### Final Paper

Walter Ruttmann's *Weekend*: Sound, Space and the Multiple Senses of an Urban Documentary Imagination

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### Introduction: Sound, Urban Space and a *Weekend* in Berlin

On June 6th, 1930 a radically new form of radio was broadcast over the Berlin airwaves. An 11 minute, 20 second long collage of raw sounds greeted listeners accustomed to hearing news reports, occasional classical musical programs and, only very recently, literary works written specifically for radio performance, the nascent genre known as *Hörspiel* ("radio drama"). This startling work was *Weekend*, an audio documentary created by Walter Ruttmann, an avantgarde artist best known for his experimental filmmaking, most famously, his 1927 production *Berlin* — *Sinfonie einer Großstadt*.

Weekend marks a milestone in the history of media arts as a first significant experiment in montage-based radio. The piece consists of six "movements," transpiring from Saturday afternoon at the factory through a night out, a "pastoral" Sunday, and finally the city returning to work on Monday. Ruttmann gathered his sounds by driving around Berlin in a van with a hidden microphone, stopping at locations such as train stations, factories, and busy streets to record the uninhibited, rhythm of the city. For Ruttmann's Hörspiel, the city of Berlin itself was the main actor, avoiding any traditional theatrical performers like other literary Hörspiele of the time. Ruttmann's limited time recording in the studio was used to capture a few notes of classical instruments such as the violin and piano, but also to record the "playing" of non-traditional instruments such as a saw and hammer. Ruttmann recorded all of the material onto Tri-Ergon sound film, the Berlin company that pioneered the synthesis of sound and image technology in Europe. To understand the significance of editing and montage in Ruttmann's work, one need only look at the amount of film processed from the beginning to the final

<sup>&</sup>lt;sup>1</sup> The six movements are I "Jazz of Work" (*Jazz der Arbeit*); II "Closing Time" (*Feierabend*); III "Journey into the Open" (*Fahrt ins Freie*); IV "The Pastoral" (*Pastorale*); V + VI "Return to Work" (*Wiederbeginn der Arbeit*).

Walter Ruttmann, "Berlin als Filmstar," in *Berliner Zeitung*, September 20, 1927. Re-printed in *Walter Ruttmann. Eine Dokumentation*, ed. Jeanpaul Goergen (Berlin: Freunde der Deutschen Kinemathek, 1989), 79.

product. After recording, Ruttmann had amassed 2000 meters of film, and the final piece was only 250 meters long, stitched together from 240 individual segments.<sup>3</sup>

The first minute of WEEKEND, part of the "Jazz of Work" section, gives a strong impression of the overall work. Ruttmann opens with a growing sequence of gongs, spliced together at metric intervals, eventually growing in a crescendo into the sound of a factory machine, followed immediately by the repeated cuttings of a saw and a hammer, both also operating at the same rhythm and meter. Then, a church bell sounds, and the machine returns, for a more extended sequence, pulsating at a higher level. The act of detailed editing is now very clear: quick cuts to a few beats of the hammer and then back to the machine, a few cuts of the saw and then back to the whir of the machine. Another church bell sounds. We hear a car start. A sequence of high-pitched notes on the violin. A single key of the piano. Then, a man's voice, muffled like on a telephone. "Hallo Fraülein." Quick cut to the clicking coins of an opening cash register. "Bitte Döhnhof zwoundvierzig vier null." Cut back to the cash register. The conversation is then broken, we hear a child's voice, and then the thumping engine of a car driving. The spoken fragments are treated first as independent sonic elements, and secondarily as narrative tools. Altogether, the first minute of *Weekend* is a whirlwind of acoustic experiences, together giving a highly visceral sense of the modern industrial city, the texture of its inhabitants' voices, and its web of transportation and communication networks.

It is not surprising that Ruttmann, a pioneer of montage in film, instigated this innovation in the sphere of sound. To understand *Weekend*, one must also understand Ruttmann's earlier urban documentary, *Berlin*. In *Berlin*, Ruttmann had already illustrated the potential for applying montage techniques towards the representation of urban life. For over a year, Ruttmann traveled

<sup>&</sup>lt;sup>3</sup> Antje Vowinckel, *Collagen im Hörspiel. Die Entwicklung einter Radiophonen Kunst* (Würzburg: Könighausen und Neumann, 1995), 60.

around the city in a van with a concealed camera, much as he would do with the microphone for *Weekend*. He then took this mountain of material, and through extensive editing, produced the final work that portrays the diverse life of the city from dawn until night. The film progresses from its opening shots of trains arriving into the metropolis before the city has fully awakened to final images of fireworks culminating a celebratory evening. Throughout, Ruttmann deploys sophisticated montage techniques, creating juxtapositions and transitions along conceptual and formal lines. Albeit a symphony, *Berlin* was a silent film. But Ruttmann's subtitle *sinfonie* hints at his larger interest in sound and musicality.

