

of *musique concrète* belonged to another tradition, that of recorded sound, which had in fact brought about the final demise of the art of noises. To account for the genesis of *musique concrète*, artistic precedent was virtually unnecessary since the technology involved was suggestive in its own right. Music was in the air—radiophonically—where it could easily make its own auditive connections with recorded sounds and, most important, one could sit in a movie theater with eyes closed and hear something similar to *musique concrète*. As Pierre Henry said, “the prefigurement of *musique concrète* was, indeed, relatively abstract, save, evidently, for the possibilities offered by the sound on film of cinema.”⁴⁶

Russian Revolutionary Film

At the same time that music composition experimented with the possibilities of optical sound film, a number of filmmakers proper began to develop complex approaches to sound and sound-image relationships. The most intense and radical combination of theory and practice within this realm took place within the Soviet Union, in particular, with Dziga Vertov and Sergei Eisenstein. There is a certain irony involved in Vertov’s engagement with sound, since he came to be identified with the *kino-eye* among experimental film circles in the second half of the century. Yet not only was Vertov a very soundful filmmaker (just listen to *Enthusiasm* or *Three Songs of Lenin*), who kept sound in mind even in his silent films through tactics of implied sound, but he went into film in the first place because he was unable to do what we would now call audio montage. The *kino-eye*, in other words, was born of a keen but frustrated ear. His early aspirations can only be speculated on, but they seem to point to an actual art of noises and not one presented for rejuvenating music. Perhaps it was a deeper running documentary zeal and a background in both music and writing that led him to imagine such a possibility, yet it also seems that Russolo’s art of noises itself played a role.

As a boy Vertov was a prolific writer, and at age sixteen he entered the Bialystok Conservatory of Music and studied violin, piano, and music theory for three years. In 1916, while attending the Psychoneurological Institute in Petrograd, Vertov was introduced to some of the major players of the Russian avant-garde, including Osip Brik, Alexander Rodchenko, and Vladimir Mayakovsky, who by that time were well aware of Italian Futurism and, for many of them, too aware.⁴⁷ A Russian Futurist almanac, *The*

Croaked Moon (Spring 1914), contained Mayakovsky's poem "Little Noises, Noises, Booms," generally understood as a derivation of Russolo's celebration of urban sounds in *The Art of Noises* manifesto, which had already been published in Russia.⁴⁸ Vertov was probably familiar with this poem since he was an avid admirer of Mayakovsky, committing many of his poems to memory, and had become personally acquainted with the poet.⁴⁹ For Vertov, the mix of writing, music, and noises within the adventurous milieu of the avant-garde "turned into an enthusiasm for editing shorthand records [stenographs] and gramophone recordings. Into a special interest in the possibility of documentary sound recording. Into experiments in recording, with words and letters, the noise of a waterfall, the sounds of a lumbermill, etc."⁵⁰ Toward the end of 1916, Vertov attempted to build a "Laboratory of Hearing" with a 1900 or 1910 model Pathéphone wax disc recorder:⁵¹ "I had the original idea of the need to enlarge our ability to organize sound, to listen not only to singing or violins, the usual repertoire of gramophone disks, but to transcend the limits of ordinary music. I decided that the concept of sound included all of the audible world. As part of my experiments, I set out to record a sawmill."⁵²

It has been assumed he became frustrated with the poor sound quality of the available technology. Indeed, he spoke of his transition to film in terms of the inadequacy of phonographic technology, remembering how "one day in the spring of 1918 . . . returning from a train station. There lingered in my ears the signs and rumble of the departing train . . . someone's swearing . . . a kiss . . . someone's exclamation . . . laughter, a whistle, voices, the ringing of the station bell, the puffing of the locomotive . . . whispers, cries, farewells. . . . And thoughts while walking: I must get a piece of equipment that won't describe, but will record, photograph these sounds. Otherwise it's impossible to organize, edit them. They rush past, like time. But the movie camera perhaps? Record the visible. . . . Organize not the audible, but the visible world. Perhaps that's the way out?"⁵³ Since determinations of sound quality usually prove to be creatures of the historical moment, not of some timeless measure of sonic realism, it is likely that other limitations of acoustic phonographs, primarily the difficulty of manipulating the inscribed sound materially, sent him packing into the kino-eye. Once there, however, he did not abandon his interest in sound but instead integrated sound into his writings on Radiopravda, Radio-Eye, and Radio-Ear. Indeed, in his 1925 essay "Kinopravda and Radiopravda"

(1925), with electrical phonography and breakthroughs occurring within the development of sound film in the United States and Germany, Vertov proposed documentaries of recorded audible events to take separate forms within radio, sound film, and television, all within a hopeful project of undercutting capitalism with the truth of reproduction:

If, with respect to vision, our kinok-observers have recorded visible life phenomena with cameras, we must now talk about recording audible facts. We're aware of one recording device: the gramophone. But there are others more perfect; they record every rustle, every whisper, the sound of a waterfall, a public speaker's address, etc. The broadcast of this record can, after its organization and editing, easily be transmitted by radio, as "Radiopravda." . . . Technology is moving swiftly ahead. A method for broadcasting images by radio has already been invented. In addition, a method for recording auditory phenomena on film tape has been discovered. In the near future man will be able to broadcast to the entire world the visual and auditory phenomena recorded by the radio-movie camera. We must prepare to turn these inventions of the capitalist world to its own destruction.⁵⁴

He also invested the "Great Mute" of silent film with *implied sound*. Appearing in all his major films of the latter half of the 1920s were events denoting sound, objects, and sound technologies (a gramophone record, a radio, and other noisy objects are set in *Stride, Soviet* (1926) in a context of Lenin's call for electrification) along with formal motifs and movements suggestive of sound. Vertov himself listed some of the implied sounds within his 1928 newsreel *The Eleventh Year* in this way: "In the silent film *The Eleventh Year* we already see montage connected with sounds. Recall how the machines thump, how absolute silence is conveyed. At first there's the pounding of axes and hammers, the whining of saws, then it all ceases, followed by dead silence, and in that silence there beats the heart of the machine. [In another scene,] a 'sound' begins to grow, the pounding of hammers starts up, louder and louder, then the blows of a big hammer, and finally when a man appears and hammers on the cliff, a powerful 'sound echo' is conveyed. After the transition to radio-eye, all of this will resound impressively from the screen."⁵⁵

