

## Visual-Music Culture

Kerry Brougher

So only one way remains for the creative artist: to produce only for the *highest* ideals—not thinking in terms of money or sensational success or to please the masses. —OSKAR FISCHINGER<sup>1</sup>

Everything that has been done in the past on this kind of stuff has been cubes and different shapes moving around to the music...If we can go a little further here...the thing will be a great hit. —WALT DISNEY<sup>2</sup>

### Wassily and Mickey

Around 1940, the experimental filmmaker and champion of visual music Oskar Fischinger tore out of a catalogue color reproductions of the work of Wassily Kandinsky and Rudolf Bauer—painters who, like Fischinger, were involved with pushing visual art toward the condition of music. To these abstract images Fischinger applied small renderings of Mickey and Minnie Mouse that he had carefully cut out of a Walt Disney comic book. Throughout the resultant collages, Mickey and Minnie gesture toward the abstract compositions, staring wide-eyed, aghast at the audacity of the artists involved in making such bizarre nonobjective works.<sup>3</sup>

These collages might be seen as simple parodies by an avant-garde artist of the public's refusal, after three decades of modern art, to fully embrace abstraction, but in fact Fischinger's collages are much more complex: his swipe was not just at the public, but at Disney, and perhaps even at himself. The artist had recently been working at Disney's studio on the opening sequence for the upcoming animated film *Fantasia* (1940), featuring Johann Sebastian Bach's Toccata and Fugue in D Minor, and had quit over artistic differences with Disney and conditions Fischinger felt were stifling his creativity. Fischinger later stated "that no true work of art can be made with that procedure used in the Disney Studio."<sup>4</sup>

Yet despite the failure of their working relationship, it is certainly enormously significant that by 1940 an exiled German experimental filmmaker could be found working in Hollywood for a major film studio. Indeed, Fischinger had been previously employed by both Paramount Pictures and MGM, where he had worked on several of his most important films, including *Allegretto* (1936–43) and *An Optical Poem* (1937). Even after Disney, Fischinger continued his uncomfortable relationship with Hollywood at Orson Welles's Mercury Productions based at RKO, where he worked on what is often considered his best film, *Radio Dynamics* (1942), and by lending his lumigraph color organ to the production of the 1964 science-fiction feature *The Time Travelers*.



left  
Still from *The Time Travelers*, 1964  
Directed by Ib Melchior

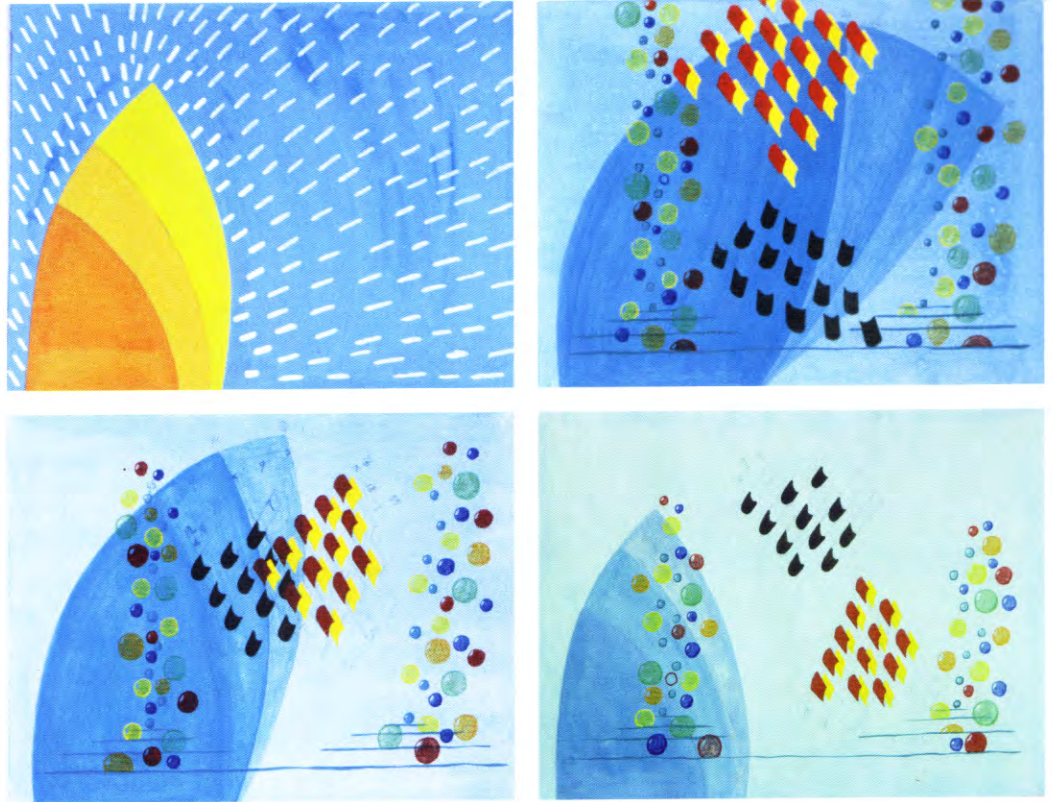
page 86 and opposite  
James Whitney  
Details of stills from *Lapis*, 1963–66



right  
Oskar Fischinger  
Stills from filmed performance of  
Oskar Fischinger's lumigraph by  
Elfriede Fischinger, 1969



notes, reproduced in William Moritz, *Optical Poetry: The Life and Work of Oskar Fischinger* (London: John Libbey, 2004), 192.  
 2 Walt Disney, quoted in *ibid.*, 84.  
 3 Moritz, *ibid.*, 134.  
 4 *ibid.*, 85.



*Fantasia* was released in 1940 to relatively poor box-office attendance, but over the years and through repeated releases it has, despite Fischinger's criticisms, taken its place as a classic film and the best-known example of visual music. Many of Fischinger's ideas and designs for the Bach sequence found their way into the final film, although existing studies show that several of the artist's more dynamic ideas were altered or rejected. Walt Disney has often been portrayed negatively in his relationship with Fischinger, but his willingness, along with other Hollywood producers of the 1930s and 40s, to open the doors to European artists and experimental filmmakers (he later hired Salvador Dalí) and the avant-garde's willingness to participate in such Hollywood projects marks a pivotal, if problematic, moment in the history of visual music, if not in modernism itself.

Fischinger's collages are the physical manifestations of the conflict within the artist himself as he strove to create a synthesis of visual art and music that could be consumed by large

top  
 Oskar Fischinger  
*Sketches for Fantasia*, c. 1939  
 Tempera on animation paper  
 8¼ x 8¾ inches each

left  
 Kandinsky/Mickey Collage, c. 1940  
 Collage on paper  
 8½ x 11 inches  
 The Elfriede Fischinger Trust



5 Len Lye, quoted in Stewart Kranz, *Science & Technology in the Arts: A Tour Through the Realm of Science/Art* (New York: Van Nostrand Reinhold, 1974), 46.

6 Allen Shawn, *Arnold Schoenberg's Journey* (New York: Farrar, Straus and Giroux, 2002), 61.

numbers of people, borrow freely from entertainment forms, capitalize on the advanced technology available at the studios, and utilize the feature-film distribution system—but also retain the aura of high art. At the time, visual music was being transformed from the relatively obscure output of a handful of avant-garde artists, color-organ inventors, and color-sound theorists to a more public-oriented phenomenon with mass appeal; the radical aspirations of the early modernists were becoming institutionalized and their vocabularies and approaches were absorbed into the common culture. Disney's *Fantasia* is simply the best-known example of a process that was already well underway by its release, one that blurred the line between the avant-garde and mass culture.

### Motion Painting

I was up on a hill looking at the clouds. I had read that Constable tried to simulate the clouds' motion in oil sketches. It suddenly struck me. I got this feeling, this very strong feeling that motion was the great thing to think about, and why couldn't it be composed as a composer composes sound? —LEN LYE<sup>5</sup>

Despite its commercial status as entertainment, *Fantasia* is nevertheless clearly tied to a lineage of visual-music artists and filmmakers extending back through Fischinger to the pioneers of abstraction at the beginning of the twentieth century. For artists such as Kandinsky and František Kupka, music was the purest art form and visual art should emulate it. Building on a range of sources including notions of the sublime, alchemical symbols, and metaphysical practices such as Theosophy; new scientific discoveries in biology and astronomy; theories of synaesthesia dating back to Isaac Newton and Francis Galton; as well as ideas about the links between color and emotions recently formulated by the Symbolists, these artists devised an abstract art form that was, in their view, analogous to the dynamic rhythms, tone color, and nonobjectivity of music. With titles incorporating terms like “improvisation,” “fugue,” “sonata,” “composition,” and “blue and green music,” their works often underscore their debt to music.

Experiments were conducted on the music side as well. Arnold Schoenberg's *Die glückliche Hand* (The lucky hand,

1910–13), for example, is a dramatic play set to music whose score notes a progression of color shifts that mirror various psychological states of the characters. Schoenberg's “Farben” (Colors) from his Five Pieces for Orchestra (1909) uses tone color in the hopes of eliciting visual color in the mind of the listener.<sup>6</sup> The score to Alexander Scriabin's *Prométhée, Le poème du feu* (Prometheus, a poem of fire, 1908–10) calls for “luce,” a keyboard controlling projected colored light meant to be performed in synchronization with the music. In the early part of the century, these notions of “color hearing” swirled around the avant-garde, as artists and composers attempted to enter the spiritual realm through earthly sensations.

However, even at its origins, visual-music abstraction had a low-culture component. While the avant-garde was concerned with creating nonobjective painting, a number of “inventors” (one could almost call them “tinkerers” in the best sense of the word) generally working in isolation from one another took performance and musical instruments as their starting point.







Bainbridge Bishop, Alexander Wallace Rimington, Thomas Wilfred, and Mary Hallock Greenewalt, among others, created "color organs," instruments generally conceived for public performances of abstract light shows in a variety of showcases including theaters, concert halls, and even, in the case of Bishop, P.T. Barnum's house. Prefigured by historical figures such as the French Jesuit monk Louis Bertrand Castel, who in the 1740s created a device called the *clavecin oculaire* that, when played, exposed illuminated colored-glass panes corresponding to individual notes, these artists were concerned with using abstraction to create a form of public art that was already blurring the line between high art and popular culture.<sup>7</sup> In their hands, abstraction was as much a vehicle for entertainment as for spiritual contemplation.

In the early 1920s, these three approaches to visual music—abstract painting, color-hearing composition, and color-organ performance—were united through the technological capabilities of the cinema, and visual-music film further dissolved the borders between high and low art, between metaphysical contemplation and illusionary spectacle.

In 1911, the Ravenna-based brothers Arnaldo Ginna and Bruno Corra, dissatisfied with the results of the color-organ experiments they had been conducting, turned to the new medium of film to continue their work. Inspired by the Theosophical writings in Annie Besant and Charles W. Leadbeater's *Thought-Forms* (1905) and Édouard Schuré's concept of the "theater of the soul," the brothers quickly completed several films—though unfortunately none have survived. They painted directly on celluloid, a technique used decades later by artists Len Lye, Norman McLaren, Harry Smith, and Hy Hirsh. In Paris, around the same time as the brothers' venture into film, the artist Léopold Survage began his series of *Rythme coloré* paintings with the intention of eventually turning them into an animated film. Survage suggested that artists must "get rid of [painting's] last and principal shackle—immobility—so as to become as supple and rich a means of expressing our emotions as music is."<sup>8</sup> Unfortunately, Survage never found financial backing for his films but remains, as Guillaume Apollinaire pointed out in 1917, "the glistening bridge" between painting and cinema.<sup>9</sup>



opposite

**Léopold Survage**

*Rythme coloré*, 1912

Graphite and ink on paper

14 x 10½ inches

Musée national d'art moderne,  
Centre Georges Pompidou, Paris

top

*Rythme coloré*, 1913

bottom

*Rythme coloré*, 1913



10 Malcolm Le Grice, *Abstract Film and Beyond* (Cambridge, Massachusetts: The MIT Press, 1977), 27.

11 Rosseti and Starr, *Experimental Animation*, 40, 13, 166, 27.

12 Hans Richter, quoted in Lynn Gamwell, *Exploring the Invisible: Art, Science, and the Spiritual* (Princeton, New Jersey: Princeton University Press, 2002), 160.

13 László Moholy-Nagy, quoted in *Experimental Animation*, 44.

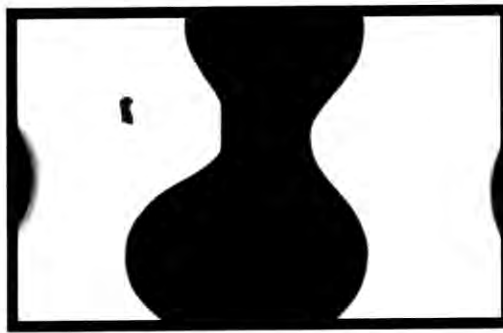
In the early 1920s, the fusion of film and painting was finally fully realized in the work of three artists in Berlin: Hans Richter, Viking Eggeling, and Walter Ruttmann. Ruttmann felt that in the new century it no longer made sense to paint. At its premiere in 1921, Ruttmann's hand-tinted film *Lichtspiel Opus I* was set to a musical score by Swedish composer Max Butting,<sup>10</sup> a performance witnessed by the young Fischinger.<sup>11</sup> This work was quickly followed by *Opus II* (1921) and *Opus III* (1924). Making use of textured backgrounds, curvilinear forms, and jagged thrusting shapes, Ruttmann created machine-like rhythmic motifs that act "as melodic units in a musical structure."<sup>12</sup>

As a temporal medium capable of setting abstraction in motion, film allowed painting to break out of its static frame and enter a new world of motion and spectacle. Painters, who had been confined to merely suggesting motion and rhythm through static fragments, could now create flowing movements and rhythmic schemes that shape time, thereby bringing visual art closer to music. Richter, whose work also investigated the rhythmic motion of abstract shapes, put it quite succinctly:

Problems in modern art lead directly into the film. Organization and orchestration of form, color, the dynamics of motion, simultaneity, were problems with which Cézanne, the Cubists and Futurists had to deal. Eggeling and I came directly out of the structural problems of abstract art *volens volens* into the film medium.<sup>13</sup>

He felt these abstract "evolutions and revolutions" to be "roughly analogous to the sounds of music in our ears."

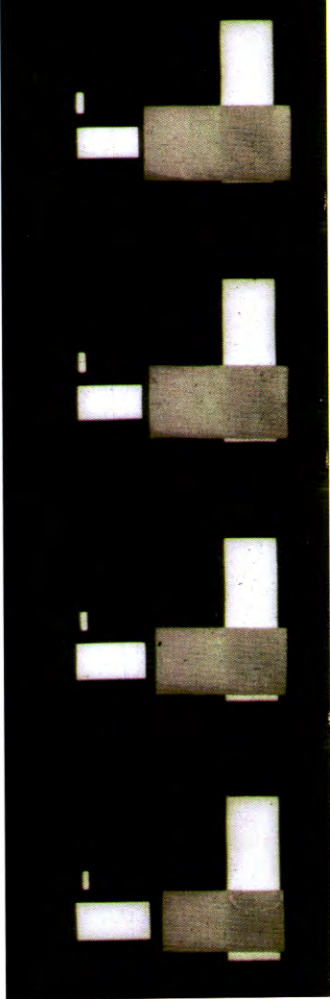
Of these three early filmmakers, Swedish-born Eggeling developed what is probably the most distinctive style. Both Richter and Eggeling, who worked off and on together between 1919 and 1921, had previously experimented with extending painting by using extremely horizontal or vertical canvases and continuous scrolls on which they mapped out motion sequences. Film allowed them to extend this idea in a time-based medium. Eggeling's only existing film, *Symphonie Diagonale* (1924, completed the year before he died), is composed of stark white shapes on a black ground. Unlike the simpler, more basic forms at play in the work of Richter and Ruttmann, Eggeling's shapes,



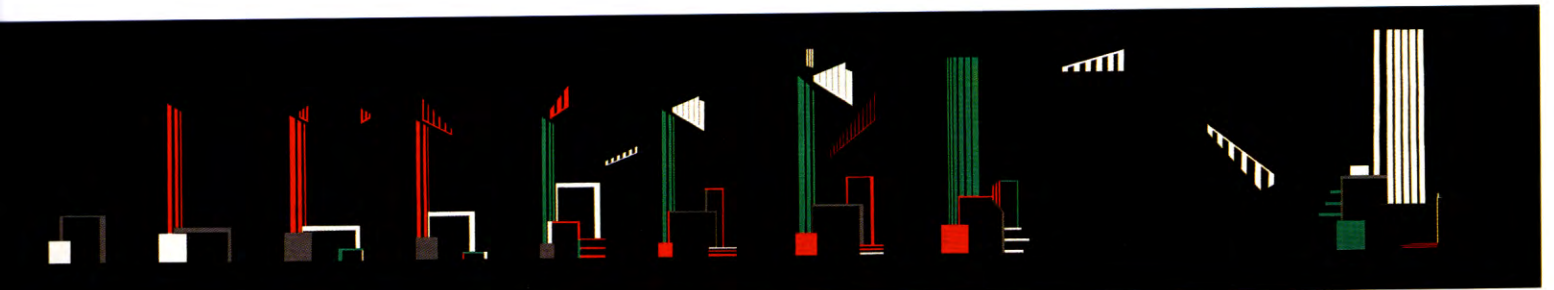
left top and bottom  
Walter Ruttmann  
Stills from *Lichtspiel Opus I*, 1919–21  
35mm film, black and white

right  
Still from *Opus II*, 1921  
35mm film, black and white





although abstract, conjure associations with stringed musical instruments, musical staff lines, and machine parts. As they metamorphose from one state into another, they seem to create a completely new language that lies somewhere between the visual and the aural. Artist László Moholy-Nagy wrote that Eggeling discovered “the all-prevailing, revolutionary importance of an esthetic of time in film,” and that “his experiments at first leaned upon musical frames of reference, such as the division of time, regulation of tempi, and over-all structure.”<sup>14</sup> Glancing over the evolution of abstraction from the landscapes of J. M. W. Turner, James McNeill Whistler, and August Strindberg—which began to break down pictorial space and emphasize light, color, and the materiality of the painting medium itself—to Kandinsky’s and Kupka’s fusion of spiritual motifs, synaesthesia, and color theories, one is hard pressed to find anything resembling Eggeling’s elegant and musical visual language.