My aim here is to develop an analysis of *Weekend* in the context of the discourse of documentary arts, sensorial experience, and urban representation. While groundbreaking on many fronts, I am most interested in Ruttmann's attempt to represent the urban experience in a purely sonic form through documentary recordings. For as Fran Tonkiss writes, "The modern city, for all that there is to see, is not only spectacular: it is sonic." It is precisely this interplay between the visual and the aural in the context of urban space and its representation through montage that makes Ruttmann's work so compelling. While my analysis focuses on Ruttmann's *Weekend*, I also travel through the work and theory of other avant-garde critics and artists of the time, especially Rudolf Arnheim, Dziga Vertov, Alfred Döblin, and Walter Benjamin. Recent research into the role of the senses in experiencing place conducted in geography and neuroscience helps further develop the framework for my theoretical arguments. Cultural geographer Gerald Pocock writes, "[Sound] is dynamic: something is happening for sound to exist. It is therefore temporal, continually and perhaps unpredictably coming and going, but it is also powerful, for it signifies existence, generates a sense of life, and is a special sensory key to

<sup>&</sup>lt;sup>4</sup> Fran Tonkiss, "Aural Postcards: Sound, Memory and the City," in *The Auditory Culture Reader*, ed. Michael Bull and Les Back (Oxford: Berg, 2003), 304.

interiority." It is the auditory faculty's unique "key to interiority" that can be developed through temporary blindness that grounds my final argument about the new subjectivity suggested by Ruttmann's Weekend.

# Critical Context: A Brief Survey of the Literature on Ruttmann

Ruttmann's career, and the existing discourse around his work. Scholarship on Ruttmann's work as a whole is slim, especially in English-language literature, but even in his native Germany. The *Berlin* film has received significant critical attention, but his early experiments in painting, abstract film, and in particular, his experiments with sound, have been largely ignored. Very little has been written about *Weekend*, either in the critical media of the time or in academic research since. Following its broadcast, there was critical response from some Weimar intellectuals. Writing in the *Film-Kurier* journal at the time, critic Lotte H. Eisner described Ruttmann's project as "photographing space through sound." Hans Richter — friend, fellow avant-garde filmmaker and Dada artist — called it "a symphony of sound...woven into a poem." Also, renowned film editor Paul Falkenberg wrote a short essay for *Film Culture* applauding Ruttmann's sound editing innovations.

Within the academic arena, there are a few paragraphs and quick oblique references in some books of German literary criticism on the *Neües Horspiel* of the 1960s, where the authors name *Weekend* to establish the historical context of the genre. The most extensive treatment of *Weekend* is a section in Antje Vowinckel's *Collagen im Hörspiel*, in which she critically historicizes the work over seven pages. Vowinckel also includes a very helpful diagram that maps the progression of sounds through the piece. Vowinckel's argument revolves around Ruttmann's treatment of space and time. She details how Ruttmann's subtle use of volume and

<sup>&</sup>lt;sup>5</sup> Lotte H. Eisner, "Walter Ruttmann ein Film-Hörspiel," in *Film-Kurier* Nr. 33 (1930). Re-printed in *Walter Ruttmann. Eine Dokumentation*, ed. by Jeanpaul Goergen (Berlin: Freunde der Deutschen Kinemathek, 1989), 131.