Once sound film technology became available in other parts of the world, filmmakers in the Soviet Union, because of economic and policy

factors beyond their control, were required to wait several years before they had their chance to use the new technology. This was especially frustrating, since their silent films were recognized as being at the forefront of international cinema. In lieu of actual production, they engaged in fervent debates about the pros and cons of sound film, especially how sound might interact with visual images. Perhaps because of Vertov's prior experience in sound, he tended to avoid the dogmas displayed by other prominent Soviet filmmakers and critics. He remained adamant about the documentary principle underlying the "unplayed film" and the political principle underlying all his actions. When it came to sound, the proletariat must use all means at its disposal, never the line of least resistance but "the line of maximum resistance . . . that of *complex interaction of sound with image*."⁵⁶ In an attack on the prescriptive use of asynchronous relationship between sound and visual image, laid out in the famous "Statement on Sound" (1928) signed by Sergei Eisenstein, Vsevolod Pudovkin, and Grigori Alexandrov, Vertov wrote: "Declarations on the necessity for nonsynchronization of the visible and audible, like declarations on the exclusive necessity for sound films or form talking films, don't amount to a hill of beans, as the saying goes. . . . Neither *synchronization* nor *asynchronization* of the visible with the audible is at all obligatory. . . . Sound and silent shots are both edited according to the same principles and can coincide, not coincide, or blend with one another in various, essential combinations. We should also completely reject the absurd confusion involved in dividing films according to the categories of talking, noise, or sound."⁵⁷

Film historian Lucy Fischer has provided a valuable description of how Vertov produced his *complex interaction of sound with image* within the first section of his first sound film, *Enthusiasm: Symphony of the Donbas*. The fifteen categories included disembodied sound, sound superimposition, sound and visual time reversal, abrupt sound breaks, abrupt tonal contrasts, sound edited to create an effect of inappropriate physical connection to the image, synthetic sound collage, inappropriate sounds, mismatching of sound and visual distance, mismatching of sound and visual location, metaphorical use of sound, sound distortion, technological reflexivity, association of one sound with various images, and simple asynchronies of sound and image. In other places Vertov varied the speed of the sound, reversed it, and set up a symbology of sound production in general. He even engaged in sound synchronization.⁵⁸

On another front, Vertov encountered resistance to the range of possibilities he wished to explore. In 1929, when he embarked on *Enthusiasm*,⁵⁹ the film critic Ippolit Sokolov wrote in “On the Possibilities of Sound Cinema” that the natural world of sound was not conducive to recording⁶⁰—that is, a large part of the domain of documentary (the outdoors and the remote, the sounds of work, industry, celebration, public gatherings)—was not audiogenic: “Agitational and scientific films will be produced not in the lap of nature, not in the noise of the streets, but within the soundproof walls of the film studio, where no outside sound can penetrate. The sound movie camera will least of all film ‘life caught unawares.’ The unorganized and accidental sounds of our streets and buildings would become a genuine cacophony, a literally caterwauling concert.”⁶¹ Vertov understood Sokolov’s “theory of caterwauling” to be “antinewsreel” and very much within the mold of formalist critics who preferred only actors and acting on the screen to his own idea of the *unplayed* film. He also rejected the exclusionary conceit derived from music that “everything which is not ‘sharp’ or ‘flat,’ in a word, everything which does not ‘doremifasolize’ was unconditionally labeled ‘cacophony.’”⁶² But Vertov felt that the true refutation of Sokolov’s “theory of caterwauling” was *Enthusiasm*. For Vertov there was absolutely nothing do-re-mi in the “setting of din and clanging, amidst fire and iron, among factory workshops vibrating from the sound.”⁶³ Moreover, he did not stay cloistered within “the soundproof walls of the film studio,” as Sokolov recommended, but “penetrated into mines deep beneath the earth” and rode atop “the roofs of speeding trains” lugging twenty-seven hundred pounds of recording equipment developed specifically for the film, and *for the first time in history*, as he claimed, recorded in documentary fashion the basic sounds of an industrial region (the sound of mines, factories, trains, etc.).⁶⁴

The necessity to get out of the studio provided Vertov with the basis to accuse Walter Ruttmann’s use of studio-generated sounds in his cross-cut film, *World Melody*, of being deceptive. He contrasted his own progress in getting outside the studio, all the way to the Donbasin region, where he was making his film *Enthusiasm*.⁶⁵ This was not technologically motivated, although he did bemoan the poor quality of film sound reproduction equipment throughout the late 1920s and 1930s and worked actively on a number of fronts to secure its improvement. It was instead politically important to Vertov that the workers were recorded speaking for themselves,

surrounded by the sounds of their life. His tactics for remote recording can be summarized in this way:

1. opening the window at the Radio Centre and recording the outside
2. transmitting sound back to the studio using microphone wires
3. mobile sound unit used nearby
4. mobile unit used at greater distance to film a Party Congress
5. mobile unit used far away in many situations in the Donbas region
6. ultimately, the audio-visual sound transmission back to the studio will be accomplished via radio for both film and television⁶⁶

Vertov may have rejected Sokolov's music-like exclusivity, but he didn't reject music, nor, with his experiences at the music conservatory, could he. He often referred to his role in filmmaking not as director but as *composer*.⁶⁷ He called *Enthusiasm* a "symphony of noises," and the film's second name, under which it was known in Russia, was *Symphony of the Donbas*. Among many of the aurally reflexive moments of the film, *symphony* signifies both the "harmonic" organization of the activities of the Five-Year Plan in the Don basin region and the parallel production of the film itself. For Vertov symphonies included noise and economic harmonies rattled with the sound of labor and machines; they were written amid an "enthusiasm of facts" and a literary process wherein sounds themselves were scripted before the film as a whole.⁶⁸ The result caught the ear of no less than Charlie Chaplin, who, in a note written from London (November 1931), said, "Never had I known that these mechanical sounds could be arranged to sound so beautiful. I regard it as one of the most exhilarating symphonies I have heard. Mr. Dziga Vertov is a musician."⁶⁹