Hans Richter  
*Fuge in rot und grün*, 1923

Hans Richter  
Strip from *Rhythmus 21*, 1921–24

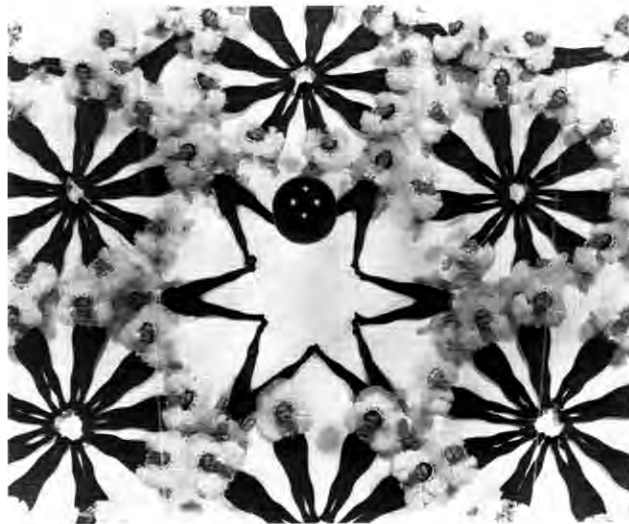
Viking Eggeling  
*Periode II*, from *Horizontal-Vertical Orchestra*, 1919



Most histories of abstraction, while mentioning Kandinsky's and Kupka's interest in visual music and its importance in the formation of nonobjective painting, quickly abandon synaesthesia in favor of tracing abstraction from Russian Suprematism, Vorticism, and Orphism; through Piet Mondrian and De Stijl; to end up in postwar New York with Abstract Expressionism and Color Field painting. However, by remaining focused on visual music, another storyline emerges—one that winds its way through New York, London, and, even more importantly, the West Coast of the United States.

A number of factors made California fertile ground for the development of visual music in the 1930s. Among these were the quality of light, the natural beauty of the landscape, the film industry, the presence of Eastern philosophical influences, and the aerospace and technology sectors. These elements, combined with the distance from mainstream American art in New York, created an ideal climate for the pursuit of visual music.

1930s Hollywood was, to a degree, open to the possibilities of interaction with the avant-garde: Disney showed an interest in surrealism and abstraction in the Silly Symphonies of the late 1920s and early 30s, as did Busby Berkeley in his choreography for films such as *Dames* (1934) and *Gold Diggers of 1935* (1935). Experimental filmmakers such as Slavko Vorkapich and Robert Florey worked at the major film studios—Vorkapich as a creator of montage sequences and special effects that were works of art within the larger framework of the feature film, and



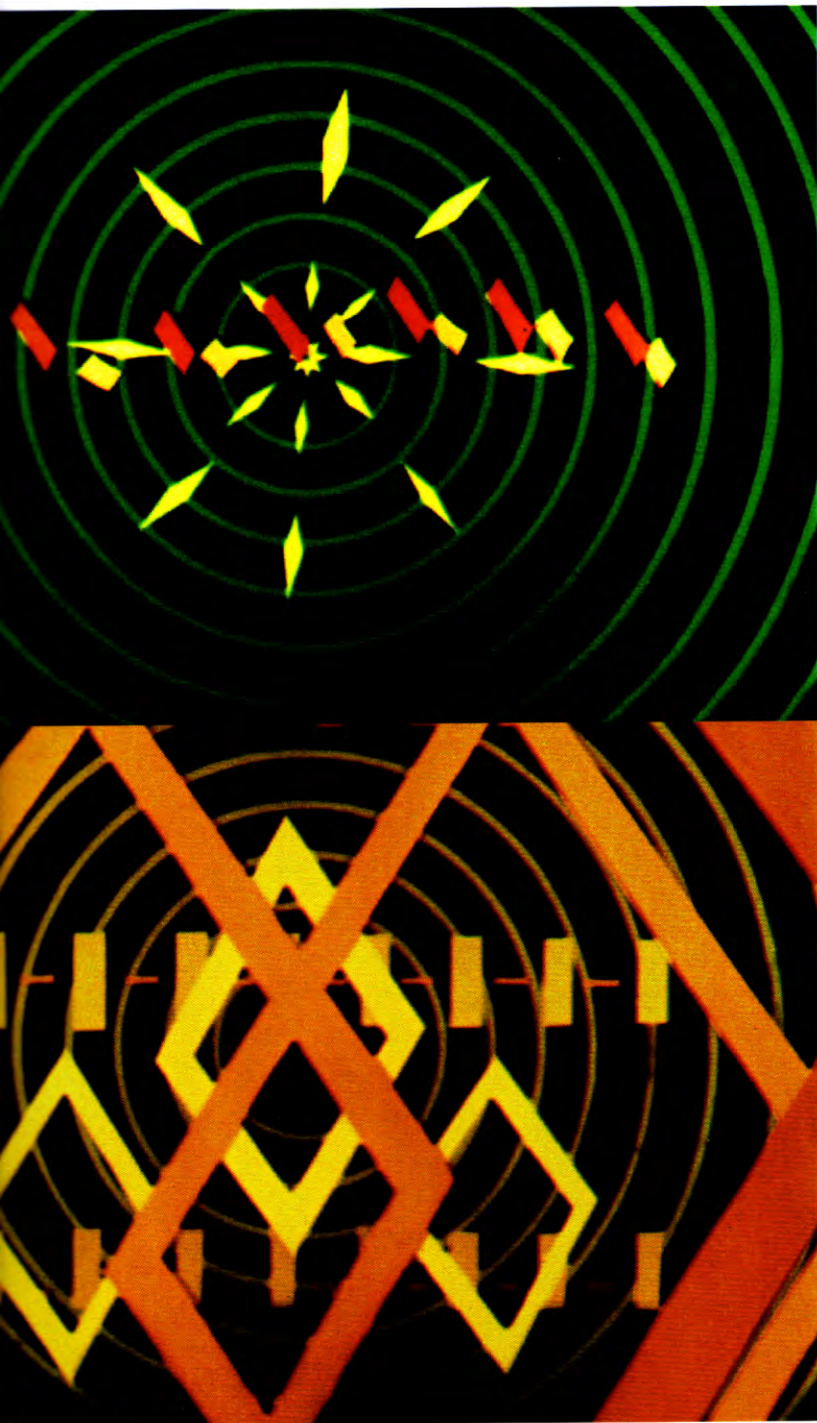
Florey as a screenwriter (*Frankenstein*, 1931) and director (*The Cocoanuts*, 1929; *Murders in the Rue Morgue*, 1932). European exiles arriving in Los Angeles in the mid-1930s revitalized the entertainment business; Expressionist stage producer and director Max Reinhardt, for instance, directed *A Midsummer Night's Dream* (1935) with fellow Viennese William Dieterle. Los Angeles was also home to writers and composers including Thomas Mann and, appropriately enough, Schoenberg, who had through his relationship with Kandinsky been instrumental in launching modern visual music two decades earlier.

Studio heads, their antennae raised for any creativity in the medium of film, were to some degree aware of the European tradition of visual music. The works of Eggeling, Richter, and Ruttmann, as well as some of Fischinger's early films, had already found their way to Hollywood either through experimental-film screenings at such venues as the Filmarte Theatre on Vine Street, through the community of recently exiled Europeans, and even through outright acquisition by the film studios. For example, Fischinger's own *Studie Nr. 5*, made in Germany in 1930, was purchased by Universal Pictures for distribution as a short film to be presented before their features.<sup>15</sup>

Fischinger was brought to the United States from Germany through the persuasive powers of successful German emigrant director Ernst Lubitsch, who, after seeing Fischinger's *Composition in Blue* (1935) and a Muratti cigarette ad done with stop motion, convinced the executives at Paramount to bring the experimental filmmaker to Hollywood. Fischinger's desire to create high art that would still fascinate the average viewer can be seen in his work on *Fantasia* and in the films that he did for the studios. *Allegretto* (1936/43), for example, which was begun when the artist was under contract at Paramount, is set to an orchestral jazz score by studio composer Ralph Rainger. This was a leap from the classical music Fischinger used in Germany—although it should be noted that he already had a tendency to use "popular classics" such as Johannes Brahms's *Hungarian Dances* or Richard Wagner's "Venusberg" music from *Tannhäuser* (1843–44).

Visually, *Allegretto* is clearly influenced by Hollywood films. Working with other studio animators and learning new techniques of cell animation, Fischinger's imagery became more





active, multilayered, and almost cartoonish. Film historian William Moritz, who spent much of his career studying Fischinger, described *Allegretto*:

a background pattern of two overlapping concentric radiating circles, comet-like figures, sparkling and stretching diamonds, a row of teeth-like triangles gliding down one side of the frame like a liberated sound-track, and other sensuous or mechanized motifs, each moving independently. The colors are California colors—the pinks and turquoise and browns of desert sky and sand, the orange of poppies, and the green of avocados. The figures work themselves up into a brilliant and vigorous conclusion, bursting with skyscrapers and kaleidoscopes of stars/diamonds, and every facet of the chic Hollywood design of the thirties. It is a celebration, plain and simple, of the American life style, seen fresh and clean through the exuberant eyes of an immigrant.<sup>16</sup>

Berkeley may have been an influence. His over-the-top dance sequences were extremely popular at the time Fischinger was making *Allegretto*. Although it would be an exaggeration to claim that Berkeley was a visual-music artist in the same vein as Fischinger, he nevertheless demonstrated many of the same concerns: careful integration of sound to image; use of geometric shapes, including a dominance of circular imagery and dynamic lines; and, most of all, a careful analysis of the rhythmic structure of the music itself. As the *New York Times* suggested in 1928, Berkeley “delves into the actual rhythmic structure of jazz to a degree that has not before been attempted. If there can be such a thing as ‘high-brow’ jazz dancing, his creations cannot escape being so catalogued.”<sup>17</sup> If Fischinger was dragging high art into the realm of entertainment, Berkeley was moving low art to high ground.

Fischinger’s work clearly owes a debt to Kandinsky, Kupka, and other abstract painters of the early twentieth century. Despite rejecting painting as a static dead end at the outset of his career after seeing the film work of Ruttmann, Fischinger’s imagery remained throughout most of his career linked to early

opposite and above  
Oskar Fischinger  
Stills from *Allegretto*, 1936

Oskar Fischinger with  
sound scrolls, 1932





18 See Maurice Tuchman, *The Spiritual in Art: Abstract Painting, 1890–1985*, exh. cat. (Los Angeles: Los Angeles County Museum of Art; and New York: Abbeville Press, 1986).

19 Paul J. Karlstrom and Susan Ehrlich, *Turning the Tide: Early Los Angeles Modernists, 1920–1956*, exh. cat. (Santa Barbara: Santa Barbara Museum of Art, 1990), 64.

20 Quoted in Moritz, "The Films of Oskar Fischinger," 183.

visual-music paintings. Like Kandinsky and Kupka, Fischinger's work seems to have one foot in the archetypal imagery associated with mysticism and occultism—such as the cosmic imagery in Robert Fludd's *Utriusque cosmi* (1617) or Leadbeater's *Man Visible and Invisible* (1903)—and the other foot in modern scientific illustration and photography,<sup>18</sup> including Ernst Haeckel's drawings of deep-sea specimens found during his expedition on the *HMS Challenger* and Camille Flammarion's diagrams of multicolored stars in his *Les merveilles célestes* (1865). Ultimately, however, Fischinger's imagery is simpler and more fundamentally geometric than Kandinsky's or Kupka's.<sup>19</sup> This is no doubt due in part to the extraordinary patience and skill needed to animate imagery at twenty-four frames per second, but it also may reflect Fischinger's interest, as evident in films such as *Radio Dynamics*, in forms that take on an anthropomorphic character. Fischinger used the term "body" to describe some of the forms in his work—"Blue body," "red little bodies"<sup>20</sup>—suggesting characters acting out a kind of drama involving complex transformations from one state to another. The temporal nature of film provided abstract painters with a way of reinstating narrative, which had essentially been lost to representational painting. Most of Fischinger's films begin with relatively simple geometric forms that, through expansion and contraction, begin to transform on multiple planes, climaxing in pyrotechnical explosions of color and flicker.

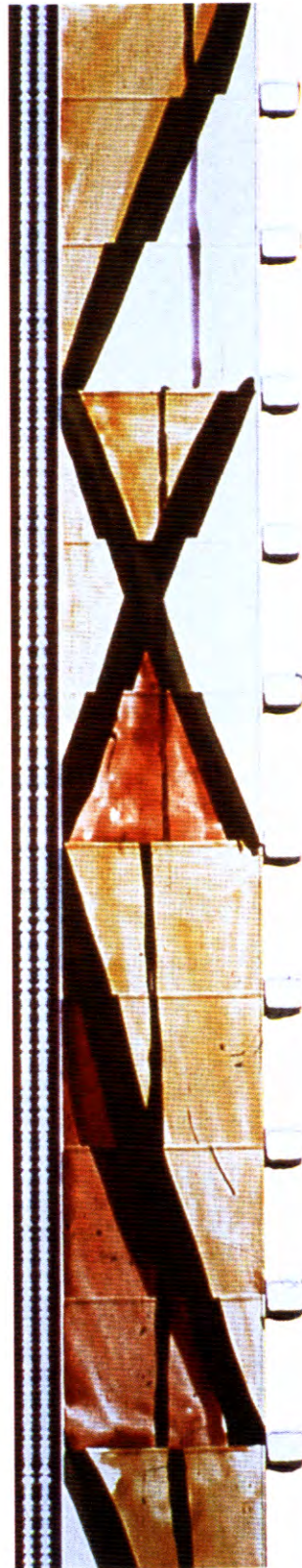
While Kandinsky could only suggest movement in a fragmentary way through repeated forms and lines, Fischinger was able to create an actual kinetic art in which each motion sequence is complete. Fischinger developed a language that relied as much on visual interconnections over time as within a single moment and used the overwhelming scale of the silver screen to highlight opposing arcs of movement. This new language set the sacred geometries of early abstraction in motion in a way that also seemed to capture the complexity, diversity, energy, and chaos of modern life. If Kandinsky's abstraction seemed to tap into some hidden outer sphere of man's consciousness, Fischinger brought abstraction back down to earth. His use of star shapes, concentric circles, diamond patterns,



rapidly alternating opposite colors, and Fourth of July—like fireworks, along with music ranging from orchestral jazz to John Philip Sousa marches, gave the work a link to the secular realm as much as the spiritual. In his films there is thus a fusion of the cosmic and the contemporary, of the music of the spheres and the patterns and sounds of modern times. In the hands of Fischinger, abstraction, with all its universal and mystical associations, became a means also of representing contemporary mass culture—just as it did for Berkeley. Indeed, it is this element that prevents Fischinger's films, even his advertising work, from becoming mere parodies or cartoon versions of abstraction.

Fischinger's films shifted abstraction into the arena of the public spectacle. Like baroque waterworks, fireworks, or color organs, they offered the public of the time breathtaking special effects that enveloped the viewers. Seen on the giant movie-palace screen, the films plunged the spectator into landscapes of shapes and colors inhabited not by people and animals but by ever-evolving abstract forms. This was a living abstraction.