Hans Richter, "Experiments with Celluloid," *The Penguin Film Review* 9 (1949): 114. Quoted in Mark E. Cory, "Soundplay: The Polyphonous Tradition of German Radio Art," in *Wireless Imagination. Sound, Radio, and the Avant-Garde,* ed. by Douglas Kahn and Gregory Whitehead (Cambridge: MIT Press, 1992), 340-341.

distance from the microphone spatializes such sounds as doors opening and closing, trains leaving the station, and the progression of cars in traffic, successfully placing the listener into the aural-spatial context of the city itself.<sup>7</sup>

It is likely Ruttmann has not received the same attention as his avant-garde colleagues, because of his later affiliations with the Nazis. Ruttmann remained in Germany after Hitler's rise to power and joined the NS propaganda machine, directing industry films and working as an assistant on Leni Riefenstahl on *Triumph of the Will*. In the work that has been done on Ruttmann, not surprisingly, a major focus of scholarship has been on this issue of politics and centered on Ruttmann's filmic output, especially *Berlin*.

Sigfried Kracauer published a damning critique of *Berlin* shortly after its release in his essay "Film 1928," and he further developed his criticism in his 1947 book *From Caligari to Hitler*. The crux of his argument was that although *Berlin* had its roots in recording the real life of the city, "it is just as blind to reality as any other feature film, and this is due to its lack of a political stance.... There is nothing to see in this symphony, because it has not exposed a single meaningful relationship." In recent years, Sabine Hake has furthered Kracauer's critique. She uses concepts such as scopophilia, visual pleasure, and voyeurism to argue that Ruttmann is propagating "a new kind of urbanism rooted in imagination and desire" where "the celebration of the image as such confirms spectatorship as the dominant mode of relating to the outside world," fundamentally conflating "visual perception and social experience." She believes the film brings "to perfection the fetishization of spectacle and specularity," but "without critical awareness."

<sup>&</sup>lt;sup>7</sup> Vowinckel, 61.

<sup>&</sup>lt;sup>8</sup> Sigfried Kracauer, "Film 1928" in *The Mass Ornament: Weimar Essays*, trans. by Thomas Levin (Cambridge: Harvard University Press, 1995): 318.

Sabine Hake, "Urban Spctacle in Walter Ruttmann's *Berlin, The Symphony of a Great City*," in Thomas W. Kniesche and Stephan Brockmann, eds., *Dancing on the Volcano. Essays on the Culture of the Weimar Republic* (Columbia, SC: Camden House, 1994): 127-42. My reference to Hake is via Martin Gaughan, "Ruttmann's Berlin: Filming in a 'Hollow Space'?" in *Screening the City*, Mark Shiel and Tony Fitzmaurice, eds. (New York: Verso, 2003): 49.

Film historian Barry Fulks develops a similar argument about *Berlin*, also drawing direct connections between *Berlin* and Ruttmann's later work with the Nazis. He writes,

Hailed upon its release as a revolutionary work of art, one that "flays our retinas, our nerves, our consciousness," Berlin is still venerated by film historians for its brilliant editing and imaginative structure. However, in the 1920s some perceptive critics, including Siegfried Kracauer and Paul Friedländer, lambasted its failure to establish any meaningful connections among the phenomena it portrayed. Such censure was well-founded, for Berlin reduced urban modernity to the spurious common denominators of dynamism, rhythm, and an aestheticized, reified technology, all of which were enveloped in a vacuous display of optical pyrotechnics. Indeed, these ideas and attitudes came to full fruition within the embrace of National Socialism. Ruttmann's world of abstract forms and stylized technology was fully integrated into the National Socialist public sphere and thereby into the latter's consummation: the mythologization and heroicization of imperialism and barbarism. Thus Berlin, far from being simply another "great film," must also be regarded as a precursor of a genre in which Ruttmann himself later specialized—the Nazi documentary film. The service of the s

While in no way attempting to apologize for Ruttmann's politics late in his career, I believe a nuanced study of *Weekend* can help reveal broader contours about the nature of his larger artistic project. I believe the claim the film exclusively glorifies urban modernity is overstated. I agree with Wolfgang Natter, who argues "viewers distressed by modernization would have found an ample catalogue of symptoms depicted in the film." Moreover, the reactionary, right-wing of German politics despised cosmopolitan Berlin, trumpeting the values of *Gemeinschaft* they associated with the country over the *Gesellschaft* of the city.

I do not disagree that *Berlin's* most significant achievements are formal, and that it does not develop an acute social critique of the city during Weimar times. Similarly, *Weekend*'s most significant innovations are formal. I would argue, however, that it is precisely this formal experimentation within the exclusively sonic arena that endows *Weekend* with a critical dimension. If there is a unifying trajectory from Ruttmann's beginnings in abstract painting, through the earliest light and color filmic experiments to *Berlin* and *Weekend*, it is a consistent

<sup>10</sup> Barry Fulks, "Walter Ruttmann, the Avant-Garde Film, and Nazi Modernism," Film and History (May 1984): 26-35.

