERATION AND SUSPENSION

## *Two Modern Audiovisual Modes*

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RUTH HACHOEN

### I. THE CONCEPTUAL FRAMEWORK

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THIS chapter focuses on two modes of dynamic audiovisual combinations, or synergic adaptations of musical to visual sequences, developed during the period that is identified with modernism in art, that have not been hitherto sufficiently theorized as such. Both modes, which I call *generation* and *suspension*, derived from new aesthetic possibilities that the combinations of moving pictures—painted or shot—with instrumental music yield, but they are different in the impression they create regarding the question of who breeds whom—sound the image, or image the sound. My claim is that the order of the *imaginary* production is of experiential essence in these two divergent modes, though the *actual* order of production could have been different.

In *generation* a given piece of music often actually precedes the visual image, which is painted or choreographed so as to fit into it. More important, however, is that in the product so effected (the film), the music is perceived as instigating action and change, and in particular, as lending movement. Though its apparatus—the sounding body that brings it about—is missing from the scene, the generating music lurks behind the action, as if in an imaginary pit, disclosing its presence “on stage” unexpectedly, in what can be considered as diegetic appearance.<sup>1</sup> Certain kinds of animated films, for example, which create coherent visual sequences and narratives, are revealed to the spectator as being *generated* in real time from the musical stimulus, but in deeper scrutiny, it appears as such also to the fictional characters inside the diegesis. In other words, music, in such cases, is more than just a soundtrack to an independent narrative. The personification-animation that the music creates is double: in addition to granting movement, vitality, and expression to the characters, it appears to give them



purpose and will, which changes the characters from passive participants to active ones in their narrative. As I will show later, the concept of gesture is essential to the analysis of basic units of “generative” pieces, and in the two media, music and painted images, that participate in the work it accentuates the potential of movement, expression, narrative, and mutual interpretation. An episode from the Disney film *Fantasia* (1940) will demonstrate this mode of combination.

In the mode that I term *suspension*, the visual images are experienced as preceding the sound, even if, in practical terms, the way in which the work was created could have been different. Though time is unfolding, the impression that is received from the connection between music and images is mainly static. The spectators experience a visual sequence, real or imaginary, that has few changes but is enveloped in an atmosphere or mood that is waiting to be actualized or completed by a fitting sonorization. The sonorization that arises from this pause, or that accompanies it, allows for an examination of minute occurrences—visual and auditory—in the represented space, which is generally understood to be an enchanted, magical, or eerie environment that fictionally contains both. Imaginary world of this kind often has an inner perspective, one that appropriates the visual sequence, creates the stasis, and thus empties it of a clear will and purpose. Suspension may create amazement, an awareness of formative processes that are invisible to an inspecting and controlling gaze whose logic is purposeful and focused. Examples in the present article of this type of mode are taken from the works of Arnold Schoenberg, composed from 1908 to 1913—years in which the composer investigated different ways of connecting between picture and sound—and an additional piece of his from 1930. A scene from Hitchcock’s film *Vertigo* (1958) will enable me to further explore this mode of connectivity.

Both generation and suspension, I argue, thus create a sort of “mythical,” “larger than life,” or “outwardly” experience, precisely because of the special presence of the musical within the created, animated world, in which the verbal element is pretty much nonexistent.<sup>2</sup> Opening up novel experiential dimensions, for protagonists within fictional worlds as well as spectators outside them, they give vent to a phenomenology of their own, that is, to particular mental states within and outside the created worlds. These states partially correlate with the now quite problematized notions of diegetic versus non-diegetic sound, and further problematize them. Taken more generally, they emerge from the difference and interaction between sound and image, character and the surrounding world, motion and stasis, modality and sensation that the new combinatory modes enhance. My claim is that even though the principles that underlie these two modes of connectivity could have been partially realized before the modern era in media that are not identified with modernism, the theoretical and technical developments of the first half of the twentieth century—foremost among them the rise of motion pictures, including animation—allowed for an unprecedented development of these two modes. I suggest four conditions that encourage the development of new modes of connectivity between media or artistic languages: the latent potential that exists in every medium for effective links with other media; the partial actualization of these links in earlier periods or in other cultural contexts; technological innovations



that allowed them to be used on a new scale; and an artistic-cultural vision that awakened the desire for their further elaboration. Even if not all of these conditions are necessary to the same degree for the creation of a new type of connectivity, a historical examination will show that they generally exist simultaneously.