For *Fantasia*, Disney wanted to create a visual music that “would go a little further,” that would be “near-abstract, as they call it—not pure. And new.”<sup>21</sup> Disney’s wish would come true, for this is an accurate description of color music in the mid-twentieth century; and it is this corruption, this conflation of high and low tendencies, that gave the underground practitioners of visual music the energy and dynamic will to continue their experiments in musical analogy.

This interest in inventing a new kinetic language within the framework of abstraction can be seen in the work of a number of other filmmakers who in the 1930s were involved in changing the direction of visual music from an avant-garde practice toward a modern mass-cultural phenomenon. Among them was the Swiss color-organ inventor Charles Blanc-Gatti, who, inspired by the Fischinger films he saw at the third Color Sound Research Congress in 1933, made *Chromophonie* (c. 1939), a film that resembled his own color-organ experiments.<sup>22</sup> Blanc-Gatti’s imagery, equating sound with forms resembling musical instruments, no doubt influenced Disney.

But perhaps the most important figure to emerge in the 1930s was the New Zealand-born kinetic artist and filmmaker Len Lye. Working primarily in England for the General Post Office Film Unit, Lye developed a method of painting and staining directly on celluloid. Aware of Ginna and Corra’s ideas, he combined this “direct film” approach, as he called it, with other techniques such as solarization, multiple exposures, new color printing techniques, optical printing, traveling mattes, and scratching, with text messages such as “The Post Office Savings Bank puts a pot of gold at the end of the rainbow.” Lye fused the abstract images he made directly on film with representational documentary footage—ostensibly in the name of advertising. Films such as *A Colour Box* (1935), *Rainbow Dance* (1936), *Trade Tattoo* (1937), and *Swinging the Lambeth Walk* (1939) include rapid-fire nervous imagery (both abstract and representational) collaged into vibrant proto-psychedelic color schemes, intricately synchronized not to classical music but to jazz and Latin rhythms. As elaborate advertisements meant to be screened in movie palaces, Lye’s films, perhaps even more than Fischinger’s, blur the distinction between modern art and



mass culture. They are also among the first films to underscore the nature of the medium itself: watching them the viewer is fully aware of the film stock running vertically through the projector, the jittery registration, the flickering imperfect effects of persistence of vision, and the material quality of the celluloid itself. In this sense, they are precursors not only to the work of filmmakers such as Harry Smith and Pat O'Neill but also to structuralist films of the 1960s and 70s with their insistence on deconstructing the medium.

Lye's rejection of the camera in favor of painting directly on film was also taken up by two San Francisco-based artists, Hy Hirsh and Smith. Like so many filmmakers involved with visual music, Hirsh, who had started his career in Hollywood as a photographer, then cinematographer for Columbia Pictures, was interested in machines and technology; not only was he one of the first to use an oscilloscope to create abstract images for films such as *Eneri* (1953)—a technique also used by experimental filmmaker and visual-music artist Mary Ellen Bute—he also built his own optical printer, a special-effects machine that could print one image onto another.<sup>23</sup> Like Lye, Hirsh fused two separate strains of modern art. On the one hand, films such as *Scratch Pad* (1961) are an extension of Kandinsky's and Kupka's search for a visual equivalent to music and are therefore engaged with abstraction. However, by using the optical printer, Hirsh wove the real world into the symbolic realm of abstraction. This collision of abstraction and representation seems fundamentally correct for film, which is both a material for mark-making and a chemically treated light-sensitive surface that captures twenty-four photographs per second.

One might argue that despite its ability to send abstract painting reeling into the world of motion, the photographed abstract animations of Richter and Ruttmann were actually turning abstract painting into exactly the opposite of what it purported to be; rather than eliminating representational imagery, by photographing abstract shapes these filmmakers were in fact turning abstraction into something that could itself be represented—an image of abstraction rather than abstraction itself. Thus, when Lye and Hirsh began to combine abstraction and documentary footage, they were harnessing





the power of film to fuse abstraction and representation together. Lye's interest in Latin and African music and Hirsh's interest in jazz suggest a similar bridge between the metaphysical side of abstraction and a new concern with mass culture. Indeed, the center of visual-music activity had shifted by this point from the gallery and concert hall to movie palaces and jazz clubs. As film preservationist and historian Michael Friend has suggested, in some sense these visual-music films acted as equivalents not just for the soundtracks on the film, but as a backdrop for the Beat Generation itself: they "demonstrate a great affinity with the experimentalism of the modern jazz that was so frequently recruited to serve as a score."<sup>24</sup>

These crossovers between high art and mass culture were also central to the work of Hirsh's friend, Harry Smith. Artist, filmmaker, and collector of folk music, Smith was an intriguingly mysterious character who, like Hirsh, lived in the Beat area of San Francisco's North Beach. Although the exact dates remain somewhat uncertain, in the early 1940s Smith also began painting directly on celluloid and cutting geometric shapes right into the film emulsion.

I developed certain really complicated hand-painting techniques of which I made only short versions. For example, painting the whole film a certain color and then smearing vaseline on it; and then taking a stylus and scraping designs off. It is possible to get a lot of spirals and curvilinear designs which I was never able to get by cutting off the masking tape; then spraying bleach into the place where the groove was.<sup>25</sup>

Although Smith was deeply influenced by Kandinsky's *Concerning the Spiritual in Art* (1912), his films began to push visual music into a new arena of pop culture and optical sensation. In his early abstract films Smith worked in the "direct film" manner of Lye, which underscored the surface aspects of celluloid, but he was also interested in expanding the fictive space within the film frame. In works such as *Early Abstractions: Film No. 3 (Interwoven)* (1949), his use of constantly shifting, shimmering, vibrating forms exploding from the recesses of pictorial space in sync with the strains of Dizzy Gillespie give us the sense of deep continuous space in a way that Lye's films do not. Malcolm Le Grice has pointed out that while Kandinsky's

abstraction remained linked to landscape painting, Smith's films manage to overcome such conventional references, becoming instead pure color and form.<sup>26</sup> Like Fischinger's and Lye's use of rapidly alternating colors, Smith's films similarly become optical adventures in pulsating light and color that draw attention to the various materials of film-making: light, sound, celluloid, and film frames. Yet there is also something in Smith's abstract works that suggests the primordial, as if abstraction had been returned from the sophisticated language of Kandinsky back to some more fundamental state. "Hand-drawn animation of dirty shapes—the history of the geologic period reduced to orgasm length," as Smith noted.<sup>27</sup>

Like other visual-music practitioners, Smith had many diverse interests ranging from Theosophy and archetypal symbols to sign language, abstract painting, and music of all kinds. Possessing a strongly developed sense of synaesthesia, Smith became interested in sound/image relationships when he was in high school. He also became fascinated by the Salish Indians around Puget Sound, with whom he spent a great deal of time.

In an effort to write down dances, I developed certain techniques of transcription. Then I got interested in the designs in an attempt to write down the unknown Indian life.... Diagramming the pictures was so interesting that I then started to be interested in music in relation to existence. After that I...went to Berkeley, and started smoking marijuana, naturally little colored balls appeared whenever we played Bessie Smith and so forth—whatever it was I was listening to at that time. I had a really great illumination the first time I heard Dizzy Gillespie play. I had gone there very high, and I literally saw all kinds of colored flashes. It was at that point that I realized music could be put to my films.<sup>28</sup>

Evidently Smith would play Dizzy Gillespie records for guests and suggest that each note had a visual counterpart.<sup>29</sup> Like Lye and Hirsh, Smith brought together a number of diverse strains including jazz, Eastern philosophy, and drugs (he used peyote as well as methamphetamines and marijuana) to create a new type of visual music, one no longer moored in classical music and the "great abstraction" of Kandinsky but which embraced indigenous cultures, drug-induced synaesthetic correspondences, and popular music.



**Len Lye**  
Stills from *Tusalava*, 1929  
35mm film, black and white  
9 minutes and 30 seconds  
The Len Lye Foundation,  
New Zealand

page 118 top right  
Harry Smith with his mural at  
Jimbo's Bop City, San Francisco, 1950  
Photograph by Hy Hirsh

pages 118–19  
**Harry Smith**  
Stills from *Early Abstractions:*  
*Films Nos. 1–3*, 1946–49  
16mm film, color, sound  
8 minutes



30 Gene Youngblood, *Expanded Cinema* (New York: L. P. Dutton & Co., 1970), 81.

31 *Ibid.*, 135–36.

32 Stan Brakhage, *Brakhage Scrapbook: Collected Writings, 1964–1983*, ed. Robert A. Haller (New Paltz, New York: Documentext, 1982), 49.

33 *Ibid.*, 51.

34 Olivier Messiaen, quoted in Jonathan W. Bernard, "Colour," in *The Messiaen Companion*, ed. Peter Hill (Portland: Amadeus Press, 1995), 203.

35 For a calm chart of various pitch-to-hue relationships, see the illustration in Olivia Mattis's essay, page 213.

36 Messiaen, interviewed by Claude Samuel, in *Olivier Messiaen: Music and Color*, trans. L. Thomas Glasgow (Portland: Amadeus Press, 1994), 64.

There is a 1950 photograph taken by Hirsh of Smith in front of a mural he designed for the jazz club Jimbo's Bop City in San Francisco; the photograph clearly shows these cultural trajectories all coming together in the mind of the artist. Made up of Fischinger-esque concentric circles (Smith had dedicated one of his films to Fischinger), the mural seems to have sprung fully formed out of Smith's head. Here is visual music not in the gallery or museum, but rather in a public arena where the sound performed in the room animates the visual component. While 1950s abstract painting continued in its conventional form in the work of Abstract Expressionists, and Clement Greenberg insisted on the distinction between the avant-garde and the so-called kitsch of consumer culture, West Coast artists pursued other concerns. Unlike their Abstract Expressionist peers, who had in many ways moved abstract painting toward a negation of the pictorial in order to emphasize the power of the self, filmmakers such as Fischinger, Hirsh, and Smith began merging painting's spiritual dimensions with popular culture; for them art was not so much about the self but rather a commonly shared, egoless experience. Here visual music is found not merely in the work itself, but in the atmosphere of the performance and in the ambience of the space.

Ultimately, these West Coast artists recognized that, with the right stimuli, the most potent form of synaesthesia could occur on a personal level, right inside your head.

### Cosmic Consciousness

Synaesthetic and psychedelic mean approximately the same thing. Synaesthesia is the harmony of different or opposing impulses produced by a work of art. It means the simultaneous perception of harmonic opposites. Its sensorial effect is known as *synaesthesia*, and it's as old as the ancient Greeks who coined the term. Under the influence of mind-manifesting hallucinogens one experiences synaesthesia.

—GENE YOUNGBLOOD<sup>30</sup>

In his seminal 1970 book *Expanded Cinema*, Gene Youngblood attempted to link a number of different trajectories that had developed in art, science, and culture in the 1950s and 60s. Among these was the use of video, computers, and installation

to expand the notion of what cinema could be. Youngblood proposed that because of changes in art and technology we were on the verge of a new "synaesthetic cinema" that would leave behind such conventional and outmoded concepts as narrative and drama for mind-expanding film experiences operating on all the senses. This new "expanded cinema" was multimedia or "intermedia," fusing digital, holographic, video-tronic, and laser technologies, and was at the time in the process of plunging headfirst into a brave new world of heightened consciousness. Youngblood argued that "art isn't truly contemporary until it relates to the world of cybernetics, game theory, the DNA molecule, Heisenberg's Uncertainty Principle, theories of antimatter, transistorization, the breeder reactor, genocidal weaponry, the laser, pre-experiencing alternative futures." But he also suggested that technology was not the end product, only the means. "Man no longer is earthbound. We move now in sidereal time. We must expand our horizons beyond the point of infinity. We must move from oceanic consciousness to cosmic consciousness."<sup>31</sup>

For Youngblood, a new generation of artists involved with visual music—including Jordan Belson, Stan Brakhage, and John and James Whitney—were particularly instrumental in creating this new cosmic consciousness. Of the four, Brakhage was the least involved with new technologies, relying primarily on the medium of film to create very personal visionary works that stake out a new territory in perceptual phenomena and overt optical assaults. No experimental filmmaker before or since has used the medium in such an intense, innovative, and penetrating fashion. Using such techniques as scratching the surface of the emulsion; multiple superimposition; streaks of light; out-of-focus, reversed, even upside-down imagery; and swirling hand-held camerawork combined with a collage technique that wove in such "mythic" imagery as solar flares, forests, the moon, and blood vessels, Brakhage created an alternative to narrative cinema's conventional montage strategies.

Although much of Brakhage's imagery was inspired by music—he even thought at one time of becoming a composer—he ironically rarely used sound in his films.

Some ten years ago I studied informally with both John Cage and Edgard Varèse, at first with the idea of

opposite

#### Stan Brakhage

Strips from *Scenes from Under Childhood (Section Two)*, 1969

16mm film, color, silent

40 minutes

Courtesy of the Estate of Stan



searching out a new relationship between image and sound and, thus, creating a new dimension for the sound track...The more informed I became with aesthetics of sound, the less I began to feel any need for an audio accompaniment of the visuals I was making... Ironically, the more silently-oriented my creative philosophies have become, the more inspired-by-music have my photographic aesthetics and my actual editing orders become, both engendering a coming-into-being of the physiological relationship between seeing and hearing in the making of a work of art in film.<sup>32</sup>

Brakhage's 1958 film *Anticipation of the Night* was inspired by the relationship between the music of Bach and Anton Webern, while *Scenes from Under Childhood*, shot in four parts between 1967 and 1970, is an homage to the French organist and composer Olivier Messiaen, as well as Messiaen's pupils Pierre Boulez and Karlheinz Stockhausen.<sup>33</sup> Messiaen was a synaesthete who saw colors in his mind's eye when listening to, or even thinking about, music.

When I hear music—and it was already like that when I was a child—I see colours. Chords are expressed in terms of colours for me—for example, a yellowish orange with a reddish tinge. I'm convinced that one can convey this to the listening public.<sup>34</sup>

Messiaen's color hearing was not the simple one-color-to-one-scale-tone synthesis of Newton, Castel, or Rimington, in which, say, C was red (Newton, Rimington) or blue (Castel).<sup>35</sup> Rather, Messiaen "saw" multiple colors simultaneously and associated them with scales, modes, and chords; the colors would change, sometimes drastically, when scale or mode was transposed. Messiaen attempted to describe what he saw; taking his own "mode 2" of limited transposition as an example, in the first transposition there were "blue-violet rocks speckled with little gray cubes, cobalt blue, deep Prussian blue, highlighted by a bit of violet-purple, gold, red, ruby, and stars of mauve, black, and white. Blue-violet is dominant."<sup>36</sup> Like Messiaen, Brakhage was apparently affected by synaesthetic responses in childhood.

I recall first hearing shifting chords of sound that corresponded in meaningful interplay with what I was seeing when I was a child in a Kansas cornfield at midnight. That was the first time I was in an environment *silent* enough to permit me to hear "the music of the spheres," as it's called, and visually specific



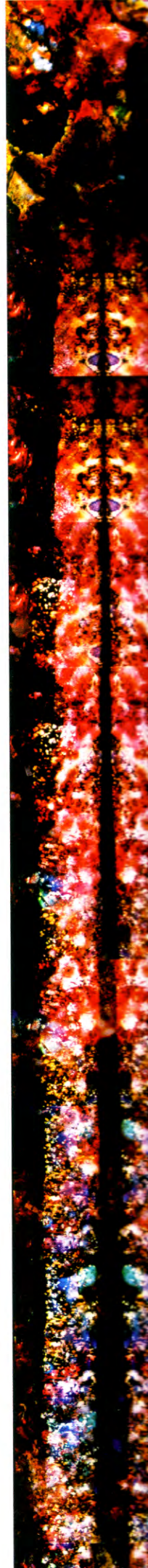
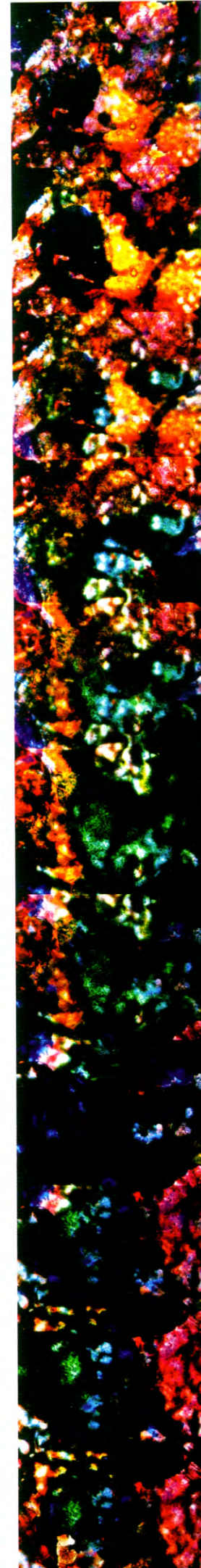
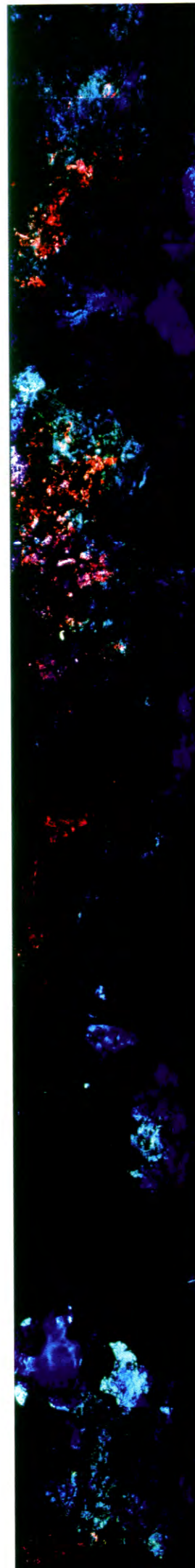


37 Brakhage, *Brakhage Scrapbook*, 51.  
38 *Ibid.*, 51.  
39 *Ibid.*, 248–49.  
40 Phoebe Cohen, “Scenes from Under Childhood,” *Artforum* 11, no. 5 (January 1973): 53.