Wolfgang Natter, "The City as Cinematic Space: Modernism and Place in *Berlin, Symphony of a City*," in *Place, Power, Situation, and Spectacle: A Geography of Film*, eds. Stuart Aitken and Leo Zonn (Lanham, MD: Rowman and Littlefield Publishers, 1994): 215.

investigation of the boundaries of medium-specificity and a challenge to the illusions of representation. Ruttmann never claimed his choice to work with documentary material was in an effort to further social justice, but that the documentary project and its necessary relationship to questions of reality were critical to the experimental media artist's goal of interrogating the ontology of art. If Ruttmann's aim was indeed "the celebration of the image as such confirms spectatorship as the dominant mode of relating to the outside world," as Hake claims, why produce a work like *Weekend* three years later that fundamentally challenges this dominant mode of visual spectatorship? It is this unveiling of modernity's ocularcentricity and the expansion of radio as a medium that gives *Weekend* its poignancy.

# Montage, Movement, Modernity, Documentary Arts and the Sensorium: *Weekend* in the Context of the European Avant-Garde

Ruttmann did not discuss *Weekend* extensively, but he did write a brief description of the piece. He said, "Weekend is a study in sound-montage.... In Weekend sound was an end itself." These two short statements help to open a brief tour of the historical context in which the piece was developed. Weekend follows almost twenty years of experimentation with sound and montage across multiple media in the European avant-garde. Some of the earliest provocation in the sonic arena was from the Italian futurists Marinetti, Russolo and Pratella. In 1913, Russolo wrote: "Let us travel together across a great modern capital, ears more attentive than eyes, and we will vary the pleasure of our sensibility in distinguishing the gurgling of water, of air, of gas in metal pipes." Russolo constructed enormous, strange instruments for playing the sounds of the city, and authored a manifesto entitled The Art of Noise. Russolo's theories of "bruitismo" had a strong impact on the Dada artists in Zürich a few years later, who performed "noise concerts" ("le concert bruitiste"). These loud nights lead the Dadaists to further experiments with sound poems, where the sound of the voice took precedence over the meaning of the words.

Weekend was also developed in the context of widespread experiments into the representation of the rapid changes instigated by mass industrialization and modernization. In 1919, during his early work with abstract painting, Ruttmann recognized this. He wrote, "The specific character of time today is foremost brought forth through the 'tempo' of our times." <sup>14</sup> Montage was seen as a particularly adept technique for illustrating these jarring, dynamic

<sup>&</sup>lt;sup>12</sup> "Jerzy Toeplitz im Gespräch mit Walter Ruttmann," in *Wiadomsci Literackie* 28 (1933): 499. Re-printed in *Walter Ruttmann*. *Eine Dokumentation*, ed. Jeanpaul Goergen (Berlin: Freunde der Deutschen Kinemathek, 1989): 90.

Quoted in Georges Sadoul, "Dziga Vertov," in *Cahiers du Cinéma*, (May/June 1970): 19. This translation is by Lucy Fischer in her article "*Enthusiasm*: From Kino-Eye to Radio-Eye" in *Film Quarterly*, Vol. 31, No. 2 (Winter, 1977-78): 26.

Walter Ruttmann, "Malerei mit Zeit," in *Film als Film*, eds. Birgit Hein and Wulf Herzogenrath (Stuttgart, 1977): 63-64. Reprinted in *Walter Ruttmann. Eine Dokumentation*, ed. Jeanpaul Goergen (Berlin: Freunde der Deutschen Kinemathek, 1989): 74.

transformations. Describing Hannah Höch's famous 1919 collage *Cut with a Kitchen Knife*, Maud Levin writes, "The power of Dada is signified, on several levels, by movement; Dada is a destabilizing force. In addition to the formal echoing of the wheels and roller bearings, the dynamic action of the compositional design is paralleled iconographically by images indicating movement, either by machines or female dancers or revolutionary scenes." Dadaism's use of montage further overlapped with Ruttmann's practices in its use of documentary materials. As Walter Benjamin writes, "The material of the montage is anything but arbitrary. Authentic montage is based on the document. In its fanatical struggle with the work of art, Dadaism used montage to turn daily life into its ally."