Here is a short explanation of each condition:

1. *The medium's potential* in this context entails a theoretical understanding of the hidden possibilities of the musical or visual medium, beyond the ways in which they are used in a specific historical moment. This recognition can emerge long before the possibilities can be fully materialized. It is the result of an internal theoretical process, but also of the perception of certain propensities that already exist in the current artistic reality. In this fashion we find two eighteenth-century French philosophers who reveal an awareness regarding the synergetic modes discussed here. The first, Étienne Bonnot de Condillac, connected music to the “language of action,” that is, a language of concatenated gestures. The second, Jean-Jacques Rousseau, observed music’s unique contribution to a visually arrested experience. A hundred years later, Arthur Schopenhauer emphasized the role of willing agency that music confers on its melodic movements. The musical movement, as Schopenhauer claimed, embodies in the purest way a “will” (or, as he termed it, *Urwill*—“the primordial will”), that is, the sense of longing, aspiration, or seeking toward what is beyond, carried in instrumental music without an identifiable subject or object. By the same token, in musical-dramatic contexts, where the subject and the object of desire are more clearly identified, the musical expression allows a heightened and distinct actualization of the passion and will of the hero, in comparison to the expression of these elements in other media.<sup>3</sup>
2. *Partial actualization* relates to a historical phase in which the artistic medium is already oriented toward the new mode of connectivity or is in the process of creating the suitable conditions for its actualization. This entails a partial realization of the theoretical understanding that was reached in the previous stage, not yet transformed into a full-fledged artistic principle. In our context, we can locate an incipient movement in this direction in relation to three central developments in the musical world of nineteenth-century art: first, the growth of “gestural” music with a strong penchant toward narrative, as occurred with the genre of symphonic poem; second, the emergence of ballet music, which allowed for the partial visual embodiment of gestural narratives; and third, the expansion of the orchestral body in both volume and timber. The last development made it possible, among other things, to create musical textures characterized by delicate transformations, especially of timber and pitch, that were generally connected to moments of stasis associated with atmosphere or dreamy environment.<sup>4</sup> Composers and theorists were well aware of the visual dimensions of the emerging techniques, whether evoked in the listener’s imagination or giving rise to suitable artistic embodiment. During this period, the visual medium likewise underwent transformations toward the new types of connectivity. I will list here

two types of transformations, which are, to a great extent, opposites of each other. The first was realized in the brand-new comic strips as a genre that combined narrative drawings with active and expressive figures. Evolving a clear language of signs, it summoned the reader's imagination to fill in the gaps in the movement from one picture to the next, assisted by explicit speech (in the texted bubbles). The second type is found in impressionistic artwork, which avoided the representation of fixed objects in favor of sustained states of impressions with a strong emphasis on changes in light, shades, and texture.

3. By *technological innovations* I mean the adoption of up-to-date mechanical, electronic, or other novel *modi operandi*, yielding new artistic modes or procedures. In the present discussion, these technologies are identified with the birth of film and animation, which operate by electronically looping a series of pictures at a rate that creates an illusion of movement, or momentary stillness characterized by minute changes from the perspective of the spectator. More specifically, this relates to the possibility, since the late 1920s, of synchronizing a sound track to visual cells with remarkable exactness. The two media—film and animation—gradually made use of techniques and artistic methods (animation, in this regard, mimics the grammar of camera movement of film) such as take, shot, frame, perspective, close-up, and shot-reverse-shot, which are essential both to the creation of a narrative from a series of pictures, and to the attribution of a view to someone's gaze and the act of listening to a speaking voice (when one shot focuses on the speaker and the next on the person listening to him in a different place, and then repeats itself, as in film scenes of telephone calls).<sup>5</sup>
4. *Artistic vision* motivates the rise of the new mode of connectivity and brings it to center stage as part of wide-ranging cultural processes that serve a group or a certain interest or undermines them. Put differently, at the base of every development of this kind is an explicit or implicit ideology. In the cases when the ideology is explicit, it may appear in sources that can shed a light on the relationship between intent and the implementation of the new artistic paradigms. Even though I can only relate to this point briefly, it is vital to understanding the power and the cultural consequences of the discussed modes: generation and suspension.

## II. THE MAGIC OF GENERATION

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We will now examine generation with the help of an apprentice: "The Sorcerer's Apprentice," as portrayed in the well-known Walt Disney film *Fantasia*. Paul Dukas's composition of 1897, which naturally preceded the animation, was itself a product of an earlier artistic work: the ballad "The Sorcerer's Apprentice" by Johann Wolfgang von Goethe, which was published a hundred years earlier (1797). Goethe's ballad seems to have functioned as a

source of inspiration for Dukas, not only from the point of view of the plot, but in its overriding message as well, which is connected to dread—modern or modernist dread of the *golem*<sup>6</sup> that rebels against its master, a creator who lacks the magic word or the neutralizing magic that will bring back the limits to the creature that has gone wild.