Although Vertov found Sergei Eisenstein's asynchronous approach to sound-image relationships unnecessarily restrictive, and although Eisenstein was never able to hear his early plans fully realized in actual sound, his ideas were nevertheless very compelling. To understand them we need to go back to the Russian avant-garde theater with its "eccentrism" and its opposition to the theatrical naturalism of the likes of Stanislavsky at the Moscow Art Theater. Eccentrism meant a fascination with popular culture in general and with American culture in particular, an appetite expressed across the entire European avant-garde for variety theater and music hall, clowning and the circus, ragtime and jazz, cowboys and Indians, cops and

robbers and Chicago gangsters, the Salvation Army, slapstick pratfalls and sight gags, Charlie Chaplin—for all that was fast, funny, irreverent, and awash in artifice. It was discursively linked to sound film through the avant-garde theater's reaction to the *prospects* of a simplistic sound cinema. In 1913 Vladimir Mayakovsky said that theater, in the face of cinema, should give up its naturalistic copying of nature in the same way that painting had given up copying with the advent of photography. Otherwise, theater would be “merely the three-dimensional photography of real life.”⁷⁰ Although sound film was still a number of years away on the world scene and even later for Russia, the very promise of the kinetophone lent even greater rhetorical presence to the reproduction of real life because “The only distinction between [theater] and cinema—silence—has been removed by Edison with his latest invention.”⁷¹ Naturalistic theater reproduced through a sound cinema would soon be nothing but a copy of a copy of nature—twice the reason to develop a new “anti-illusionist” theater.

Eisenstein's experience on the antinaturalistic theater stage was the platform from which he first issued his theories. In 1922 he cowrote an essay with FEKS (Factory of the Eccentric Actor) cohort Sergei Yutkevich that pitted “eccentrism” against cinematic illusionism and, retrospectively, against synchronized sound cinema circa 1905. Their essay quoted the French critic Claude Blanchard, who remarked, “People who visited the darkened halls in 1905–6 will of course remember the primitive imitation sounds that invariably accompanied the showing of a film (the crashing of waves, the roar of an engine, the sound of breaking crockery, etc. etc.)”⁷² Blanchard himself thought little of such synchronization because the technical imperfections were too evident: “The illusion did not work!”⁷³ Eisenstein and Yutkevich questioned the desire for illusion in the first place. In addition, they were puzzled why in America, the wellspring of “eccentrism,” filmmakers had not overcome “the temptations of illusion”⁷⁴ in their own films. America had not only given in to temptation, but it now housed the supreme *trompe l'oeil* artists, constructing the slums of Rio, Hindu temples, or the back alleys of San Francisco out of papier mâché in Hollywood studios. When the illusion of synchronized sound film finally did work in the late 1920s, Eisenstein would once again argue fervently against its technonaturalism and against the illusionism of the type trafficked by the United States, through his commitment to the “Statement on Sound” (August 1928).

Signed collectively by Eisenstein, Pudovkin, and Alexandrov, the “Statement” was in response to a threatening set of circumstances. The year before, the film *The Jazz Singer* signaled the commercial viability of sound film in America, and on the international scene England, Germany, and France were close behind. In Russia, however, it was clear that sound film would not be available for any time in the foreseeable future. It would be impossible, therefore, for Eisenstein and other Russian filmmakers to compete artistically at the international level at which they had become accustomed. Thus, they could not help but be removed from their leadership role in international film art, a leadership they had just been able to achieve through their development of montage. Hollywood would not develop sound film in terms of montage, but Eisenstein and others were sure they would use sound to emulate theater. Worse yet, sound meant the addition of speech, and that meant specific languages. The international traffic in film, which had not only bolstered Russian film’s role in the cause of proletarian internationalism but had also made Eisenstein a celebrity, was aided immensely by the ease of splicing appropriate intertitles into the correct language, but the supple movement of lips set up nationalistic obstacles. With the advent of sound Stalin’s doctrine of socialism in one country would enjoy its cinematic counterpart. Indeed, as Alexandrov reported, knowing that Eisenstein, Tisse, and he were headed to the United States to investigate sound, Stalin told them, “Study the sound film in detail. This is very important for us. When our heroes discover speech, the influential power of films will increase enormously.”⁷⁵

The “Statement” approached this problem by rehashing earlier Russian arguments, including the one put forth by Eisenstein and Yutkevich, about the importance of keeping cinema distinct from theater as an art form. It then went on to propose that sound montage be developed along the lines of visual montage and that the two should maintain an asynchronous relation to one another. Montage was a cinematic language of images and narrative developed in the absence of speech and sound. Eisenstein had earlier theorized that if film were to be its own art, it would need its own artistic raw material. That material was constructed on an elemental level by the shot and built up dialectically through a process of conflict. Sound threatened to smooth over the conflict by dictating a scene naturalistically at the slower pace set by the synchronization of speech emanating from bodies and sound from objects and actions. If a dialectics of antinatu-

ralism were to be maintained, sound and visual images would themselves have to be set into asynchronous relationships of conflict. The “Statement” posed this relationship through the repeatedly emphasized metaphor of music: “*Only the contrapuntal use of sound vis-à-vis the visual fragment of montage will open up new possibilities for the development and perfection of montage.*” The developmental process will be marked initially by “*a sharp discord*” and ultimately lead to “*the creation of a new orchestral counterpoint*” between sound and visual image.⁷⁶ This overarching play of musicality would diminish the role of speech enough to avoid the reduction of cinema to a “filmed play” and to mitigate against being locked into language-based markets.