One of the filmmakers of the 1920s and 1930s who has received critical attention for his work using montage, documentary, and sound to represent urban experience is Soviet director Dziga Vertov. He is often grouped with Ruttmann in historical studies of urban documentary film, as his most famous work, *Man with a Movie Camera* from 1929 traces the day in the life of Moscow, much like Ruttmann's earlier *Berlin* film. While there are significant differences between Vertov's and Ruttmann's work, especially the revolutionary politics that were fundamental to Vertov's project, I believe Vertov's theoretical writings and artistic output can help interpret Ruttmann's work.

Vertov and his fellow Kinoks believed that the essence of the camera was its ability to capture things in the world that the human eye could not see itself. Outlining the fundamental theory of his philosophy of film, Vertov wrote:

The main and essential thing is: The sensory exploration of the world through film. We therefore take as the point of departure the use of the camera as a kino-eye, more perfect than the human

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16 Walter Benjamin, "The Crisis of the Novel," in *Selected Writings*, eds. Michael Jennings, Howard Eiland, and Gary Smith, trans. Rodney Livingstone et al., Vol. 2, part 1 (Cambridge: Harvard University Press, 1999): 301.

<sup>15</sup> Maud Levin, Cut with the kitchen knife: the Weimar photomontages of Hannah Höch (New Haven: Yale University Press): 23.

eye, for the exploration of the chaos of the visual phenomena that fills space.<sup>17</sup>

Vertov was interested in using modern recording technologies to facilitate a critical awareness of the limits of human perception. In *Man with a Movie Camera*, Vertov represents not only the city of Moscow, but also reflects directly upon the making of the film itself, consistently including the camera, cinematographer, and editors themselves in montage sequences. For the viewer, although most of the footage is clearly drawn from the everyday life of Moscow, there is no question that the film is not equivalent to the reality of the city, but instead constructs its own artificial reality. The film folds in upon itself as an inquiry into the ontological basis of cinematic representation.

Film theorist Annette Michelson argues in her classic 1972 essay "From Magician to Epistemologist: Vertov's *Man with a Movie Camera*" that this unveiling of cinematic illusion is what drives Vertov's work. She writes,

We must then, looking at *The Man with the Movie Camera*, see, in that eye reflected by the camera lens, Vertov as defining — through the systematic subversion of the certitudes of illusion — a threshold in the development of consciousness. "Rendering uncertainty more certain," he invited the camera to come of age, transforming with a grand cartesian gesture *The Man with a Movie Camera* from a Magician into an Epistemologist. <sup>18</sup>

From the beginning, Vertov was not only interested in film and vision, but also sound and hearing. In 1916, Vertov created a "Laboratory of Hearing" in order to perform Futurist-influenced sound experiments, but the technology of a wax disc recorder was not yet sophisticated enough to do the types of real-world recording and editing he imagined. <sup>19</sup> Vertov also wrote specifically about radio in dialogue with film, also seeing the medium also a tool for stimulating new perceptions of the world, while recognizing sound and hearing as its basis. He

<sup>&</sup>lt;sup>17</sup> Dziga Vertov, *Kino-Eye: The Writings of Dziga Vertov*, ed. Annette Michelson, trans. Kevin O'Brien (Berkeley: University of California Press, 1984): 15.

Annette Michelson, "From Magician to Epistemologist: Vertov's *Man with a Movie Camera*" in Artforum (New York), March 1972. My quotation is taken from a re-printing in *The Essential Cinema: Essays on Films in the Collection of Anthology Film Archives*, ed. P. Adams Sitney (New York: Anthology Film Archives and New York University Press, 1975): 111.

<sup>19</sup> Lucy Fischer, "Enthusiasm: From Kino-Eye to Radio-Eye," in Film Quarterly, Vol. 31, No. 2 (Winter, 1977-78): 26.

wrote, "My path leads to the creation of a fresh perception of the world. I decipher in a new way a world unknown to you. Once more let us agree: the eye and the ear. The ear does not spy, the eye does not eavesdrop. Separation of functions. Radio-ear — the montage "I hear!" Kino-eye — the montage "I see!" So it is no surprise that shortly after completing *Man with a Movie Camera*, Vertov moved on to experiments with the nature of sonic representation. This work had a similar aim "to break the naturalistic illusion of the sound medium," and was also directly influenced by Ruttmann.<sup>21</sup>