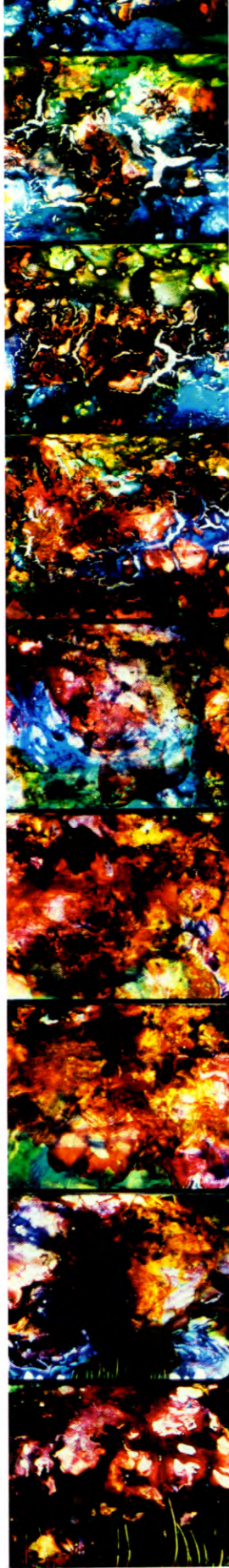
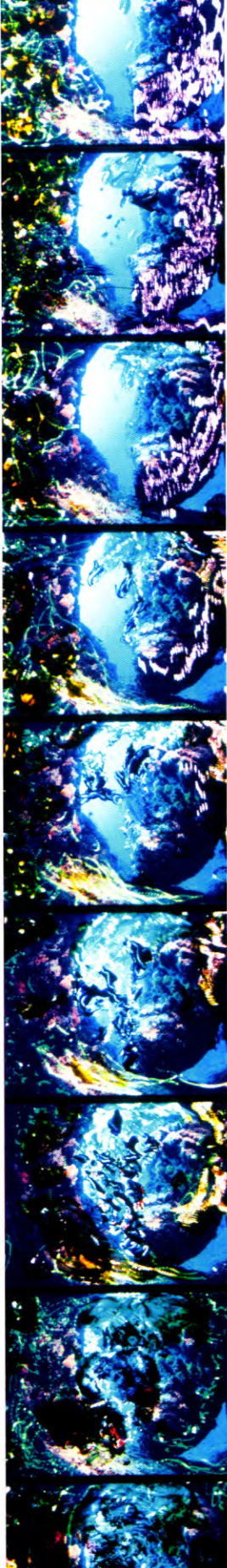
enough for me to be aware of the eye's pulse of receiving image.<sup>37</sup>

Also, like Messiaen's color hearing, Brakhage's synaesthesia was quite complex. For Brakhage, hearing was tied to his nervous system and blood circulation and to the internal pulses of the body. These “pulse-patterns” were distinguished from the “inpulses” of the eye, which had a different “vibrancy” and “rhythm-pattern-flashes” depending on whether the eye was open or closed.<sup>38</sup> This interest in internal pulsations created by synaesthesia seems to be one reason Brakhage's films are in constant motion, a barrage of exploding, flickering, trembling superimpositions that never remain in repose long enough to create any sense of natural spatial logic. Rather, Brakhage created a continually flowing optical experience that produces, even though he often used shots of the world rather than abstract images, an almost hallucinogenic effect for the spectator.

In *Scenes from Under Childhood*, Brakhage attempted to journey backward to his childhood by filming his own children. The artist called it “a visualization of the inner world of foetal beginnings...a shattering of the ‘myths of childhood’ through revelation of the extremes of violent terror and overwhelming joy of that world darkened to most adults by their sentimental remembering of it...a ‘tone poem’ for the eye—very inspired by the music of Olivier Messiaen.”<sup>39</sup> Woven into the superimposed images of daily life are contrasting frames of color: one frame of yellow, for example, followed by a black frame, then a red frame. Like Fischinger's and Lye's use of rapid color changes to create optical effects, Brakhage used color to create pulse or vibration, thereby giving the silent film a musical underpinning. Brakhage also achieved color variations in the daily-life scenes by changing film stock, superimposing images, and using colored filters. Phoebe Cohen has also pointed out how the overall arc of Brakhage's film is centered around a form of contemporary music described by Boulez as “non-architectural.”<sup>40</sup> These compositions avoid classical form and symmetry and instead find their form through raw material that is in “constant evolution.” Brakhage's work denies the viewer any comfortable viewing position; the logic of one-point perspective is shattered in multiple superimposed angles that take on the pulsating quality of a living organism.

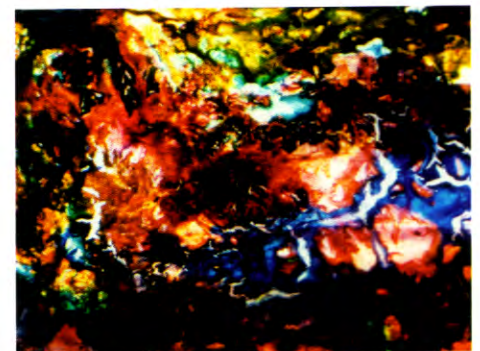
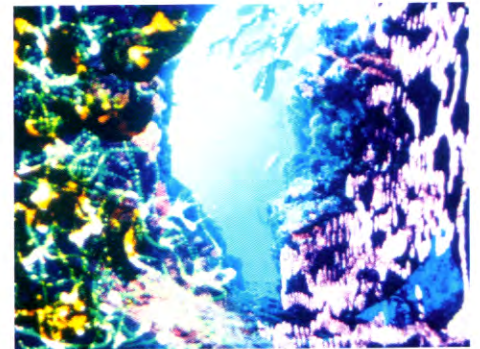






Although Brakhage's work is often associated with Abstract Expressionism, it is perhaps closer in both spirit and form to European abstract work of the 1950s, particularly that of Wols, Henri Michaux, and Georges Mathieu. Associated with movements such as Art Informel and Tachisme, these artists were concerned with the creation of unconscious forms of calligraphy to produce a kind of energy or vibration that bridges the spiritual, poetic, and scientific worlds.<sup>41</sup> Michaux, with his interest in hallucinogenic drugs such as mescaline, seemed to echo Brakhage's approach: "Mescaline provokes a vibratory state, multiple vibrations, almost overwhelming at first, of abnormal amplitude and with a great many points."<sup>42</sup>

Although Brakhage is best known for mythic psychodramas shot with a sixteen-millimeter camera—including *Scenes from Under Childhood* or *Dog Star Man* (1961–64), which Brakhage called a "symphonia" or "visual symphony"<sup>43</sup>—during the last two decades of his life he focused primarily on painting on celluloid, returning to Lye's and Smith's direct film technique



opposite  
**Stan Brakhage**  
Strips from *Chartres Series*, 1994  
16mm film, color, silent  
9 minutes and 30 seconds  
Courtesy of the Estate of Stan Brakhage and [www.fredcamper.com](http://www.fredcamper.com)

Strips and stills from *The Dante Quartet*, "existence is song", 1987  
16mm or 35mm film, color, silent  
6 minutes  
Courtesy of the Estate of Stan Brakhage and [www.fredcamper.com](http://www.fredcamper.com)

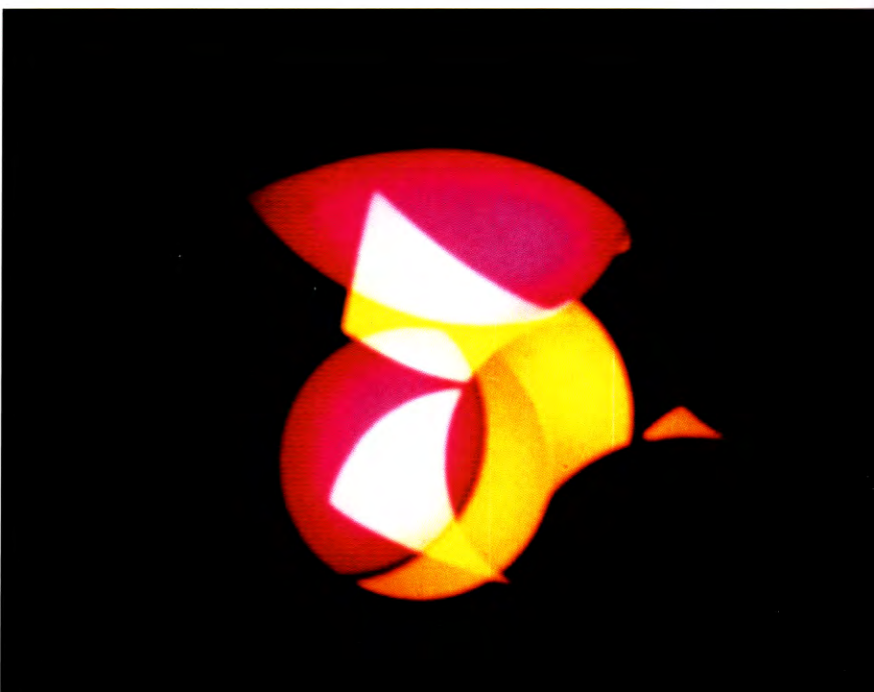
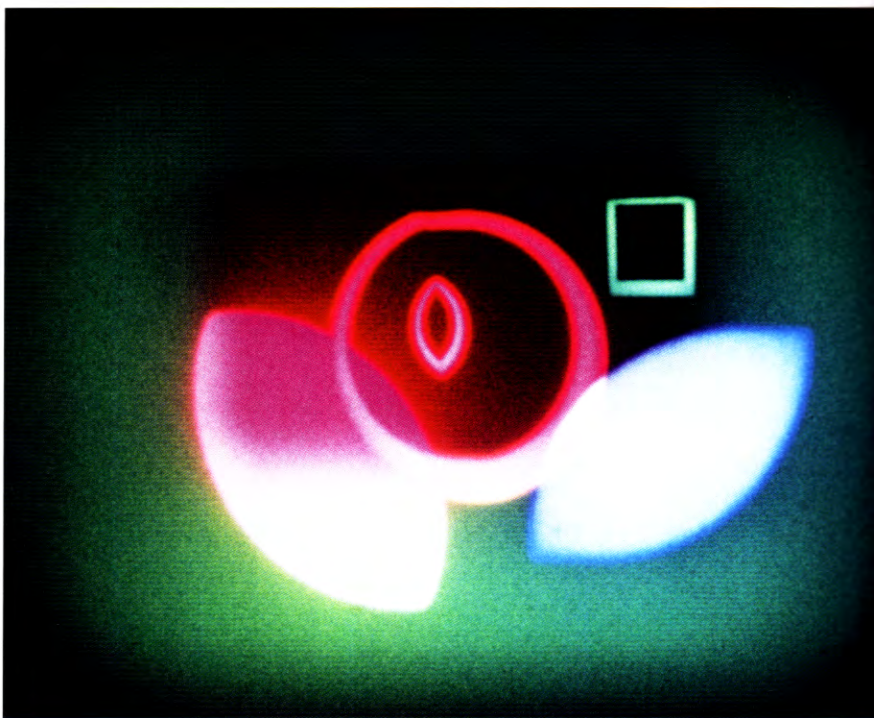


and circumventing the camera altogether. This return to “painting” was partially informed by a growing sense of spirituality and an interest in optical vision, as well as the belief that the pulsation and vibration of light and color can transport the viewer into a metaphysical, weightless, egoless state. Brakhage was also fascinated by Messiaen’s idea that “sounds colour the durations...by unseen ties.”<sup>44</sup> In attempting to describe the closest thing in the visible world to what he saw in his mind’s eye when listening to music, Messiaen chose stained-glass windows:

Stained glass is one of the most wonderful creations of man. You are overwhelmed. And I think this is the beginning of Paradise, because in Paradise we are overwhelmed. We won’t understand God, but we will begin to see Him a little...Real music, beautiful music—you can listen to it without understanding it...You must *feel* it. And here, also, one is overwhelmed—by the shock of the sound.<sup>45</sup>

Like Messiaen, whose often animated music is like colored light cutting through the gloom of a cathedral space, Brakhage created a visual music in his late films that transcends his personal problems with cataracts and the specter of death. Painting directly onto celluloid with colored inks, Brakhage fashioned vibrant yet transparent swirls and splashes of color that allow the stark white light of the projector beam to pass through them, thus illuminating them much as stained glass is illuminated by daylight.

Harnessing light in such a fashion allowed Brakhage to make an artwork based on a lifelong study of Dante Alighieri’s *Divine Comedy* (1307–21). The artist described how he realized that Dante was in his “eyes all the time” and that he had a vision of hell and a way to get out of hell.<sup>46</sup> Perhaps nowhere do we come closer to literally seeing what Messiaen envisioned than in Brakhage’s *The Dante Quartet* (1987). The filmmaker’s polyphonic use of paint and light creates an almost hallucinogenic world, a realm somewhere beyond nameable things—a plane of pure perception in which the viewer begins, as Kupka desired, to resonate “with events and movements throughout the whole universe” to become part of the music of the spheres.<sup>47</sup>





While Brakhage was involved with creating films that would open the doors of perception with the most basic means, two Los Angeles–based brothers, John and James Whitney, were also trying to create a new cosmic film experience by embracing new technology. John, who saw himself as a composer, began making abstract films while studying music in Paris in 1938. Returning to Los Angeles the next year, he and his brother James began to work together, producing short eight-millimeter films. John loved machines and constructed an eight-millimeter optical printer, in addition to devising a system of creating sound from the motion of a pendulum, which was influenced by the serial music of composers including Ernst Krenek.

Synthetic sound had been explored by a handful of composers and artists prior to the Whitneys' experiments. In 1930, at the Scientific Experimental Film Institute in the Soviet Union, for example, music theorists and mathematicians experimented with creating soundtracks by photographing geometric shapes; polyphony was created with double exposures or by splitting the soundtrack into several sound stripes. Eventually, by using more complex abstract forms, whole compositions, such as Sergei Rachmaninov's *Prelude in C-sharp Minor* (1892), could be created from visual images.<sup>48</sup>

Also in 1930, Fischinger began his own series of experiments in turning visual elements into sound. By using a modified camera that was capable of recording black geometric shapes painted on scrolls right onto the film soundtrack, he was able to turn these visual "ornaments" into sound.<sup>49</sup> Fischinger's experiments were carried further by engineer Rudolf Pfenninger, who used pictures of sine and sawtooth waves to create synthetic sound.<sup>50</sup> Although the advent of sound in film in the late 1920s had allowed filmmakers like Fischinger to put music to their images, these experiments in synthetic sound went far beyond synchronized sound by blurring the boundary between sound and image.

John's pendulum system, however, was more intricate than any of these earlier synthetic-sound experiments. Pendulums of differing lengths fitted with adjustable weights were attached by a wire to an aperture in the camera which recorded their movements, thereby creating sound from motion. Using this

system, the Whitneys were able to create a four-octave range of electronically produced tones. In *Five Film Exercises* (1943–44), the Whitneys synched this optically produced sound to images that were produced by light shot through a stencil system devised by James. Using these direct techniques, these early works act as filmic etudes, studies for the brothers to further their art. The results are a completely new type of visual music; in both appearance and sound the works are electronic, aggressive, grating, and almost ruthless in their assault on eye and ear. The images and sound seem inextricably linked. One is not a result of the other; rather, sound is image, and image sound, with no fundamental difference. If Schoenberg's 1908 *Second String Quartet in F-sharp Minor* advanced modern music in one major step in Vienna, the Whitneys' *Five Film Exercises* advanced visual music in one sudden shocking step during World War II.