It would be a number of years until Eisenstein had any serious engagement with actual sound film production, the first being the banned *Bezbin Meadow* (1935–1937) and then finally in *Alexander Nevsky* (1937–1938), but by then the giddy phase of experimentation had long passed into an increasingly pervasive climate of cultural conservatism, while his use of sound was sparing and overly reliant on music. Nevertheless, his earlier attempts bear close attention, beginning with *The General Line* (1929), renamed *Old and New*. He made plans to add sound after the fact, but financing for the project promised by a London firm was withdrawn. The sound script remains, however, and is very adventuresome, despite the fact that the story—about the efforts of a peasant woman Marfa to collectivize and technologize farming in her community—might seem an unlikely vehicle for major artistic experimentation.⁷⁷

Eisenstein’s lack of experience in sound sanctioned a wish list freed from practicality; many ideas would have been technically difficult or impossible to realize at the time. This was perhaps the only way to achieve an auditive montage commensurate in sophistication to visual montage as proposed in the “Statement.” One way Eisenstein proposed to use sound was similar to the way conventional cinema would soon come to use music: to bridge the cut. Technically, there were perhaps more cuts in a normal Eisenstein film montage than in any other film at the time; if the quickness of the visual cutting had been paralleled with like speed in sound cutting, the result would have fallen on laggard ears. Historically, there had not yet been the cumulative decades of auditive mass media needed to produce a properly accelerated comprehension of code, the type operating in activities such as television channel surfing. Instead, Eisenstein could only rely

on a pace typified by the trodding code of a Wagnerian leitmotiv. But the cutting in *Old and New* exists also as content, not just form. In an early scene where two brothers cut their hut down the middle and inefficiently partition their fields simply because they are separating from one another (a purported irrationality of peasant behavior), the sound in the script moves from a cross-cut saw, to a circular saw, to the “deformation of the saw sound (Zeitlup [slow-motion]) into sobbing”⁷⁸—the sobbing signaling the poverty and suffering such irrationality imposes. This ability to stretch across the cut (of the hut and montage), to meld continuously from one “object” or entity to another, is a feature intrinsic to sound, and it has had little parallel within the cinema or videography until the recent computer-based capacity for morphing. Economically and politically, by bridging the cut sound enacts the subsumption and destruction of the peasantry under industrialism and the historical fatalism of the revolution.

At one point in the sound script for *Old and New* a fanfare is blurted out only to become shrill laughter; then saw sound is distorted into laughter, which itself melds into “animal laughter.” There are at least two animal laughers here for Eisenstein: one is generated by the familiarity that the peasantry establish with their livestock before they are eaten, and the other is produced by cartoon animals that are born and bred to produce laughter, not meat. The cartoon sound connection is especially merited given Eisenstein’s deep abiding interest in Disney and the unique characteristics of cartoon sound itself. Cartoons were, after all, creatures of both the high technology of their times and of American eccentricism. It was only through this rare pedigree that mock mice and rabbits and deer could ascend into the rarefied reaches of intellectual and artistic life. Oswald the Lucky Rabbit (September 1927) and Mickey Mouse (May 1928) had both announced their sound-image programs prior to the “Statement on Sound” (August 1928). After the resounding success of Mickey in *Steamboat Willie*, Disney tried to retrofit sound to Oswald the Lucky Rabbit episodes with little success, much like Eisenstein’s plans to retrofit the silent *Old and New* with sound. A problem arose because “the finished products reveal their origins; because the animation was not done to a specific beat, and gags were not geared to particular sound effects or songs, there is no fusion between sound and picture.”⁷⁹ In this way, Vertov’s *Sound March*, the sound script to *Enthusiasm*, was more akin to *Steamboat Willie*.

In 1935, the British filmmaker John Grierson singled out the precedence of sound as the basis for Disney's success: "Out of the possibilities of sound synchronization a world of sound must be created, as refined in abstraction as the old silent art, if great figures like Chaplin are to come again. It is no accident that of all the comedy workers of the new regime the most attractive, by far, is the cartoonist Disney. The nature of his material forced upon him something like the right solution. Making his sound strip first and working his animated figures in distortion and counterpoint to the beat of the sound, he has begun to discover those ingenious combinations which will carry on the true tradition of film comedy."⁸⁰ That Grierson echoed the contrapuntal principle of the "Statement on Sound" was no accident; he was quite familiar with Russian film, and a year earlier he had written favorably on Pudovkin's use of sound.⁸¹ The potent similarity between a "Statement" and cartoon sound was that both sought a continuous line of development out of the silent cinema, instead of either keying off ideas of verisimilitude or imagining a big break that many others thought would accompany the transition to sound. Whereas Eisenstein sought to find an auditive equivalent to his visually derived montage, Disney extended the elements of silent cinema into sound under the actuality (not metaphoricity) of music in such a way that the music and sound *performed* the visual elements of the film—its characters, objects, and actions. What may have once struggled awkwardly as an implied or otherwise compensatory sound made itself heard with a vengeance through every possible auditive technique. Voices, sounds, and music were spread out over the bodies of both characters and objects in a new form of homologous puppetry, whether a squeaking elbow joint, fly footsteps, flesh ripped off to play a rib-cage xylophone, or a piece of clothing mentioned in the title or verse of a familiar song. The exaggeratedly tight coordination of sound and image in the novel context of sound cinema meant that the visual experience of animated cartoons was itself animated by sound.

This coordination, in itself, was a carryover from how the muted voices of silent film manifested themselves in the performed gestures of the actors' bodies. Mary Ann Doane has pointed out that these familiar gestural exaggerations—akin to those of *commedia dell'arte*, which were developed to assist the voice to telegraph meaning beyond the normal range of projection—were produced in silent film as a compensatory voice:

“The absent voice reemerges in gestures and the contortions of the face—it is spread over the body of the actor.”⁸² The logical cartoon extension of the voice-performing body in silent films was extended bodies: In fact, the elasticity of bodies immediately preceded and accompanied the coming of sound to Disney’s animated cartoons. Stretching gave Disney his early success with Oswald the Lucky Rabbit just prior to *Steamboat Willie*. Oswald’s selling point, as Leonard Maltin has written, “was a rubbery kind of movement that tied into fresh and amusing gags. In *Oh, What a Knight*, Oswald wrings himself out to dry, and later, when kissing a fair maiden’s hand, he pulls an endless length of arm from her sleeve in order to have more to kiss! In *Trolley Troubles* even Oswald’s electric car is flexible, widening and flattening to accommodate the unpredictable changes in the tracks beneath it.”⁸³