Ruttmann's work was familiar to the Soviet avant-garde, including *Weekend*. Hans Richter, a member of the Zürich and Berlin Dada groups, was an early friend of Ruttmann's, when they worked together in pioneering abstract film in the late 1910s, early 1920s. In his memoirs of the Weimar era *Köpfe und Hinterköpfe*, Richter describes in detail his opinion of *Weekend* and the work's reception by Russian film icon Vsevolod Podovkin. Richter writes,

In an entirely new approach to audio, Walter Ruttmann created a sound montage *Weekend* for German radio, and he played this work for Podovkin. Podovkin's response was characterized by an over-enthusiastic temperament, that was not only excitement for Ruttmann's work, but he flatly declared that in *Weekend* Ruttmann had resolved the problem of sound in the most spontaneous and basic way through his technique of associated montage. Even seen from today, one cannot disagree with Podovkin's judgment. By not treating sound naturalistically as had become common in sound-film — that means, when the mouth opens and moves, then words must come out — but instead treating sound creatively and musically, Ruttmann had in fact established the artistic domain for the sound-film. From isolated sonic impressions he created new unities: from the scrambling and pushing of people at the train station; the clatter of the trains, the stomping, singing, and cursing, snoring, playing, and quarreling of the travelers, to the silence of the landscape, only broken up by the whispering of lovers and crying children being taken home — everything in sound strung together like a pearl necklace. In this way Ruttmann had indeed created a masterpiece.

Besides Podovkin's purely objective and justified approval of Ruttmann's sound experiments, it is likely another reason contributed to Podovkin's show of excitement. Ruttmann's technique of associative montage was in principle nothing other than the transfer of Russian image montage to sound. That Ruttmann had made this step was his extraordinary achievement.

Ruttmann's action kept alive the creativity of the new medium that the whole Russian film generation had built up for over ten years, as they had been able to develop film as an art to a never previously achieved height. In this way, the new art of montage that was threatened with the

<sup>&</sup>lt;sup>20</sup> Vertov, *Kino-Eye*: 18.

<sup>&</sup>lt;sup>21</sup> Fischer, "*Enthusiasm*: From Kino-Eye to Radio-Eye": 28.

introduction of sound, had been saved by Ruttmann on the grounds of sound itself. The development then that the Russian greats Vertov, Kuleshov, Eisenstein, Podovkin, Dovjenko had initiated, could now continue to grow uninhibited, now even encouraged by these new impulses.<sup>22</sup>

With the introduction of sound, many directors and theorists had become concerned with the potential loss of artistic experimentation that had prevailed during film's silent era. Many feared, rightfully so, the naturalization of film through sound, the exact opposite of Ruttmann's approach in *Weekend*, as Richter recognized. Although operating in different political circumstances, Podovkin recognized the power of Ruttmann's *Weekend* to further the montage project initiated by the Soviet avant-garde.

Ruttmann's innovation was indeed shortly picked up by Vertov himself. In 1931, he produced the Soviet Union's first sound film *Enthusiasm: Symphony of the Donbas*. The work effectively combined his efforts in visual and sonic montage, as the soundtrack was recorded independently, but scored in piercing dialogue with the images. Describing the project, he wrote "the primary, the particular significance of *Enthusiasm* lies in its decisive resolution of the issue of the possibilities and impossibilities of documentary sound filming on location." In her essay "*Enthusiasm*: From Kino-Eye to Radio-Eye," Lucy Fisher argues "Vertov intended for us not to be referred to the space of the film, but rather to the space of the outside world. This statement may seem confusing and paradoxical in that *Enthusiasm* in no way seems to replicate our impression of reality." Although written about *Enthusiasm*, her argument can also be applied to Ruttmann's *Weekend*, as it a clear precursor to Vertov's work. She continues,

But this is not paradoxical if one recalls that for Vertov the notion of documentary in no way implied a document of the human experience of the world, one confined by an imperfect biological perceptual apparatus and bodily limitations of time and space. For Vertov, his films were a document of a world unmediated by normal human perception. "My road," he said, "is to a fresh perception of the world."

The purpose of this liberation from human experience (and thus the rationale for a complexity of

<sup>&</sup>lt;sup>22</sup> Hans Richter, *Köpfe und Hinterköpfe* (Zürich: Verlag der Arche, 1967): 156-157. Translation from the German by the author.