The Whitneys reenergized visual music by bringing three disparate vectors together: a deeply felt belief in Eastern metaphysics, a scientific curiosity about atomic energy, and an overt interest in new technologies. *Yantra* (1950–57), which took James years to complete, stands at the threshold of the computer age. Its title meaning "implement" or "machine" in Sanskrit, *Yantra* is made up of thousands of small dots created by punching through five-by-seven-inch cards with a pin and then using these stencils to paint patterns on more cards. These atomic-like particles were then brought together in the film using an optical printer to create shifting waves of energy that form, split apart, and reform into mandalic patterns. Having become interested in the self-realization teachings of Sri Ramana Maharshi, James arrived at the conclusion that the cosmic aspects of such thought could only be articulated abstractly in visual music.<sup>51</sup> Like Schoenberg reducing music to the serial row, the Whitney brothers concluded that in order to relieve abstraction from any representational references and go beyond the by-then overly familiar archetypal forms derived from Kandinsky and reprised by Fischinger (whose films the brothers had seen), it was necessary to reduce the image down to its most fundamental state—essentially a point of light, which could then be ordered like a tone row. Indeed, these are no longer images at all, but particles that can be multiplied,

opposite

**John and James Whitney**

Stills from *Five Film Exercises*, 1943–44

16mm film, color, sound

21 minutes

The Estate of John and James Whitney



52 Youngblood, *Expanded Cinema*, 222.

53 Gamwell, *Exploring the Invisible*, 149.

54 Stuart Isaacoff, *Temperament: How Music Became a Battleground for the Great Minds of Western Civilization* (New York: Vintage Books, 2003), 12.

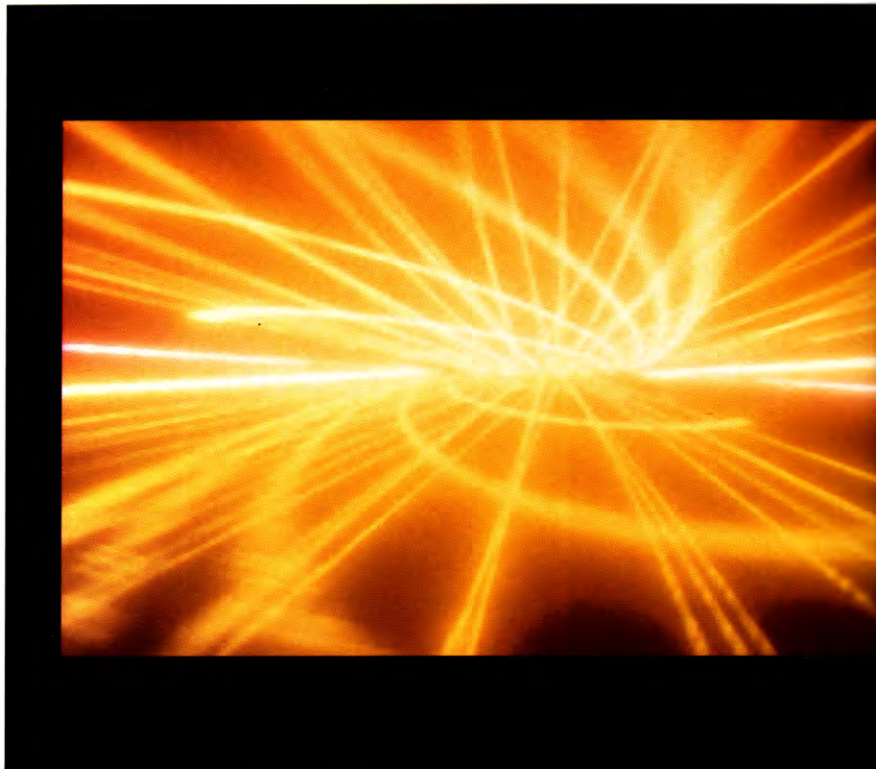
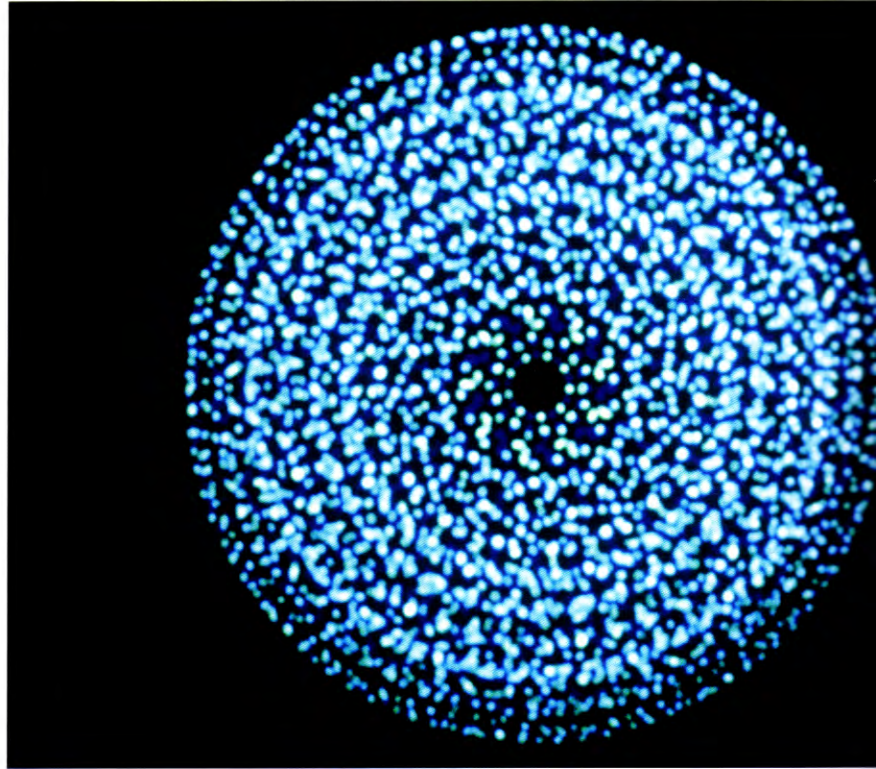
55 John Whitney, *Digital Harmony: On the Complementarity of Music and Visual Art* (Peterborough, New Hampshire: Byte Books, 1980), 26–27.

56 Douglas Trumbull, quoted in Youngblood, *Expanded Cinema*, 153.

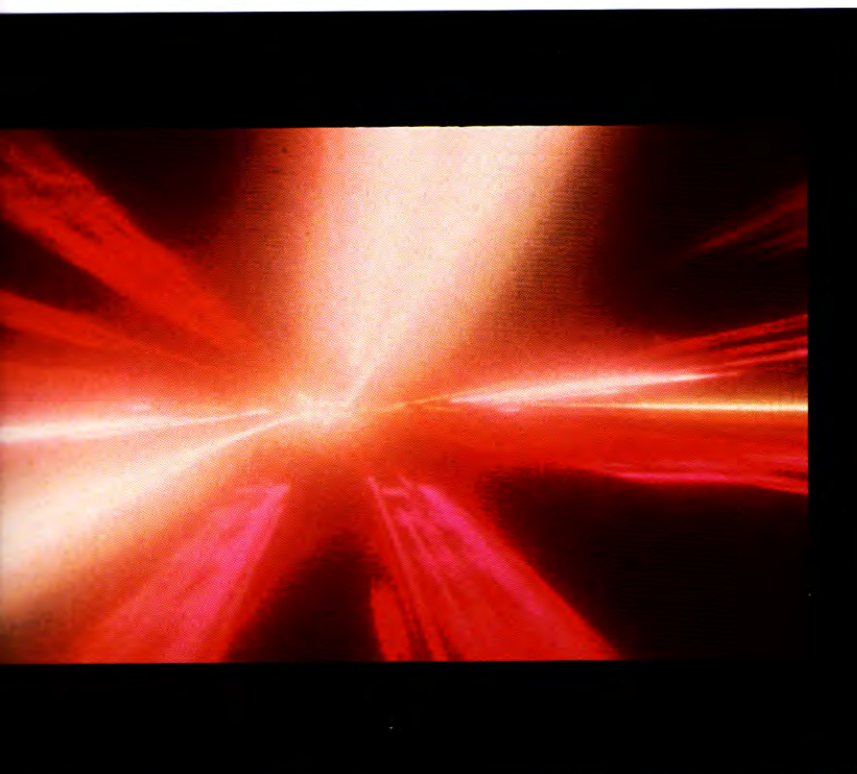
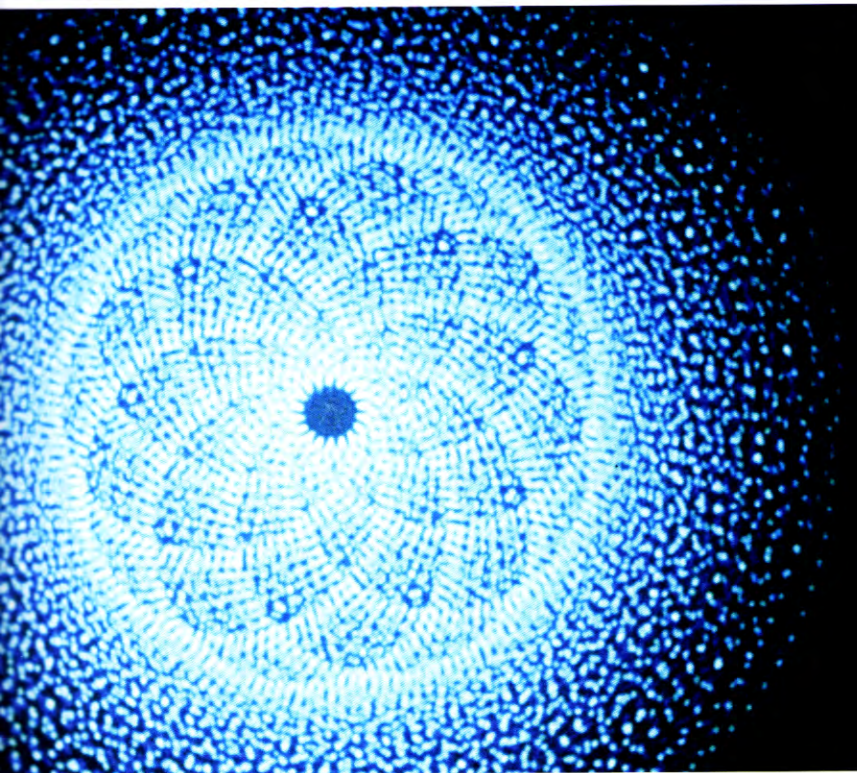
grouped, and manipulated into ghost-like traces of cosmic energy flows.

One of the great visual-music works, indeed, one of the most convincing nonobjective works in the history of modern art, is James's 1963–66 film *Lapis*. The result of the artist's extraordinary ability to shape and form mandalic imagery with his innovative "atomic" language, *Lapis* is, in the words of Youngblood, not just a work of art but "an attempt to approximate mind forms."<sup>52</sup> The success of *Lapis* is partly due to the way it manages to weave art, science, and spirituality together into a coherent visual-music form. From the ancient Greeks on, music has been thought to contain the secrets of the universe; Pythagoras, for example, suggested that the movement of celestial bodies generated a harmonic layering of sounds,<sup>53</sup> and Newton sought to connect such diverse studies as optics, alchemy, astronomy, and religion through the color spectrum, which he in turn related to the musical scale.<sup>54</sup> *Lapis* (Greek for "stone" or "philosopher's stone") seems to continually open up to uncharted territory beyond the known world. With its continually quivering energy particles swimming in a cosmic void and magnetically attracted and repelled around a central mandala form, it seems to be on the brink of revealing some truth about the structure of the universe. For James, these truths lay not in the natural world but in the mind.

The extraordinarily complex macrocosmic forms made up of microcosmic elements in James's *Lapis* would not have been possible without a machine, yantra, in this case an analog computerized optical printer loaned to him by his brother John. From early on in his career, John had tried to find a way of applying Schoenberg's principles of harmony to create visual music. He was convinced that color-music artists had essentially been going down the wrong path, "that no visual action juxtaposed any way against itself, strung out sequentially as a (musical) variation upon itself, or cut into fragmentary figures for contrapuntal use—none of these had the impact that shifting harmonic forces do. In sum, no visual motion worked the way musical motion works." John was certain that the solution lay in technology, "searching ahead toward a single-handed effort to invent a machine that *would* be used as an





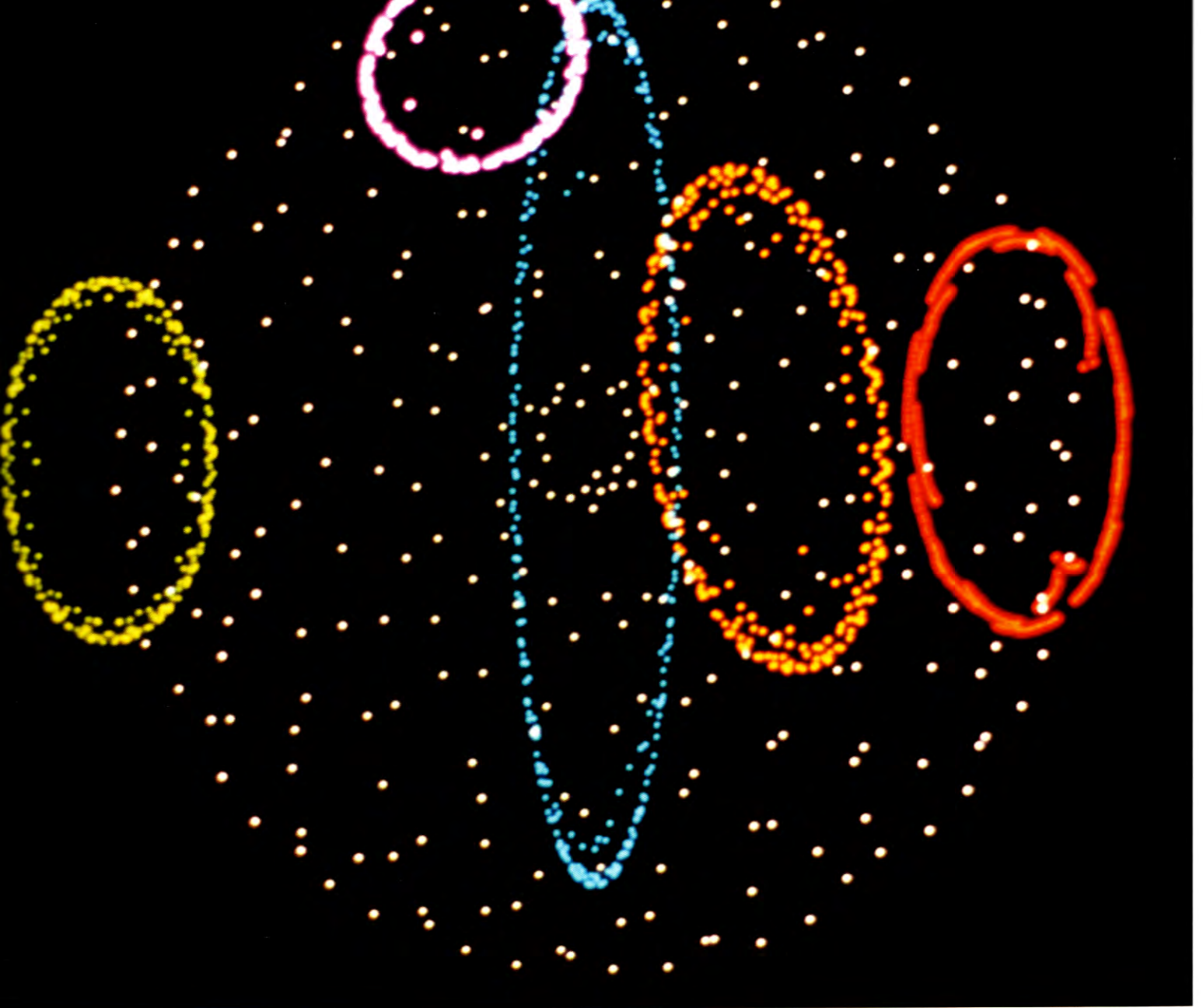


instrument for composing this liquid architecture."<sup>55</sup> Extensive and complex motion control was, John felt, necessary to achieve this goal; harmony was not created by a single chord but a series of chords heard in motion that shape time. Ultimately, he turned to using World War II anti-aircraft motion-control devices and analog computer-graphic systems, which gave him a means of creating motion with a complexity and visual fluidity far beyond what had been possible for Fischinger, with his more conventional animation techniques. John's experiments in this area in the 1950s and 60s, and ultimately in digital technology as well, led to his own visual-music films, including *Permutations* (1968) and *Arabesque* (1975), as well as his son John Whitney Jr.'s 1965 triple-screen film *Side Phase Drift*, which created a more immersive experience.