Sound stretching across the cut drew from the same elastic force that worked on bodies. In terms of cinematic montage, sound did not resemble a suture, which as a figure is too inscriptive; it resembled a gum or a glue, an adhesion that could stretch. When Eisenstein gave into his fascination and finally wrote about Disney Company cartoons, the main concern was this type of elasticity. He found precedent in Lewis Carroll, the German caricaturist Walter Trier, and etchings by Toyohiro, Bokusen, and Hokusai, and he could have found it in Mayakovsky’s long telecommunications neck in his unfinished poem “The Fifth International” or in Salvador Dalí’s drooping, filleted forms.⁸⁴ He called it *plasmaticness* and considered Mickey Mouse in possession of “this plasmation *par excellence*.”⁸⁵ He briefly entertained the idea that its secrets are held in a prenatal, even cellular memory, a standard from which to gauge the morphing of growth and shrinkage. To explain the “prelogical attractiveness” of Disney cartoons in the United States, he said that the plasmatic “all-possible diversity of form” finds its ground as a counter to a “social order with such a mercilessly standardized and mechanically measured existence.”⁸⁶ He then went on at length to generalize such transformations to fire,⁸⁷ a fire “assuming *all* possible guises”⁸⁸ in an aural-like flux where borders dissolve and things are born and die in a moment, and through fire back to music: “herein also lies the secret of the fascination of music, for its image too is *not stable*.” In fact, he put it bluntly: “‘Music’—the element of Disney.” While Eisenstein reveled in the action in Disney’s foreground, however, he thought that “Disney is amazingly blind when it comes to *landscape*—to *the musicality of landscape*

and at the same time, to *the musicality of color and tone*.”⁸⁹ *Bambi*, for instance, lacked the lyricism of Chinese landscape and painting “in its treatment of fluffy beings—monkeys or fledglings.”⁹⁰

The cartoon connection with *Old and New* is actually more immediate. As a preface to the sound script Eisenstein lists *kinds* and *degrees* of sound, among other categories. The three kinds of sound are (1) musical, (2) natural surroundings, and (3) animated cartoon. The three degrees of sound are (1) slow motion, (2) animated cartoon (an exaggeration of number three above), and (3) special types of distortion of a purely acoustic sort (to be found). Eisenstein, faced with the problem of associating certain sounds to the changes wrought by rapid visual cutting, used the quick, often disjunctive sound and visual image relationships of the early sound cartoons as a means to accelerate sounds into at least some proximity of association. You can hear him convincing himself: “Must find ecstatic gradations of timbres, corresponding to the ecstatic gradations of the shots.”⁹¹ The problem he did not anticipate and never had to face (the sound version of the film was never realized) was that a cartoon shot was much longer in duration than a flurry of Eisensteinian shots. To coordinate the exaggerated synchronization of “animated cartoon sound,” what would later be called in filmmaking jargon “Mickey Mousing” nevertheless found its place within *Old and New*, among animated animals no less, although unlike Disney characters, they had genitals. When the collective’s baby bull Fomka grows to full size, in a series of shots constructed in an animated way much like the awakening stone lion sequence in *Battleship Potemkin*, he then inseminates his “bride” in one of cinema history’s rare cross-species point-of-view camera shots:

Wedding—“lyricism”—Negro chorus. Parody on
Fomka’s motif with Hawaiian guitar
Growth of Fomka—crescendo of Fomka’s leitmotiv.
Choppy. With each jump in Fomka’s growth the sound
gets stronger. Without transition. This same figure is
repeated in Fomka’s running. There they fuse
The “Attack”—terrifying increase
Cow spreads her legs—complete pause. Then sound of
gunfire and an apogee of mooing.⁹²

Eisenstein's second brush with actual sound occurred when Grigori Alexandrov, his close associate and cosignatory of the "Statement on Sound," and he undertook to make a film called *Romance Sentimentale* commissioned by Léonard Rosenthal, a wealthy merchant known as the Pearl King, to set the song stylings of his Russian lover Mara Giry into cinema. The Russian connection was there, but so was there a connection with the high bourgeoisie, yet they felt that it was worth the bother to acquire practical experience with sound film and to get paid. His last film had been about the collectivization of agriculture, but Eisenstein reluctantly joined in this rich man's bauble to assist Alexandrov with the script and the design of some shots, especially within the opening sequence. He even spent time at the Tobis Klangfilm Studio working on ideas for the sound, but then he left Alexandrov and Tisse to finish the film. Once completed, the producer of the film refused to release Alexandrov's fee unless Eisenstein's name was attached to it, for sake of both prestige and monetary return. Eisenstein, who was in the United States, conceded to become reunited with Alexandrov as quickly as possible.⁹³ The film was greeted widely as a debacle—especially embarrassing was the moment the singer seated at her piano reaches sufficient fervor that both she and her piano are whisked up into the clouds, accompanied by what appears to be stars scratched directly on the film stock and drawn sound that ends up sounding like a toy sliding bird whistle. Once catapulted into the clouds her piano becomes white, coordinating nicely with the swans who happen to be swimming past at that very moment. Eisenstein distanced himself from the film and attempted to rationalize the whole affair by pointing out that because scientists are allowed their white mice for experimentation, artists should be allowed their white pianos.⁹⁴

It is no doubt the case that, of the two, Alexandrov was the one most interested in practical sound experimentation and the one most responsible for the realization of *Romance Sentimentale*. Nevertheless, during the same year of *Romance Sentimentale* Eisenstein was quite willing to associate himself with its sound experiment. In an address given in Hollywood on 17 September 1930 he said, "As we have proclaimed (and as Alexandrov tried to show in humble essay form in that piece of irony, *Romance Sentimentale*, so grievously misunderstood in its intentions)—with the coming of sound, montage does not die but develops, amplifying and multiplying

its possibilities and its method.”⁹⁵ Most interesting is a letter written five days earlier to Léon Moussinac: “You know very well there’s not a lot of me in it (to say the least)—except for the principles and possibilities of sound utilization that are popularized in it. . . . In any case, we got what we wanted from the movie: we made some *very valuable* montage experiments and . . . we had enough money to stay in Paris until the transatlantic journey.”⁹⁶ Most of the film is taken up with Mara Giry’s song, which, except for very brief segments, contained nothing remarkable in terms of either montage or sound. Therefore, when he points to “the principles and possibilities of sound utilization” put forth in the film, he must be speaking instead about the sound and montage concentrated in the opening sequence of nature shots. The visual images that accompany these sounds are of quick and repetitive successions of large waves crashing against the rocks, turbulent clouds, tall trees falling or appearing to fall because of the upsweep of the camera motion, and trees flanking a roadside passing quickly by. This opening sequence is where the experiments are concentrated. The techniques—manipulating the optically recorded sound film, reversing it, drawing on it, and cutting it—were discussed by Alexandrov with the American film critic Harry Potamkin as means of “playing with sound”:

Alexandrov, Eisenstein’s co-director whom I have just seen off westward, has told me he has mounted sound in his brief experiment. *A Sentimental Romance*, which he made in Paris and sold to Paramount-Publix. He has done in this film a number of things I have thought basic in “playing with sound,” such as: running the sound-track backwards, inscribing or designing the sound (sound is after all only inscription). He cut the sound inscription. By such method one may retard or accelerate sound movement. Let us say a note is banged on the piano, impressed on the negative. Immediate cutting—and there are a variety of ways—will change the character of the sound and give it an absoluteness. That is to say, it will not be associated with the instrument from which it will have emanated. One may record a jazz-band and then play around with the sounds as impressed, and get thereby any number of possible arrangements. The same can be achieved with speech: it may be clipped, stretched, broken into stutters, made to lisp, joined with all sorts of sound combinations either in discriminate mélange or in alternating, repeating motifs.

Alexandrov, so he told me, has played with the designs of sound by inscribing it directly on the negative and allowing light to make the final registration. Direct inscription of visual motifs on the negative has been attempted. And direct inscription of sound is more feasible, since in the visual movie human images are wanted, whereas in sound expressive utterances, which can be fabricated, are ultimately desirable. By studying the inscriptions closely one may come to an exact knowledge of these inscriptions and read them as easily as one reads musical notes for sound. The inscription for speech and that of sound differ only in the composition of the intervals and a close student will come to recognize the peculiarities of the different impressions. Actually sound will be created without being uttered!⁹⁷

Potamkin was himself very excited by these technical possibilities, particularly the ability to manipulate sound through its inscription, either by cutting a sound's representation at different points or by drawing directly onto the film and generating a new sound, what would today be familiar as digital editing and an attempt at synthesis. He was obviously aware of these possibilities prior to his conversation with Alexandrov because in an article published nearly a year and a half before he had confidently remarked, "graphic sound—the key to the sonorous film."⁹⁸ In fact, by the late-1920s the idea of "drawn sound" was well in place among artists and technologists and was being concretely investigated, mostly through the technique of photographing shapes on the sound track. One of the main investigators in Russia was Arseni Avraamov, who had earlier been involved in the *Symphony of the Sirens*. He contributed a drawn sound track of optically generated music (from photographed triangles) to Abram Room's *The Plan for Great Works*, a documentary on the Five-Year Plan credited with being the first Russian sound film (released in March 1930), and to other films and cartoons.⁹⁹ Alexandrov and Eisenstein would no doubt have been aware of such efforts.

If Eisenstein could not see the principles in the "Statement on Sound" realized in *Romance Sentimentale* or *Old and New*, then he could at least witness them within Kabuki theater and other aspects of Japanese culture. Eisenstein's celebration of Japanese culture within the context of film theory is well known, as is his idea that the combinatory attributes of Japanese script added up to montage.¹⁰⁰ In terms of sound cinema he was perhaps even more committed: "Just as painting owes an irredeemable debt to the

Japanese for Impressionism and contemporary left sculpture is indebted to the child of Negro sculpture, so sound cinema will be no less indebted to those same *Japanese!*"¹⁰¹ In particular, he noted an *unexpected juncture* between Kabuki theater and sound cinema operating through a *monistic ensemble* where "sound, movement, space and voice *do not accompany* (or even parallel) one another but are treated as *equivalent elements*."¹⁰² This monism spread, for instance, to the different parts of the body creating a decomposition of elements with a remarkable resemblance to the isolation and independent action found in animated cartoons: "Act with just the right arm. Acting with one leg. Acting merely with the neck and head. The whole process of the death agony was decomposed into solo performances by each 'party' separately: the legs, the arms, the head."¹⁰³ For Eisenstein, this directly relates to his efforts within sound cinema: "In our *Statement* on sound cinema we wrote about the contrapuntal method of combining visual and sound images. To master this method you have to develop within yourself a new *sense: the ability to reduce visual and sound perceptions to a 'common denominator*.'"¹⁰⁴

Once elements have reached their monistic status through the decomposition of larger complexes, the very process of decomposition has lent them a nonnaturalistic autonomy from which they can combine with other elements outside the conventions of synchronization. For instance, although the action of a pivoting elbow will not normally make noise, if it is isolated with a similarly isolated sound, it will produce a nonnaturalistic effect of the sound animating the action or the action giving rise to the sound. Eisenstein interpreted this phenomenon within a mechanics of synesthesia: "Watching Kabuki, you involuntarily recall the novel by an American writer whose auditory and optical nerves were transposed so that he perceived light vibrations as sounds and air tremors as colors; that is, he began to *hear light* and *see sounds*. The same thing happens in the Kabuki! We actually 'hear movement' and 'see sound.'"¹⁰⁵ Thus, sound and visual image could be exactly concurrent, but they would still not constitute synchronized sound. He gives a concrete example of a concurrent but contrapuntal sound of "a *hand movement* of Itsikawa Ensio as he slits his throat in the act of *hara-kiri* with the *sobbing sound* off-stage that *graphically* corresponds to the movement of the knife."¹⁰⁶ Thus, in this auspicious cut, the sobbing looks as though it is animating the knife, or vice versa, while at the same time each have an autonomy, thereby establishing in the immediate

relationship between these decomposed elements an ability to reconfigure into a new complex of affect and meaning. What Eisenstein doesn't mention is how the rhythmic sobbing, because of its asynchronous relationship to the action, might have preceded or continued after the hand and knife movement, carrying meanings to interact with and be transformed by other actions. In any case, he could not be more enthusiastic about what he had witnessed in this scene, for it had achieved in actuality the possibilities for sound cinema he could only imagine: "There it is: 'The notes I can't reach with my voice I'll point to with my hands.' But here the voice does reach and the hands do point! . . . And we stand numbed by such perfection . . . of montage."¹⁰⁷ What, through circumstance, he could not achieve himself, he was willing to acknowledge elsewhere.