<sup>&</sup>lt;sup>23</sup> Vertov, *Kino-Eye*: 107.

technique) was to afford the viewer a conceptual knowledge unavailable to him in his normal perceptual state, to allow him to "decipher in a new way the world unknown to him." <sup>24</sup>

Ultimately, the fundamental strength of *Weekend* is its power to evoke sensitivity to the sonic landscape of the city and "a fresh perception of the world." And perception and sensorial experience of the world is always linked to the body, because it is the locus of all sense organs and the brain, as well as our immediate means for movement and exploration of the environment. Paul Rodaway writes, "Geographical experience is fundamentally mediated by the human body, it begins and ends with the body."

Devin Fore has done insightful research into notions of the body, the sensorium, documentary, the representation of urban space, and montage aesthetics in the work of Alfred Döblin, famed author of the classic Weimar era novel, *Berlin Alexanderplatz*. Döblin conceptualized the sensorium itself as a vehicle for thought. He wrote, "The eyes and ears are organs of thought [*Denkorgane*], along with the muscles, innards, their feelings, desires." Fore's research uncovers the surprising links between Döblin's thought and German philosopher Fritz Mauthner. Döblin had frequent correspondence with Mauthner throughout his life, and also read and cherished Mauthner's novels and philosophical texts. Mauthner's influence on Döblin is most evident in Döblin's 1927 natural-philosophical work *The Ego Above Nature*, "in which he extended Mauthner's...assault on the dualist worldview that opposes fact and empirical sensation to thought and language." Döblin later even wrote that this book was a different approach to the same subject as *Berlin Alexanderplatz*. The key issue at stake in both is the "relationship

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Fischer, "Enthusiasm: From Kino-Eye to Radio-Eye": 33.

<sup>&</sup>lt;sup>25</sup> Paul Rodaway, *Sensuous Geographies* (New York: Routledge, 1994): 31.

Alfred Döblin, *Das Ich über der Natur* (Berlin: Fischer, 1928). Quoted here from Devin Fore, "Döblin's Epic: Sense, Document, and the Verbal World Picture," in *New German Critique* 99, Vol. 33, No. 3, Fall 2006: 181.

<sup>&</sup>lt;sup>27</sup> Devin Fore, "Döblin's Epic: Sense, Document, and the Verbal World Picture," in *New German Critique* 99, Vol. 33, No. 3, Fall 2006: 180.

<sup>&</sup>lt;sup>28</sup> Ibid.: 180.

between somatic experience and abstract thought — a relationship that is a central theoretical preoccupation of documentary work."<sup>29</sup> This is the same tension embodied in Ruttmann's Weekend.

Fore concisely summarizes Mauthner's philosophy of the senses, a body of thought that "does not lament the irreversible loss of a state of ontological certitude but celebrates the creative forces unleashed in this process of epistemological destabilization."<sup>30</sup> Fore writes,

For Mauthner, sensory configurations are...in no way ontologically fixed but are instead historically and culturally conditioned, always already structured by orders of contingency, or Zufall. Viewing subjectivity as an essentially subtractive function. Mauthner posited the existence of three orders of contingency that function as filters to limit the channels of sensory data and thereby reduce the complexity of the environmental conditions for the perceiving organism. As a result, Mauthner argued that consciousness and perceptual objectivity were inversely correlated: the more complex a life form, the more elaborated and rigorous the systems it deploys to limit and organize sensory data and, ultimately, the more completely removed it is from the unmediated perception of the pure sensations. The claim that the atom perceives everything while the human perceives infinitely less could be formulated more axiomatically: Knowledge precludes Being. It turns out, then, that the 'world picture of the amoeba is more objective than that of the human; the amoeba's orientation within the vibrations of the world will be closer to reality.' Amoebic perception comes closer to the documentary ideal of objectivity than that of the overly cephalized human.31

Whereas today, the notion of documentary has become laden with claims to objectively represent truth, the discourse around documentary representation in the 1920s recognized the necessarily subjective nature of any documentary work. The emphasis of artists like Ruttmann, Vertov, and Döblin was not on capturing and representing a supposedly fixed reality, but instead using media to facilitate a critical consciousness about the contingency of human perception.