John's work influenced the special-effects artists of Hollywood. In 1958, designer Saul Bass approached him to create the geometric Lissajous spirals that swirl out of an eyeball in the title sequence to Alfred Hitchcock's film *Vertigo* (1958). Set to Bernard Herrmann's emotive score, the cool, mathematical Lissajous forms, created using a pendulum, seem to represent the rational spiraling out of control. The title sequence, with its interrelated imagery and sound, remains a powerful expression of visual music within the context of commercial cinema. A decade later, special-effects artist Douglas Trumbull borrowed some of John's techniques to create the "stargate corridor" sequence in Stanley Kubrick's *2001: A Space Odyssey* (1968). This well-known sequence used Whitney's process of "scanning slits that move across the lens creating optical warps."<sup>56</sup> Indeed, this section of Kubrick's film—set to Gyorgi Ligeti's 1961 composition *Atmospheres*—is probably the closest thing since the Bach sequence in *Fantasia* to pure visual music in a feature film. With its negation of conventional tonality through a dense layering of sounds, Ligeti's music successfully echoes the colorful hallucinogenic ride down Kubrick and Trumbull's corridor. Considering that *2001* helped launch a new era of special-effects-oriented cinema, it is not an exaggeration to say that much of what feature film has become today is the direct result of the cosmic-oriented visual music of early analog and digital-effects pioneers such as the Whitneys.

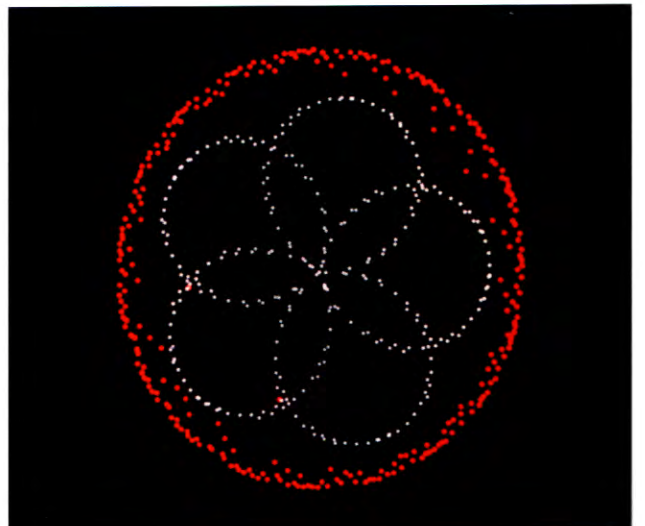
top right  
Still from title sequence of  
*Vertigo*, 1958  
Directed by Alfred Hitchcock





The Whitneys' films moved visual music to a new place: if Kandinsky's abstraction was still grounded in the world as a kind of fragmentation and reconstitution of landscape, and if Fischinger's films still relied on relatively arbitrary links among shapes, colors, and sounds, the Whitneys' films seem to create a kind of ideal world, a universe of linked senses in which all elements—sound, shape, color, motion—are no longer merely related but are absorbed into one another. Their films do not refer to the actual world but instead use optical effects to pluck at the musical inner mind and allow each viewer to become a synaesthete.

The Whitneys' attempts to create a cosmic cinema were also the driving force behind the work of San Francisco-based





57 Jordan Belson, interview by Scott MacDonald, in *A Critical Cinema 3: Interviews with Independent Filmmakers* (Berkeley: University of California Press, 1998), 71.

58 David E. James, *Allegories of Cinema: American Film in the Sixties* (Princeton, New Jersey: Princeton University Press, 1989), 127–28.

59 Belson, interview by MacDonald, in *A Critical Cinema 3*, 77.

60 *Ibid.*, 77–78.

61 Belson, quoted in Youngblood, *Expanded Cinema*, 158.

62 Belson, interview by MacDonald, in *A Critical Cinema 3*, 72.

63 For listings of Vortex performances, see the website “The History of Experimental Music in Northern California,” specifically “Vortex 4,” program notes, May 1958, [http://www.mcs.csuhayward.edu/~tebo/history/50s&60s/Vortex/Vortex\\_4.html](http://www.mcs.csuhayward.edu/~tebo/history/50s&60s/Vortex/Vortex_4.html); and “Vortex 5,” program notes, January 1959,

[http://www.mcs.csuhayward.edu/~tebo/history/50s&60s/Vortex/Vortex\\_5.html](http://www.mcs.csuhayward.edu/~tebo/history/50s&60s/Vortex/Vortex_5.html).

64 Belson, interview by MacDonald, in *A Critical Cinema 3*, 73.

Jordan Belson. Like Fischinger, Smith, and the Whitneys, Belson found Eastern metaphysics essential to his art:

Yoga was the key to it all. Hatha yoga gives you a system and a very clear, precise technique for developing the spiritual side to your consciousness. It does this through physical exercises, and by various precepts and codes of behavior. I stopped eating meat and became a vegetarian, an extremely important step—but unfortunately, especially at that time, a step out of society. My theory was that if I could refine and perfect myself, I would become a better artist.<sup>57</sup>

If the Bay Area Beat aesthetic was informed by jazz, it also had roots, like Los Angeles, in Asian metaphysics. David E. James has suggested that artists like Smith and Belson embraced these meditational practices because they provided a pure and untainted alternative to the ego-driven materialist ideologies of the West.<sup>58</sup> We might carry this further and see the acceptance and practice of Eastern religions as an artistic approach in opposition to New York and its insistence on the heroic autobiographical gesture embedded with layers of the artist's ego. The use of film to create abstraction, as opposed to the physicality of paint and canvas, was also part of this rejection of traditional approaches. On the West Coast, out from under the shadow of New York, visual music, with its metaphysical underpinnings, thrived.

While the Whitneys used contemporary technology to push visual music into new cosmic dimensions, Belson arrived at a similar place through the use of both old and new technology, including standard animation, optical printing, lasers, and liquid crystals.<sup>59</sup> Unlike the Whitneys, whose small atomic globules seem to spotlight new technology, Belson never used an image that bespoke its origins. Rather, his films from *Allures* (1961) on feature geometric transformations, solar imagery, frequent color shifts, nebulous swirls of cloud-like forms, and planetary circulations that seem not to be machine-made but rather to spring from some kind of natural phenomena, as if Belson was able to point the camera at himself and film these organic cosmic images straight out of his mind. Like the Whitneys, he desired the elimination of representational imagery and any association with the real world:

I tried to be pretty ruthless about eliminating any images where the means by which the imagery was obtained was obvious. I didn't want the viewer to be more aware of the process than of the event taking place on the screen.... I like a convincing illusion. I don't want there to be *any* ideas connected to my images, and if there *are* any there, if anybody sees any, those are entirely in the eyes of the beholder.... Actually, the films are not meant to be explained, analyzed, or understood. They are more experiential, more like listening to music.<sup>60</sup>

In his use of electronic sound, often created by Belson himself, the music-to-image relationship became extremely tight. As he explained, “You don't know if you're seeing it or hearing it.”<sup>61</sup>

In 1957, Belson was approached by electronic composer Henry Jacobs with the idea of using the Morrison Planetarium in San Francisco, with its powerful projectors and multidirectional sound system, to create audiovisual performances.<sup>62</sup> The Vortex concerts featured electronic music by Luciano Berio, Jacobs, Ligeti, Stockhausen, and Toru Takemitsu, among others, as well as Afro-Cuban music, accompanied by projections using color, film (Belson's own along with that of James Whitney, Hirsh, and others), and star effects generated from the planetarium's own systems. These innovative performances seemed to strike a nerve in the audiences of the time and attendance grew rapidly.<sup>63</sup> The planetarium staff even developed new equipment for the artists, including a device that created interference patterns, and engineers from Stanford University were brought in to build a special rotary-controlled device that swirled the music around the room from speaker to speaker in the manner of a vortex.<sup>64</sup> Using several projections simultaneously, images from a variety of sources could be superimposed to create strikingly complex effects:

We could tint the space any color we wanted to. Just being able to control the darkness was very important. We could get it down to jet black, and then take it down another twenty-five degrees lower than that, so you really got that sinking-in feeling. Also we experimented with projecting images that had no motion-picture frame lines; we masked and filtered the light, and used images that didn't touch the frame lines. It had an uncanny effect: not only was the image free of the frame, but free of space somehow. It just hung there three-dimensionally because



there was no frame of reference.... We were able to project images 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.<sup>65</sup>

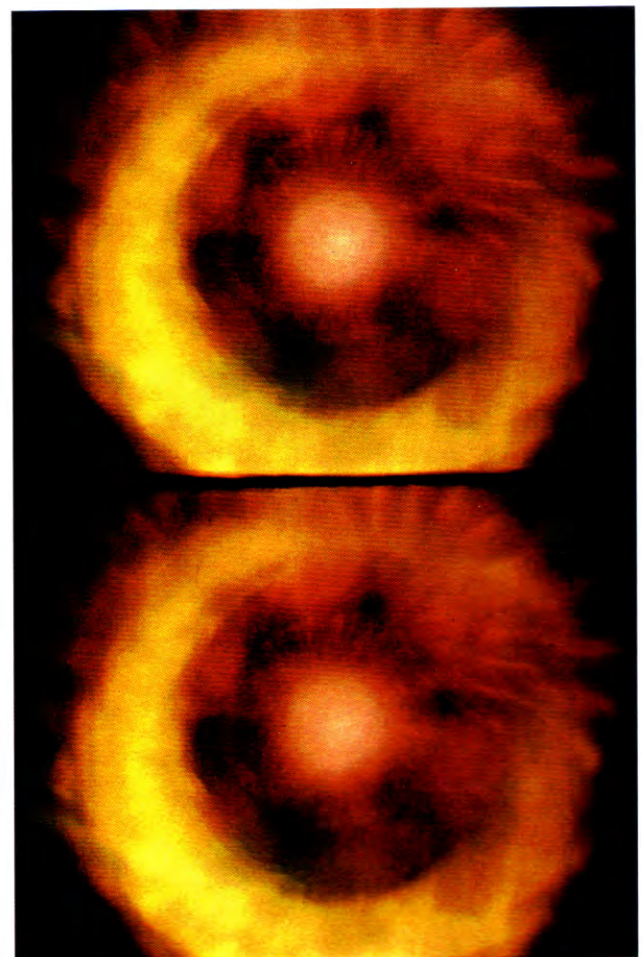
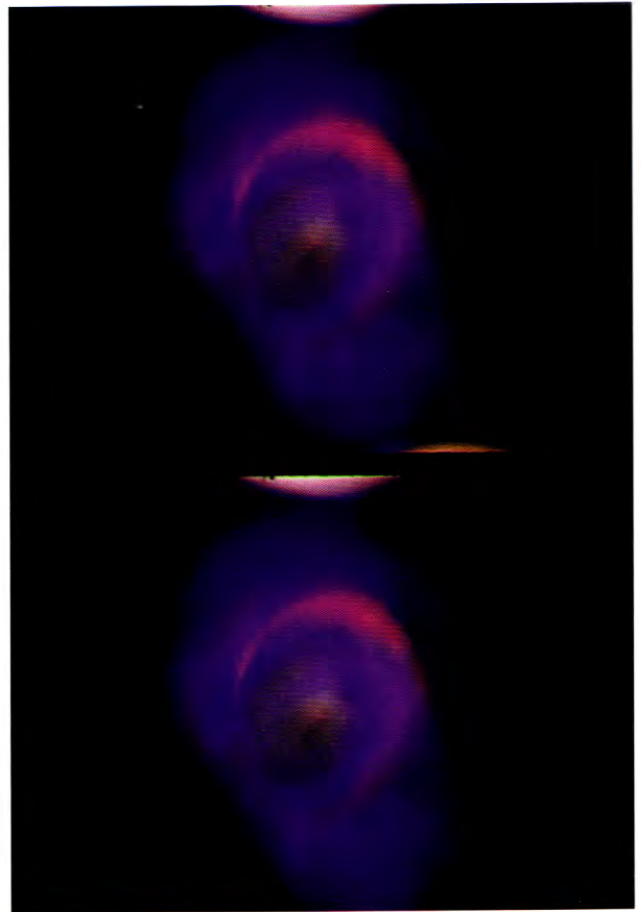
The dissolving frame line stands almost like a metaphor for the concerts themselves, which were breaking down the boundaries between painting and cinema, fictive space and real space, entertainment and art. Like the electronic composers of the time, who used technology to create directional “concrete” music that existed dimensionally in multiple spaces, Belson and Jacobs were moving visual music from the screen out into three-dimensional space.

After a run of three years and over 100 performances, including a stint at the 1958 Brussels World's Fair, *Vortex* shut down, but not without leaving a considerable legacy and influencing Belson's future work. Films such as *Re-entry* (1964)—named for John Glenn's 1962 orbit flight as well as Belson's own return to filmmaking after a hiatus following *Vortex*—*Phenomena* (1965), and *Samadhi* (1966–67) plunge the viewer into the depths of the cosmos, capturing something of the immersive nature of *Vortex*. The environmental aspect of the concerts and the breakdown of the rectangle of the film frame, which, as Jacobs suggested, “allows the receiver to create even more excitingly than the communicator,”<sup>66</sup> set visual music off in another direction, one that would attempt to involve the spectator in more fundamental ways, altering his or her consciousness to a greater extent.

### Into the Vortex

It was fun—like taking a silent movie and putting music to it. Everything gets into sync, and you sync it in your mind—and the audience did that visually with the light show. They synched what they saw on the screen to what they were feeling, and, especially when people tended to take a lot of drugs, the very abstraction of the light show gave each person a personal experience. —JOSHUA WHITE<sup>67</sup>

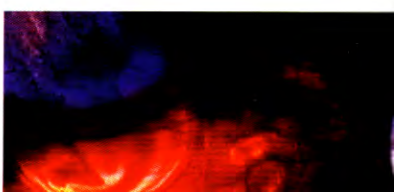
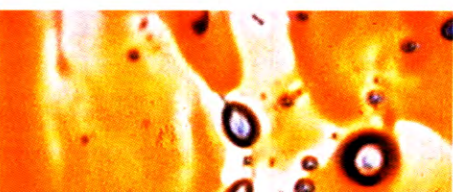
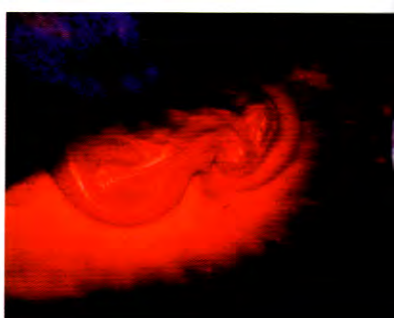
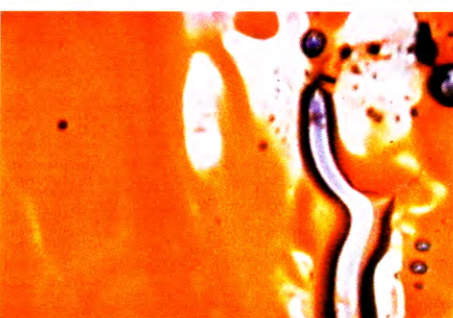
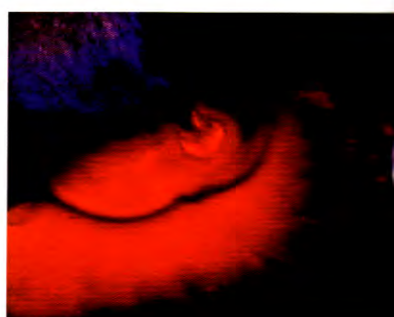
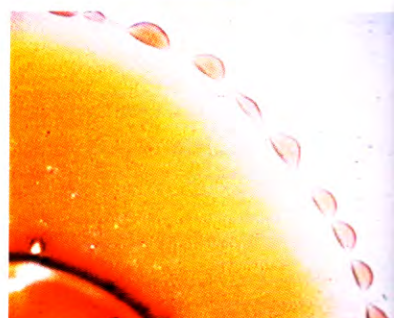
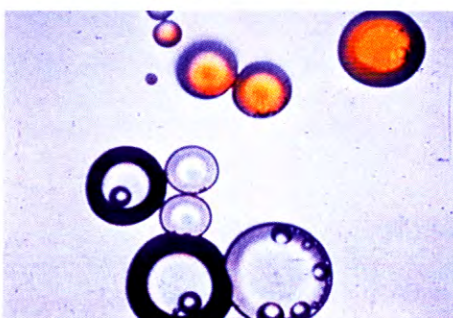
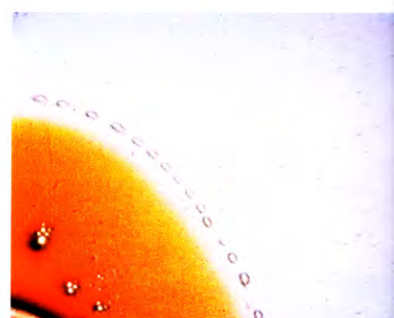
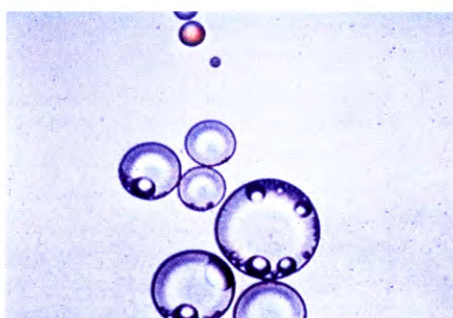
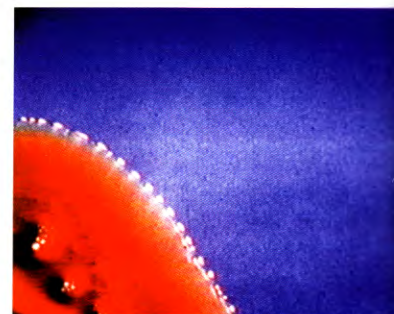
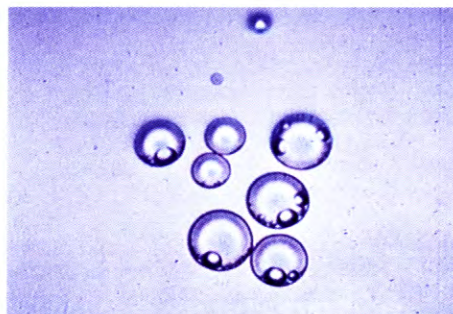
Brakhage, the Whitneys, and Belson were all interested in the transformative power of abstraction in motion and its correlation to music. Their film work of the 1950s and early 60s