41. John Cage, *Conversing with Cage*, ed. Richard Kostelanetz (New York: Limelight Editions, 1988), 158–59. Cage moved to Chicago after being invited by Moholy-Nagy to teach a class at the School of Design.
42. *Ibid.*, 158.
43. Cage interviewed by Peter Gena, in *A John Cage Reader*, 168.
44. Pierre Schaefer interviewed by Tim Hodgkinson, *Re Records Quarterly Magazine* 2, no. 1 (March 1987): 4–10.
45. Despite the widespread notoriety and influence of Russolo through the 1920s, his reputation had lapsed sufficiently over the span of fifteen years that Cage was able to write in 1946 that “The Italian ‘Art of Noise’ established by Luigi Russolo has totally disappeared; in memory it is mistakenly associated with Marinetti,” and although he was speaking about Virgil Thomson in particular (Thomson wrote that Cage’s “work attaches itself to . . . the percussive experiments begun by Marinetti’s Futurist noisemakers and continued in the music of Edgard Varèse, Henry Cowell, and George Antheil”), the mistake was a common one. See John Cage, “The Dreams and Dedications of George Antheil” (1946), and Virgil Thomson, “Expressive Percussion” (1945), in *John Cage*, 71–73.
46. From interview by Richard Schmidt James, “Expansion of Sound Resources in France,” 218.
47. The manifestos were regularly published in Russia soon after their appearance in Italy, with two collections published in Moscow in 1914, and a number of artists including Nikolai Kulbin and Vadim Shershenevich actively promoted Italian Futurist doctrines and work. See Anna Lawton, “Vadim Shershenevich: A Futurist Westernizer,” *Russian Literature Triquarterly*, no. 12 (Spring 1975): 327–44. Moreover, Marinetti’s visit of 1914 to Moscow and St. Petersburg received good coverage from the press and an attentive and energetically antagonistic reception from a number of artists. For a translation of documents relating to Marinetti’s visit, see Wiktor Woroszyński, *The Life of Mayakovsky* (New York: Orion Press, 1970). See also the chapter “Russian and Italian Futurism” in Vahan D. Barooshian, *Russian Cubo-Futurism, 1910–30* (The Hague: Mouton, 1974), and Benedikt Livshits, *The One and a Half-Eyed Archer*, trans. John E. Bowlt (Newtonville, Mass.: Oriental Research Partners, 1977), chap. 7.
48. Edward J. Brown, *Mayakovsky: A Poet in the Revolution* (Princeton: Princeton University Press, 1973), 89–90. Translated as “Little Noises, Noises, Booms” (1913), in Vladimir Mayakovsky, *Electric Iron*, trans. Jack Hirschman and Victor Erlich (Berkeley: Maya, 1971), n.p.:

The city's echoes the real carriers of noise
 in the soles' whispers in the wheels' clatter
 with humanity and horses up as the jockeys
 running after the distant swishings of scythes.

Little girls walk by with their tiny noiselings,
 the truck careening with its carton of rumbles,
 a stallion rippling musically in perforated tunic,
 trolley shearing the foam of thunder.

All swim toward the square through by-way arcades
 and canals of intricately crisscrossing thoughts
 and there all smeary with soot the gargoyle of
 Noise is crowned King of the deafening markets.

49. Dziga Vertov, "On Mayakovsky," in *Kino-Eye: The Writings of Dziga Vertov*, ed. Annette Michelson (Berkeley: University of California Press, 1984), 180. Sergei Prokofiev, after returning from a trip where he was introduced to the Italian Futurists through Diaghilev, wrote about the *intonarumori* in his article "The Musical Instruments of the Futurists" in the magazine *Muzyka* (8 April 1915).
50. *Ibid.*, 40.
51. Seth R. Feldman, *Evolution of Style in the Early Work of Dziga Vertov* (New York: Arno Press, 1977), 12–15.
52. Vertov, Speech of 5 April 1935, *ibid.*, 13.
53. Vertov, "The Birth of Kino-Eye," in *Kino-Eye*, 40.
54. *Ibid.*, 56. Alexander Rodchenko was connected with radio, remarking in *Novyi Lef*, no. 6 (1927) that since photography was 90 percent art, to balance it out he was "also working with radio—for discipline's sake" because "radio doesn't have more than 10% art." See *The Avant-Garde in Russia: 1910–1930*, ed. Stephanie Barron and Maurice Tuchman (Cambridge: MIT Press, 1980), 237. Rodchenko was Vertov's ally in the Lef circles and worked with him on his Kinopravda. See Feldman, *Evolution of Style*, 81–84.
55. Vertov, "From the History of the Kinoks" (1929), in *Kino-Eye*, 98.
56. Vertov, "Let's Discuss Ukrainfilm's First Sound Film: *Symphony of the Donbas*," *ibid.*, 111.
57. Vertov, "Replies to Questions," *ibid.*, 105–6.

58. Lucy Fischer, "Entbusiasm: From Kino-Eye to Radio-Eye," in *Film Sound: Theory and Practice*, ed. Elisabeth Weis and John Belton (New York: Columbia University Press, 1985), 247–64.
59. His request to use sound on *Man with the Movie Camera* had been rejected. See Feldman, *Evolution of Style*, 166. For the musical treatment of the film, see Yuri Tsivian, "Dziga Vertov's Frozen Music: Cue Sheets and a Music Scenario for *The Man with the Movie Camera*," *Griffithiana*, no. 54 (October 1995): 93–111.
60. Vertov, "First Steps," in *Kino-Eye*, 112 n.
61. Cited in Herbert Marshall, *Masters of Soviet Cinema* (Boston: Routledge & Kegan Paul, 1983), 81.
62. Vertov, "First Steps," in *Kino-Eye*, 114.
63. Vertov, "Let's Discuss Ukrainfilm's First Sound Film: Symphony of the Donbas," in *Kino-Eye*, 109.
64. *Ibid.* (emphasis in original).
65. Dziga Vertov, "Speech to the First All-Union Conference on Sound Cinema" (1930), in *The Film Factory: Russian and Soviet Cinema in Documents, 1896–1939*, ed. Richard Taylor and Ian Christie (Cambridge: Harvard University Press, 1988), 301ff.
66. *Ibid.*, 304–5. "But it is not adequate if we are talking about location shooting in the broad sense of the word, on the level of the 'Radio-Eye's' general prospects, and we shall have to orientate ourselves beyond the mobile film unit to the sound-recoring and sound-reproducing radio station."
67. Jay Leyda, *Kino: A History of the Russian and Soviet Film* (New York: Collier Books, 1960), 176–77.
68. Cf. Vertov, "Sound March," in *Kino-Eye*, 289–293; Annette Michelson's comments, *ibid.*, 327.
69. Vertov, "From Notebooks, Diaries," in *Kino-Eye*, 170.
70. Vladimir Mayakovsky, "The Relationship between Contemporary Theatre and Cinema and Art," in *The Film Factory*, 37.
71. *Ibid.*, 37. See also "The Destruction of 'Theatre' by Cinema as a Sign of the Resurrection of Theatrical Art," *ibid.*, 34–35.
72. Sergei Eisenstein and Sergei Yutkevich, "The Eighth Art: On Expressionism, America and, of Course, Chaplin," in *S. M. Eisenstein: Selected Works*, vol. 1, *Writings, 1922–34*, ed. and trans. Richard Taylor (London: BFI, 1988), 29.
73. *Ibid.*
74. *Ibid.*, 30.