The story is as follows: the sorcerer has left, and his apprentice, who has learned the magic words from him, wants to make the old broom work in his place—fill buckets of water from the well and bring them to the sorcerer's house. The magic works, but goes far beyond what was required. The apprentice forgets the magic word that will stop the activity of the automatic creature, who keeps bringing more and more buckets filled with water and floods the house. The resourceful apprentice hatches a scheme: he will break the broom in two. To his consternation, the magical apparatus doubles itself: instead of one broom there are now two, who rush to fulfill their devastating mission. In despair, the apprentice calls for the sorcerer's help, who, in an act of *deus ex machina* (or perhaps he was peering the entire time from a secret window to see what his student would do?) appears and returns everything to its proper order.

From a narratological perspective, the events of the story become known to us through the drama of direct speech acts, which take place in the present in front of our mental eyes.<sup>7</sup> The ballad does not have a narrator or an objective description: the entire ballad, except for the last stanza, is delivered by the apprentice as he is acting. Thus, for example, the apprentice describes the broom that obeys the magic and brings, to his delight, water from the well. However, he soon realizes the catastrophe that can ensue from this obedience and his own helplessness:

*Look, how to the bank he's running!  
and now he has reached the river,  
he returns, as quick as lightning,  
once more water to deliver.  
Look! The tub already  
is almost filled up!  
And now he is filling  
every bowl and cup!  
  
Stop! Stand still!  
Heed my will!  
I've enough  
of the stuff!  
I've forgotten—woe is me!  
what the magic word may be.*<sup>8</sup>

The apprentice's series of speech acts includes, in the following order, description (that results from an implicit wish), casting aside the fear, boasting, fantasizing, whispering contentedly, directing, evaluating, commanding, another description, astonishment, realization of failure, lamenting, complaining, expressing fear and dread, pleading, planning, threatening, expressing satisfaction at his victory, conveying content and wishful thinking, understanding yet again that he is thrust into an opposite

reality, praying, and in despair turning to the sorcerer for help. The sorcerer, for his part, simply commands and whispers, and even though the success of his whisper is not reported, the silence, which rhymes with the end of the ballad, shows us that everything has returned to how it was before:

*Back now broom  
into the closet!  
Be thou as thou  
wert before!  
Until I, the real master  
call thee forth to serve once more!*

This sequence gives us all we need for establishing the narrative structure, its major functions (as they are explained in different narrative theories<sup>9</sup>), externalizing as well the modal form that constitutes these functions, that is, the protagonists' necessary awareness of the major components of their action: the *desire* to fulfill a goal, the evaluation of the *ability* to do so (faulty or correct), the *recognition* regarding the realization of the action (or its failure), the reevaluation of what is *needed* to be done, and the agent's *awareness*, in our case, that he has changed from an active to a passive role by the automaton who turns out to be lacking in any modality.<sup>10</sup>

Here, for example, is the moment of realization when the apprentice expresses the frustration that leads to a new plan, brags about his abilities, and reports (prematurely) on his success, while expressing hope. Reality throws him into a loop once again, and the apprentice can no longer deny his failure and finally offers up a prayer:

*Is the end  
not in sight?  
I will grab you,  
Hold you tight,  
With my axe I'll split the brittle  
old wood smartly down the middle.*

*Here he comes again with water!  
Now I'll throw myself upon you,  
and the sharpness of my axe  
I will test, o spirit, on you.  
Well, a perfect hit!  
See how he is split!  
Now there's hope for me,  
and I can breathe free!  
Woe is me! Both pieces  
come to life anew,  
Now, to do my bidding  
I have servants two!  
Help me, o great powers!  
Please, I'm begging you!*

The richly detailed series of speech-acts fill in the visual aspect that is missing from the description and likewise the temporal aspect that is implied in the plot.

Equipped with a post-Wagnerian powerful orchestra (including an intensified drumming and metal wind section), and manifold ways of building musical momentum that were consolidated during the nineteenth century, Dukas changes Goethe's didactic ballad into a grotesque scherzo, which, while closely following the structure of the ballad, magnifies its proportion and effect. During the first performance of the work, a French translation of the ballad was distributed to the audience, and critics quickly recognized the central motifs of the work that mark the important moments in the story. Nonetheless, these means could not atone for the lack of lexical specificity, which is at the heart of the musical medium. Then as now, instrumental music is unable to supply a clear mapping of the order of events, their modal character, or their causal value; moreover, since the plot is not an inseparable part of the music, once acknowledged, it is forced into the listener's consciousness and might disturb his or her free auditory experience.

Indeed, we can view this lack of lexical specificity as an advantage, as many have done in relation to this or that musical narrative. The dynamics abstracted from the plot—including, in a rough outline, a hesitant beginning, saturated with tension and mystery that gives rise to a steadily increasing chase episode, which breaks and leads to a second episode that renews the chase with even more vigor, until the catastrophe, from which emerges a new hesitant beginning, this time simpler and with a capricious ending—can yield an inexhaustible number of narrative possibilities. This type of openness fits in well with the leading aesthetic of the era in which the work was composed. Thus the young Nietzsche attributed to music the power to establish a mythological superstructure and to articulate in its qualities the metaphysical-existential power of this superstructure (Nietzsche, 1994). Even in the minds of children, the narrative possibilities of *The Sorcerer's Apprentice's* structurally correlate, indicating their cognitive ability to discern a super-narrative of the kind outlined here, as suggested by empirical research that examined the work's semiotic content (Nattiez 1990, 240–257).