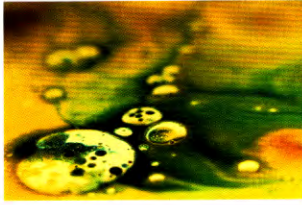
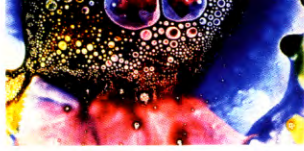
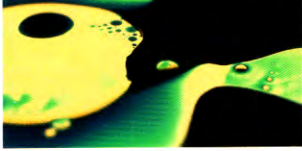


demonstrates a similar trajectory of breaking down the conventional restrictions of painting: stillness giving way to constant motion, references to landscape into totally non-objective work, line into color and amorphous forms, music as accompaniment into synthetic sound/image relationships, the two-dimensional space of the canvas into deep space. Ironically, while the films were taking visual music into ever-increasing nonobjectivity, they were also in another sense becoming more and more "real" in a physical sense. As abstraction shifted from a concern with "depicting" things, whether sacred geometry or some organic shape, to something that operated directly on the viewer's optic nerves, the distance between the viewer and the art object closed. Art was now beginning to operate directly on the body and mind. As such, these films must be seen as extensions of shifts in the general culture. Visual-music films are fundamentally bound with what Youngblood termed the "Paleocybernetic Age," an era in which television was beginning to shrink the world, computers were beginning to extend the human mind, and space travel was suddenly possible. In such a brave new world, with its concomitant breakdown of religious belief systems, a young generation began turning to alternative forms of spirituality while simultaneously embracing mind-expanding drugs and innovative technology. A new state of consciousness could be achieved by creating a supersensory environment. It was a path that had already been well paved by visual music, and it was then on the verge of exploding into the new, expansive art form of the light show.

The Vortex concerts were only one of a number of experiments conducted in 1950s and early 60s that were shaping this new form of visual music. Comprising elements from painting, film, color-organ performances, coffeehouse jazz concerts, electronic-music events, rock music, performance art, Happenings, Actions, underground Beat poetry readings, and scientific experiments, the light show drew together a wide variety of practices in an attempt to create an immersive visual and sound experience. The light show offered a neutral place in which high art and popular culture, abstraction and representation, the scientific and spiritual, the electronic and natural, and the visual and aural could all be collaged together in a vast







swirling eddy of overlapping sensations. It was the ultimate synaesthetic experience, one that attempted through the hallucinogenic to blur the distinction between sound and image, interior and exterior.

The psychedelic light show rejected the materialist art object in favor of the ephemeral Happening, the commercial gallery for the underground space. Like so much visual music from the 1930s on, light shows blended the cool carefree attitude of the pop arena with the seriousness and mysteries of high art, uniting both with the new media theories of Marshall McLuhan and Buckminster Fuller. With the light show, the interest in sacred geometry and cosmic archetypes that had been prevalent among artists from Kandinsky to Belson finally burst out of the confines of art and flowed into a sea of mass culture—high and low becoming meaningless definitions. All of this was, of course, driven by the music, from jazz in Venice Beach coffeehouses to electronic music at the San Francisco Tape Music Center, from Soft Machine concerts at UFO in London to Virgil Fox playing Bach on the organ at Fillmore East in New York. In these events, painting, film, color organs, and music came together; light-show artists even took their names from visual music: Wilfred's lumia, for example, became the lumia performances of Thomas Shoesmith's light shows at the Fillmore East.<sup>68</sup>

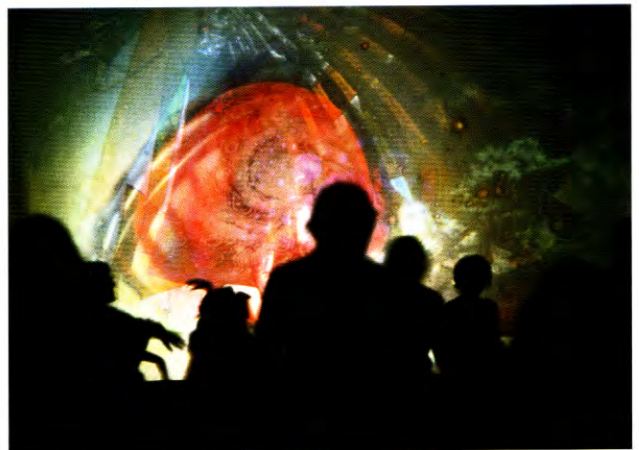
As early as 1952, a professor from San Francisco State College, Seymour Locks, taught a course called "Light and Art" in which he demonstrated to his students the possibility of creating motion painting by swirling colored liquids in a dish and casting the "painting" on a wall by means of an overhead projector while a jazz group improvised a musical accompaniment.<sup>69</sup> Two of Locks's students presented a similar performance in Los

69 See Amanda Scotese, "Visual Riot: Live Projected Art in Clubland," *San Francisco Bay Guardian*, <http://www.sfbg.com/Guides/bars03/visual.html>.

71 Charles Perry, *The Haight-Ashbury: A History* (New York: Vintage Books, 1985).

Angeles, which art student and poet Elias Romero saw. In 1958, Romero began doing light shows in Los Angeles Beat hangouts and by 1962 was performing in San Francisco in galleries and coffeehouses, where he used inks, oils, vinegar, and other liquids, sometimes with poetry and other times with percussion or taped music.<sup>70</sup> Romero's building manager was Bill Ham, an abstract painter who also became fascinated by the light-show concept.<sup>71</sup> By 1966, when Chet Helms opened the Avalon Ballroom, Ham began performing his light shows there using not only liquids but film and slides, and the stage was set for the explosion of the psychedelic light show.

As it had with the Vortex concerts, electronic music played a role in the formation of the light-show phenomenon. In the early 1960s a group of electronic composers in San Francisco—including Laurel Johnson, Pauline Oliveros, Ramon Sender,



left  
**Bill Ham**  
Details of *Light Sound Dimension*, improvised performance in San Francisco, 1968  
Seven overhead projectors and rear-projection screen  
Screen: 12 x 22 feet  
Courtesy of the artist

right  
Details of *Original San Francisco Rock Dance Light Show*, *Avalon Ballroom*, San Francisco, 1966  
Improvised performance with musicians, dancers, overhead projector, liquids, slides, films, strobe lights, and black lights  
Courtesy of the artist

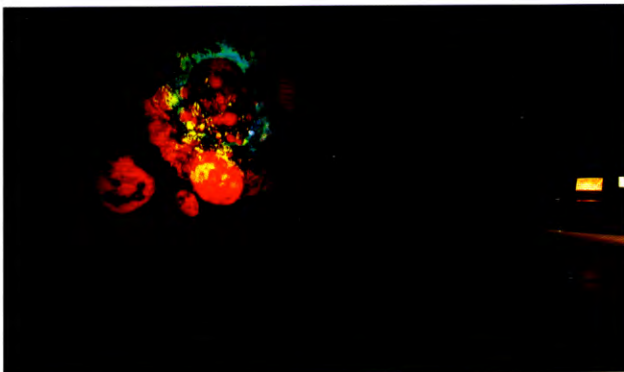


(Upper Saddle River, New Jersey: Prentice Hall, 1997), 86–90.

73 J. L. Locher, "Mark Boyle's Journey to the Surface of the Earth," in

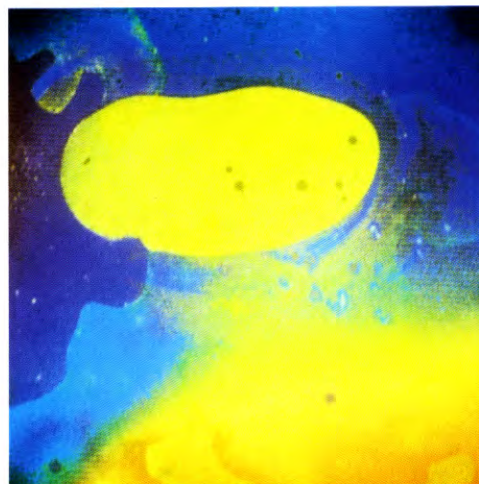
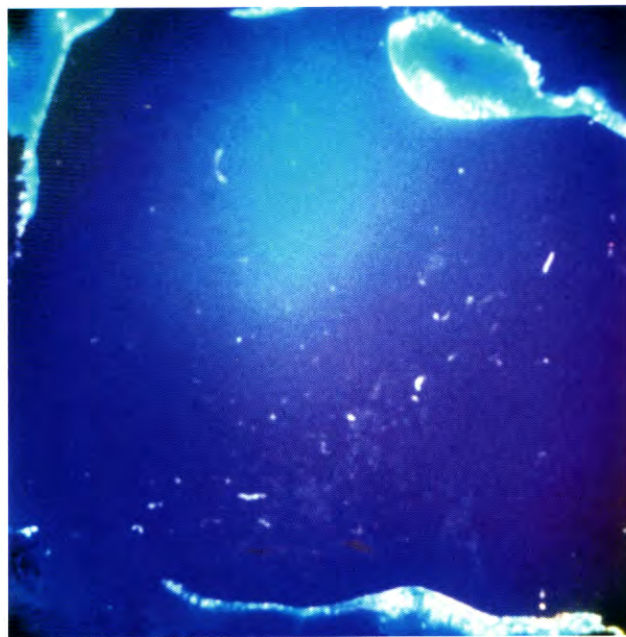
*Journey to the Surface of the Earth: Mark Boyle's Atlas and Manual*, exh. cat. (The Hague, The Netherlands:

www.boylefamily.co.uk/boyle/texts/journey2.html.  
74 Rothschild, *Live at the Fillmore East*, 23.



Morton Subotnick, and Phil Winsor—formed a group called Sonics, which later became the San Francisco Tape Music Center. Working with multimedia artist Tony Martin, the group created a series of Happenings held at various locations around San Francisco, eventually finding a semi-permanent home in auditoriums on Divisadero Street. Using liquid projections, overhead projectors, and films, Martin created visual equivalents for the electronic sounds of Steve Reich, Terry Riley, Sender, and Subotnick, among others.<sup>72</sup>

The light-show phenomenon grew roughly simultaneously in San Francisco, Los Angeles, New York, and London, although the style of the presentations differed from city to city. In London, artists such as Mark Boyle and Joan Hills, as well as Gustav Metzger, created light shows as art events and for rock concerts ranging from Soft Machine, Pink Floyd, and the Who. Their shows used volatile chemical reactions to unleash uncontrollable corrosive and destructive forces. In San Francisco, on the other hand, light-show artist Glenn McKay had a more refined, painterly approach, carefully combining slides and film with colored liquids to create, in the words of Boyle, who performed once with McKay on a double bill in 1968, "constellations of colour and activity that changed slowly, with a huge central area, say of violet, throbbing gently and then frenetically with, at its centre, the image of a golf ball projected by 8mm film."<sup>73</sup> In New York, the light show was dominated by an interest in the qualities of light itself, as Joshua White, William Schwarzbach, and Shoemith, all of whom participated in the Joshua Light Show, "had all been 'techies'" at Carnegie Institute of Technology in Pittsburgh and Columbia University.<sup>74</sup>



opposite bottom right

**Tony Martin**

Live improvisation, detail of 15-minute multiple projection, San Francisco Tape Music Center, San Francisco, 1966  
Two overhead projectors and slides  
14 x 20 feet  
Courtesy of the artist

left

**Glenn McKay**

Installation view, *Altered States—Light Projections*, 1966–99  
Courtesy of the San Francisco Museum of Modern Art, San Francisco

right top and bottom

**Gustav Metzger**

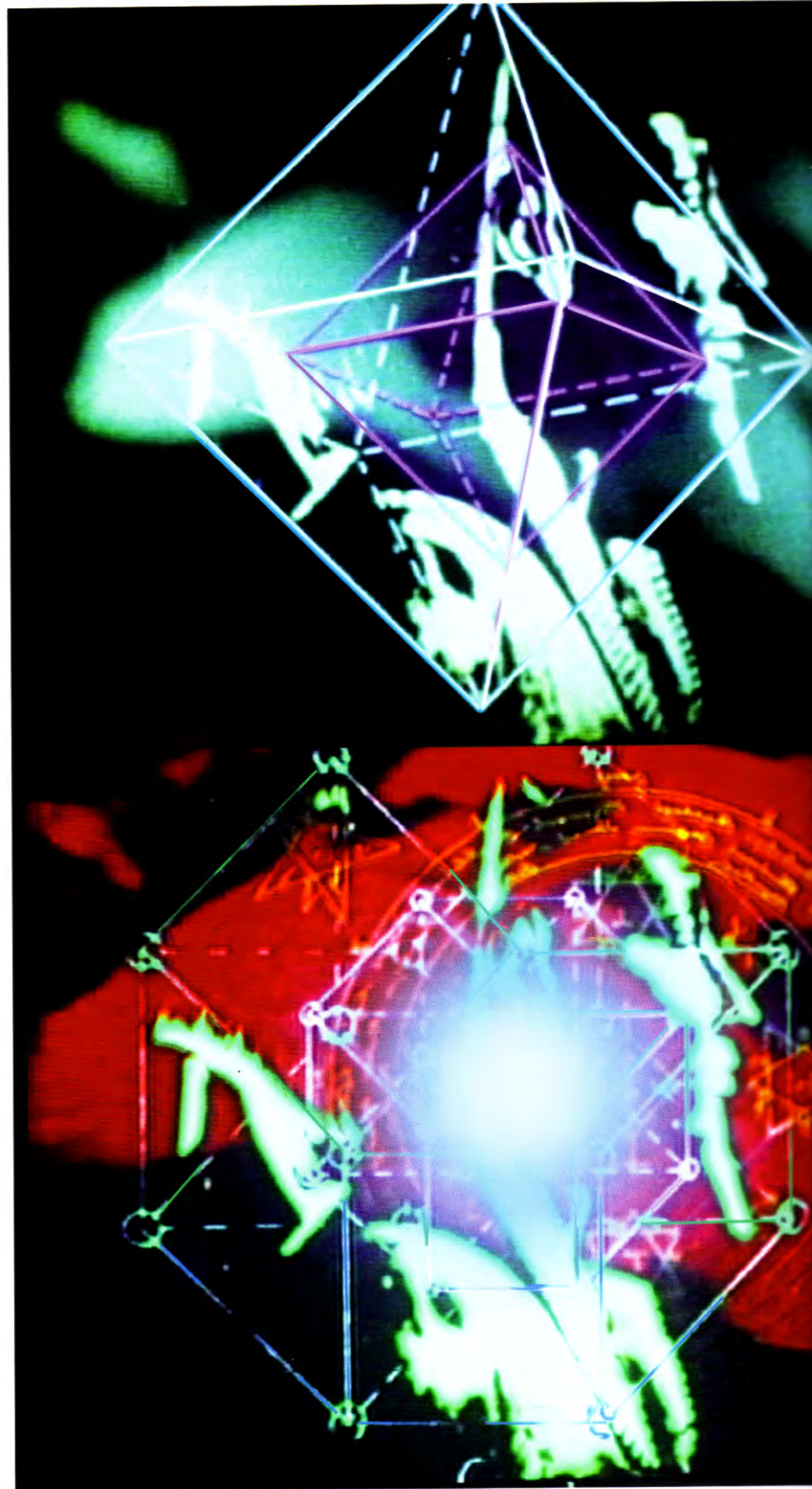
Details of *Liquid Crystal Slide Projection*, 1965–98  
Dimensions variable  
Courtesy of the Museum of Modern Art, Oxford