75. Leyda, *Kino*, 269.
76. Sergei Eisenstein, Vsevolod Pudovkin and Grigori Alexandrov, "Statement on Sound," in *The Film Factory*, 234–35.
77. Jay Leyda and Zina Voynow, *Eisenstein at Work* (New York: Pantheon Books and the Museum of Modern Art, 1982), 38.
78. *Ibid.*, 39.
79. Leonard Maltin, *Of Mice and Magic: A History of American Animated Cartoons* (New York: New American Library, 1987), 35.
80. *Ibid.*
81. John Grierson, "Pudovkin on Sound," *Cinema Quarterly*, 2, no. 2 (Winter 1933–1934): 106–8.
82. Mary Ann Doane, "The Voice in the Cinema: The Articulation of Body and Space," in *Film Sound*, 162.
83. Maltin, *Of Mice and Magic*, 32–33.
84. Sergei Eisenstein, *Eisenstein on Disney*, ed. Jay Leyda, trans. Alan Upchurch (London: Methuen, 1988), 12ff.
85. *Ibid.*, 69.
86. *Ibid.*, 21.
87. *Ibid.*, 24–33, 44–47.
88. *Ibid.*, 41. He arrives finally at Heraclitus, Hegel on Heraclitus, and Lenin on Hegel on Heraclitus.
89. Sergei Eisenstein, *Nonindifferent Nature*, trans. Herbert Marshall (Cambridge: Cambridge University Press, 1987), 389.
90. *Ibid.*, 391.
91. Leyda and Voynow, *Eisenstein at Work*, 39.
92. *Ibid.*, 40.
93. Marie Seton, *Sergei M. Eisenstein* (New York: Grove Press, 1960), 158, 160.
94. *S. M. Eisenstein: Selected Works*, vol. 4, *Beyond the Stars: The Memoirs of Sergei Eisenstein*, ed. Richard Taylor, trans. William Powell (London: BFI, 1995), 201–3; Seton, *Sergei M. Eisenstein*, 139, 141; Grigori Alexandrov, "Working with Eisenstein," in *Cinema in Revolution*, ed. Luda Schnitzer, et al. (New York: Da Capo Press, 1973), 58. Luis Buñuel wrote that "Eisenstein's friends have tried to blame Alexandrov for the debacle of the dreadful and shoddy production of *Romance Sentimentale*. But I saw Eisenstein making it with my own eyes, since he was shooting it on the stage next to me when I was making *L'Age d'or*." Cited in Francisco Aranda, *Luis Buñuel: A Critical Biography* (New York: Da Capo, 1976), 87.

95. Sergei Eisenstein, "The Dynamic Square (1930)," in *S. M. Eisenstein: Selected Works*, vol. 1, *Writings, 1922–34*, ed. and trans. Richard Taylor (London: BFI, 1988), 218.
96. Letter dated (12 September 1930), Léon Moussinac, *Sergei Eisenstein* (New York: Crown, 1970), 53–54.
97. Harry Potamkin, "Playing with Sound," in *The Compound Cinema*, 86–88.
98. *Ibid.*, 9.
99. See Hugh Davies, "Drawn Sound" entry, in *The New Grove Dictionary of Musical Instruments*, vol. 3, 596–99. *The Plan for Great Works* culled footage from many other films including Vertov's *The Eleventh Year*.
100. See, for example, Eisenstein, "Beyond the Shot" (1929), in *Selected Works*, vol. 1, 138–50.
101. Eisenstein, "An Unexpected Juncture" (1928), *ibid.*, 115–22 (119).
102. *Ibid.*, 117.
103. Eisenstein, "Beyond the Shot," *ibid.*, 149.
104. Eisenstein, "Unexpected Juncture," *ibid.*, 118.
105. *Ibid.*
106. *Ibid.*, 119.
107. *Ibid.*

Chapter 6

1. Ananda K. Coomaraswamy, *The Transformation of Nature in Art* (1934; New York: Dover, 1956), 67.
2. Michael Zwerin, "A Lethal Measurement," in *John Cage*, ed. Richard Kostelanetz (New York: Praeger, 1970), 166.
3. Only a limited number of compositions may have overtly incorporated sounds in this way, but all of his music after the mid-1930s was discursively and philosophically dependent on this strategy. This general strategy within avant-garde music presents difficulties for musicology, for it requires new notions and analyses of musical materiality, including the establishment of a vantage point outside music, the source of the new materiality, in order to gain some type of critical distance. This would require an interdisciplinary approach with corresponding transformation of the object of study and would ideally then contribute toward a transformation of artistic practice.
4. John Cage, "Composition as Process" (1958), in *Silence* (Middletown: Wesleyan University Press, 1961), 41. It is helpful to hear Cage read excerpts from this text in Dick Fontaine's 1967 film *Sound??* (New York:

DOUGLAS KAHN



NOISE WATER MEAT

A HISTORY OF SOUND
IN THE ARTS

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