Disney seized this narrative openness even as he depicted a precise story of the apprentice's adventures, a story that is concomitantly faithful to Goethe's ballad while developing it further. With an extreme attentiveness to the nuances of the music as well as its mythological power, Disney wove a story out of visual gestures that take place using hands, facial expressions, and body movements, which replace the speech acts of the original ballad or their results. The concatenated gestures create the logical structure of the plot. Musical qualities that are singular to each gesture (the effects of variations on orchestration, dynamics, harmony, and more, what psychologist Daniel Stern (1998) called "vitality affects") reveal new emotional or atmospheric aspects of the gestures that have already been heard, marking a change of consciousness or situation. Narrative modality arises from this interaction, that is, an awareness "in search of a protagonist" that creates and accompanies dramatic action. This narrative modality contains aspects of will, ability, constraint, evaluation, intrigues, judgment, decision, blurring of awareness, action and receptivity, feeling, and emotion. In brief, if the ballad calls for visual completion, the animated musical calls for verbal completion in the spectator/auditor's imagination. This matter should not be taken for granted; most animated films need

built-in dialogues or an accompanying text. From the point of view of the eighteenth-century philosopher Condillac, communication through gestures or “language of action,” as he termed it, was a decisive stage in the development of human language. He saw music as an ideal embodiment of language of action also in modern times, as such breathing new life into abstract languages that have lost their basic vitality.<sup>11</sup>

Does Condillac’s insight explain the popularity of this episode of *Fantasia* in comparison to the other episodes of this successful movie? To a certain extent it does, for only in this episode can one clearly feel the presence of acting and motivating consciousnesses that maintain communication between narrative agents who have interiority, and that evoke positive or negative responses from the auditor/spectator. As opposed to this, the other episodes of *Fantasia* focus on different synesthetic and kinesthetic scenes, and the characters, if one can ascribe to them any kind of “soul,” mostly take part in a preordained ceremony. The impression that is received in those cases is that they are forced into their actions by internal or external powers that they do not control. In *Fantasia 2000* (which was created in the Walt Disney Studios as a tribute and sequel to the classic film), not only is “The Sorcerer’s Apprentice” reproduced in full—the only one of the original *Fantasia* episodes—but it apparently serves as a model for a few of the new episodes. Even if some of the characters seem to be controlled by others, the protagonists of those new episodes exhibit will and consciousness. (For example, Donald Duck in “Noah’s Ark,” set to Elgar’s *Pomp and Circumstance*, or the family of whales in the episode based on Respighi’s *Pines of Rome*.)

Let us now focus on the fairly slow opening of the “Apprentice,” as indicated by the tempo sign of the work, *Assez lent*. The first unit is built on a series of three sequentially descending sub-gestures (a) that constitute together a questioning gesture. Three complementary sub-gestures (b), in an ascending order, constitute an answer of sorts to the “question” (see Figure 3.1, mm. 1–6, accompanied by frames from the movie). This structure then repeats itself, a third higher, bringing the entire unit to a close (Figure 3.1, mm. 7–13). The motifs that make up these gestures serve central roles in the rest of the work; here they appear in an “embryonic state,” as a hint of what is to come, but they also create the setting of the events that follow and lay the foundation of the plot.

Disney divides this unit between the two antagonistic heroes. He gives the first phrase, chromatic and enigmatic, to the sorcerer, who is characterized here by the action that determines his image: magical hand gestures that draw circles in the air inward, which, even though they are intention-loaded, fail to bring about the desired enchantment. The second phrase, which bases F as the (minor) tonic, transfers the cinematic shot to the apprentice—Mickey, who uses the sequential ascending gestures for actions of lifting or exertion: going up the steps as he carries the buckets, stopping and wiping his brow in an upward motion, lifting the buckets yet again, and finally, on a quiet pedal point that brings the movement to a pause, lifting his deferential gaze to the master magician. The tonal clarity of his phrase, adjoined by broad rhythmic pattern, correlates cautious, almost unheard action, on Mickey’s part; he must be worried about arousing the sorcerer or his anger.<sup>12</sup> It is worthwhile to pay attention to Mickey’s pupils, a new feature in Mickey’s twelve-year-old image, which were specially designed for this movie (Adler, 1990). The gaze reflects the interiority of the awe-inspired and exhausted apprentice, but the drops of sweat, combined