Los Angeles had a more film-based light-show group, Single Wing Turquoise Bird, composed of a number of filmmakers and artists directly aware of the work of Fischinger, the Whitneys, and Belson; its members included, at various times, Jon Greene, Larry Janss, David Lebrun, Charles Lippincott, Bob Maestri, Peter Mays, Rol Murrow, and Jeffrey Perkins. Although they began in 1967 by providing panoramic light shows at the Shrine Exposition Hall for rock groups such as the Grateful Dead, Velvet Underground, Steve Miller Band, and Traffic, with the help of artist Sam Francis they eventually set up studio space at various Los Angeles locations to continue their multimedia experiments. Using film, strobes, and a vast array of slides that could be animated over other images, Single Wing developed a particularly cinematic approach. Youngblood wrote of their work:

It's a combination of Jackson Pollock and *2001*, of Hieronymus Bosch and Victor Vasarely, of Dali and Buckminster Fuller. Time-lapse clouds run across magenta bull's-eyes. Horses charge in slow motion through solar fires. The hands of a clock turn backward. The moon revolves around the earth in a galaxy of Op Art polka dots. Flashing trapezoids and rhomboids whirl out of Buddha's eye. Pristine poly-graphic forms are suspended in a phosphate void. Exploding isometrics give birth to insects. A praying mantis dances across an Oriental garden. Spiraling cellular cubes crash into electric-green fossil molds. The organic symbiosis of universal man. A huge magnified centipede creeps across a glowing sun. Cascading phosphorescent sparks. Waffle grid-patterns strobe-flash over Roy Lichtenstein's 1930's Ultra-moderne architecture. A butterfly emerges from its cocoon. New dimensions of space and time. Bodies become plants. White translucent squids wrestle with geometric clusters. The sound is Terry Riley and La Monte Young and Mozart, seasoned with Pink Floyd, spiked with Cream.<sup>75</sup>

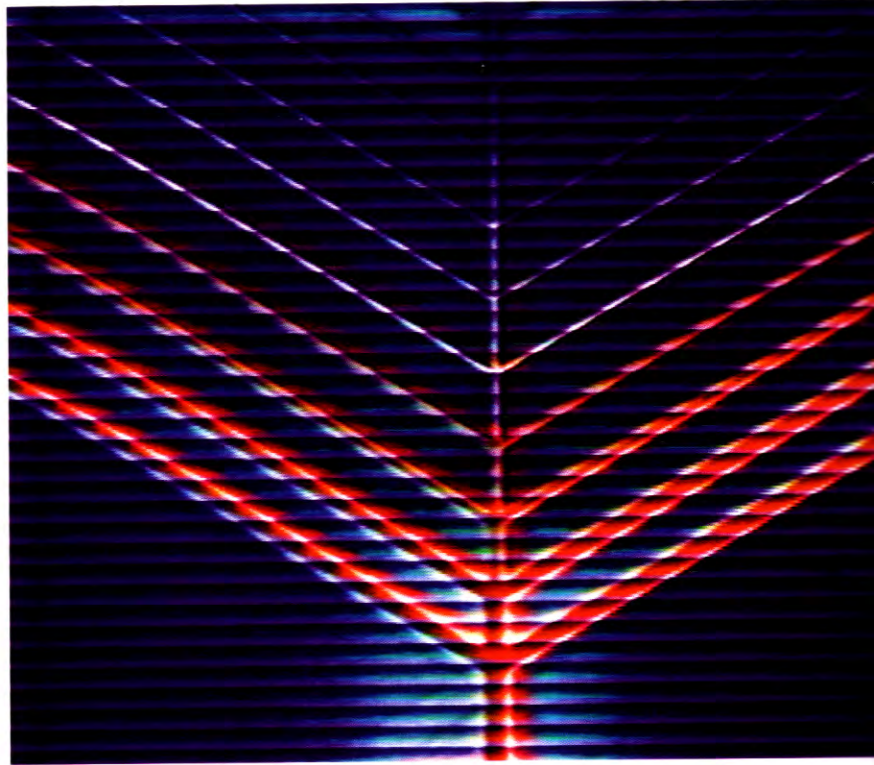
Like the Whitney brothers' films and Belson and Jacob's Vortex concerts, psychedelic light shows were made possible through technology, employing a vast array from powerful xenon film projectors and color wheels to four-by-five slide projectors and strobe lights, all united by the performers into one multi-bodied Brobdingnagian robot reacting to the gyrating rhythm of the music. While the images remained abstract and fluid, the machines were often visible, thereby connecting the natural





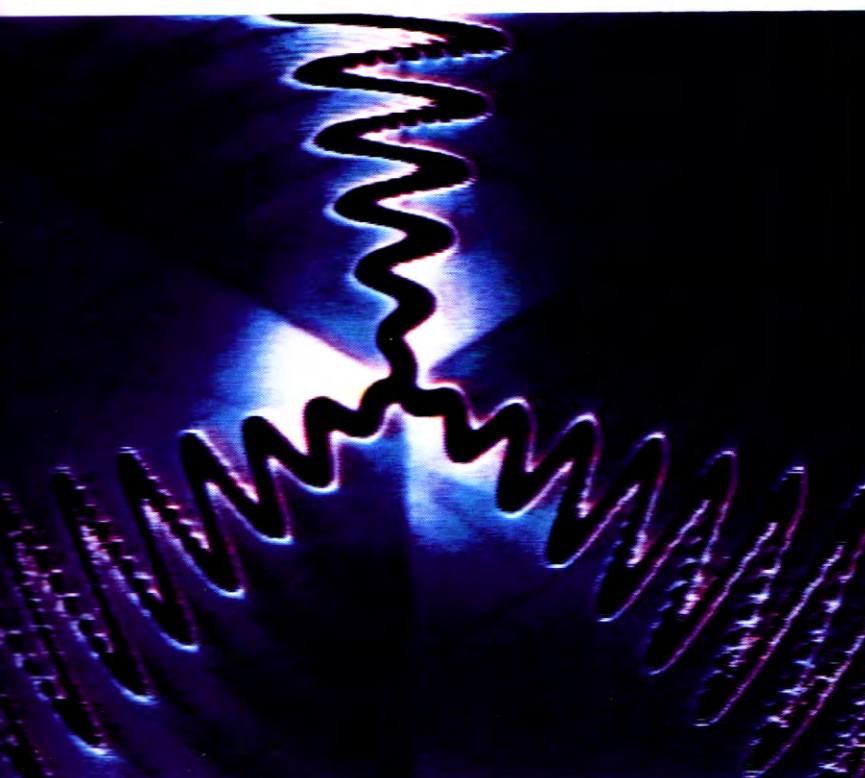
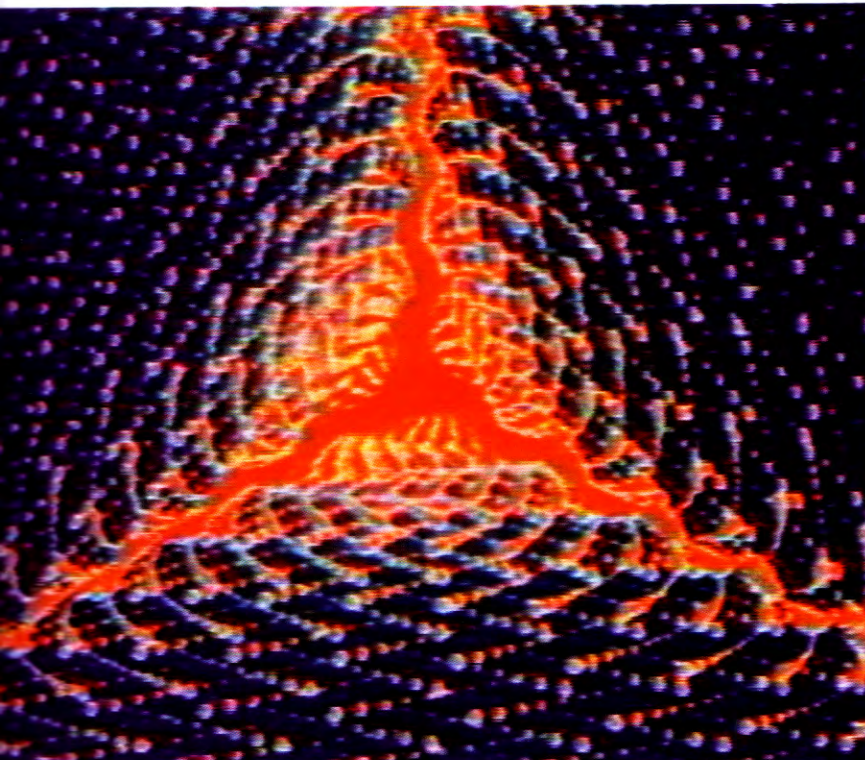
and the mechanized, the ancient and the modern. While the light show offered up dreamy arrays of colors that both extended the hallucinogenic state of the spectators and evoked synaesthetic responses, the pulsating lights, whirring motors, and pounding rhythms meant this reverie was on the verge of becoming a nightmare. As the recipient of this sensory assault, the spectator's own body became a necessary component of the light show, poised between bliss and eros on the one hand, and violence and death on the other. Pleasure could easily slip into a bad trip.

The light show represented the culmination of what had started with Kandinsky some sixty years before. With the light show, visual music had become a cultural phenomenon, a popular event unlike any before, a liberated theater of optical and aural experience that both reflected and influenced public consciousness. Relying on vast amounts of rather clunky equipment and numerous and diverse performers, as well as a collective mindset fundamentally linked to the times, the light show could never last; by 1970 it had pretty much flared out.



However, the immersive nature of the light show—with its emphasis on sound, color, and technology—assumed even more expansive forms such as the discotheque, which reformulated the loose painterly vocabulary of psychedelia into controlled and gridded dance floors and fashionable interiors. New installations of immense proportions by both artists and composers appeared: Iannis Xenakis created Polytope installations in Montréal (1967), Persepolis (1971), and Paris (1972–74) that used hundreds of loudspeakers, lasers, and pulsing lights in architectural settings to create a new “planetary and cosmic era” in human development<sup>76</sup>; Stan VanDerBeek made intermedia installations, such as the multiple-projection *Movie Drome* (1970) at Stony Point, New York; and John Cage and Ronald Nameth used fifty-two loudspeakers to amplify seven harpsichords presented in conjunction with 8,000 slides and 100 films in *HPSCHD* (1969). On the more show-business side, the light show lived on in the countless *son et lumière* shows at tourist destinations around the world, from the pyramids in Egypt to dancing water spectacles in Las Vegas. Even today,



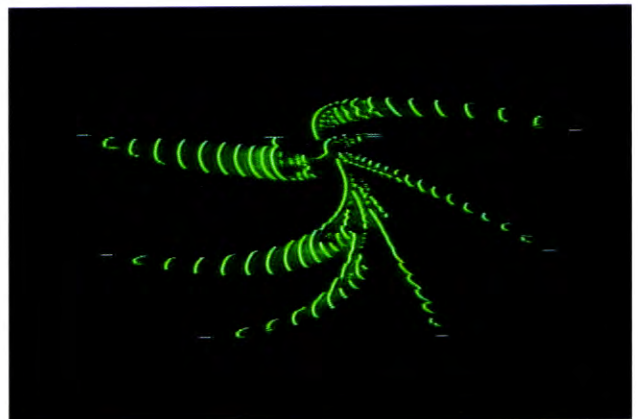
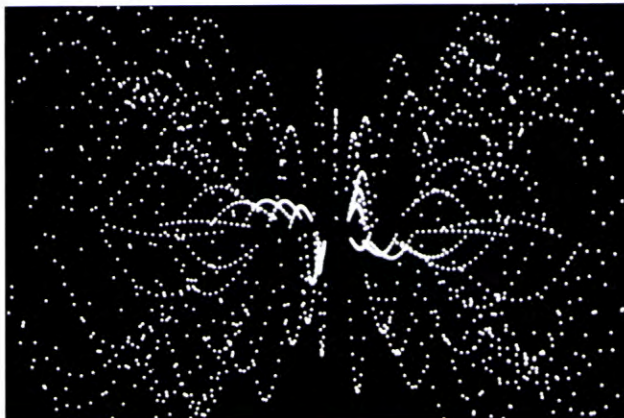
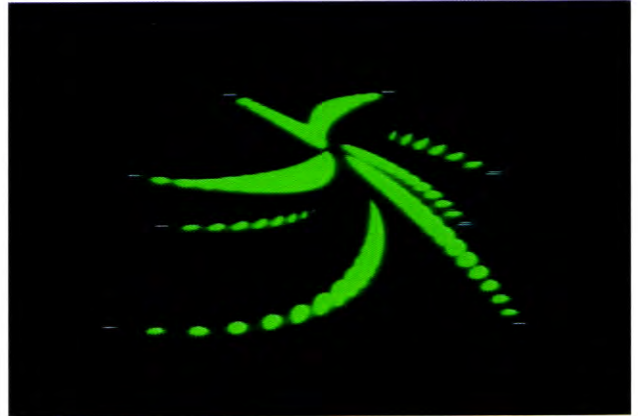


we find reprises of the Vortex concerts and 1960s light shows in planetariums and rave events. The light show also assumed more diminutive proportions in monitor-based "real time" video works using newly developed color synthesizers by artists and composers such as Scott Bartlett, Stephen Beck, Nam June Paik, Riley, Eric Siegel, and John Stehura, among others. These works, including Beck's live broadcast *Illuminated Music* (1972), tapped into the intimacy and immediacy of the television medium.

Another strain of visual music went into a cocoon state in the 1970s and 80s, retrenching into the laboratories of artists and technophiles who, following John Whitney's lead, experimented with the new technologies of digitization and motion graphics. Whitney, working with IBM and programmer Larry Cuba, who later created his own visual-music films, continued to develop his ideas of digital harmony: he eventually moved from film to a computerized setup on which he could compose in real time, and he published a book on his visual-music theories, *Digital Harmony* (1980). On the East Coast VanDerBeek and Lillian Schwartz collaborated with programmer Kenneth Knowlton at Bell Laboratories.<sup>77</sup> Working on an intimate scale, artists such as Dan Sandin and former Single Wing Turquoise Bird member Michael Scroggins created embryonic digital artwork, laying the seeds for a rekindling of interest in visual music in the 1990s by a younger generation of digitally savvy artists like Jennifer Steinkamp and Leo Villareal, who consciously reference visual music's vocabulary.



Halfway through *Fantasia*, there is an intermission in which the announcer, Deems Taylor, introduces a “shy” but “important” member of the Disney organization—the soundtrack. A luminescent vertical line appears, dividing the screen in half and prefiguring Barnett Newman’s *Onement* paintings of the late 1940s and early 50s. The soundtrack, normally hidden from view on the edge of the film strip, is then run through a series of exercises in which it almost becomes a character in itself, visually representing the sounds of a “Bronx cheer” and harp, violin, flute, trumpet, and other musical instruments. In this sequence, *Fantasia* comes the closest to the visual music that Fischinger was striving for in his own work, a highly abstract synaesthetic vision with anthropomorphic overtones. Bridging Disney’s search for a modernist form of entertainment and Fischinger’s insistence on high ideals, this sequence prefigures visual music’s development in the 1940s, 50s, and 60s as it brought together various media, merged technology and art, broke down divisions between high art and popular culture, and erased the gap between art and life. During this process visual music no doubt lost some of the authority that pure abstract painting had lent it but gained the power of mass appeal—creating a culture that was, for a while at least, imbued with the spirit of transcendence. Disney’s desire for a new and impure form of abstraction was indeed “a great hit.”



left  
**Larry Cuba**  
 Still from *3/78 (Objects and Transformations)*, 1978

right  
**Stephen Beck**  
 Stills from *Illuminated Music I*, 1972  
 Video synthesis performance created and performed on the Beck Direct Video Synthesizer  
 7 minutes and 35 seconds  
 Courtesy of the artist