Mariam Hansen also locates a crucial dimension of Walter Benjamin's thought in his consideration of the sensorium. In particular, she examines his writings on the relationship between humans and modern technology. While her writing ultimately seeks to trace Benjamin's theory of film, it is relevant to an understanding of Weekend. Ruttmann's approach to

<sup>&</sup>lt;sup>29</sup> Ibid.: 178.

<sup>&</sup>lt;sup>30</sup> Ibid.: 202.

<sup>&</sup>lt;sup>31</sup> Ibid.: 179.

documentary, like that theorized by Vertov, uses recording technologies as a means to reconsider the veracity of our sensory perception. As a work produced in the early stages of the
new technological medium of sound, *Weekend* must also be understood as an inquiry into the
relationship between sound recording as a technological possibility and the unmediated sound
perception of human hearing. The crux of Hansen's analysis of Benjamin's theorization of the
senses is innervation. She writes,

If there is a key term in Benjamin's efforts to imagine an alternative reception of technology, it is the concept of innervation. Related to the notion of an optical unconscious familiar from the artwork essay, *innervation* refers, broadly, to a neurophysiological process that mediates between internal and external, psychic and motoric, human and mechanical registers....

Innervation as a mode of regulating the interplay between humans and (second) technology can only succeed (that is, escape the destructive vortex of defensive, numbing adaptation) if it reconnects with the discarded powers of the first, with mimetic practices that involve the body, as the "preeminent instrument" of sensory perception and (moral and political) differentiation.<sup>32</sup>

Benjamin recognizes the centrality of the body in constituting subjectivity. As the interface between the internal and external, between the human and the technical, innervation is an essential instance for understanding perception in modernity.

It is *One Way Street* that "Benjamin seeks to reactivate the abilities of the body as a medium in the service of imagining new forms of subjectivity." In the passage titled "Madame Ariane: Second Courtyard on the Left" he writes,

For presence of mind is an extract of the future, and precise awareness of the present moment is more decisive than foreknowledge of the most distant events. Omens, presentiments, signals pass day and night through our organism like wave impulses. To interpret them or to use them: that is the question. Cowardice and apathy counsel the former, lucidity and freedom the latter....

But it is not with impunity that these intentions are exchanged, that unlived life is handed over to cards, spirits, stars, to be in an instant squandered, misused, and returned to us disfigured; we do not go unpunished for cheating the body of its power to meet the fates on its ground and triumph. The moment is the Caudine Yoke beneath which fate must bow to the body. To turn the threatening future into a fulfilled "now," the only desirable telepathic miracle, is a work of bodily presence of mind.<sup>34</sup> (483)

Walter Benjamin, "One Way Street," in *Selected Writings*, eds. Michael Jennings, Howard Eiland, and Gary Smith, trans. Rodney Livingstone et al., vol. 1 (Cambridge, MA: Belknap Press of Harvard University Press, 1999): 482-483.

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Miriam Bratu Hansen, "Benjamin and Cinema: Not a One-Way Street," in *Critical Inquiry* 2 (Winter 1999): 313 and 318.

33 Ibid: 321

The body and the mind are linked, the whole sensorium is understood as a constellation of "thinking organs." The significance of Benjamin's formulation is that "it reminds us that 'precise awareness of the present moment' is the very condition of possibility of effective agency." <sup>35</sup>

Ruttmann's *Weekend* likewise suggests a mode of being in the city rooted in a "bodily presence of mind." In *One Way Street* Benjamin also writes, "No imagination without innervation." Listening to *Weekend* is a visceral experience of innervation itself, and the result is a destabilized imagination. While the urban sound fragments *Weekend* are familiar, they are de-familiarized and made fresh through the act of montage. The modern urban subject accustomed to visualizing space, is invited to hear his or her everyday environment, cultivating a new mode of attentively listening to the city.

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<sup>35</sup> Hansen, "Benjamin and Cinema: Not a One-Way Street": 326.

<sup>36</sup> Benjamin, "One Way Street": 466.

### Ruttmann's "Blindness": Towards New Radio Geographies

In interviews and his own writings, Ruttmann repeatedly called *Weekend* a "blind film," a highly adept and evocative description.<sup>37</sup> In Rudolf Arnheim's groundbreaking 1936 study of radio, he locates the medium's unique artistic possibilities in its absence of sight. He writes, "The particular development of wireless towards its real essentials begins, then under the influence of its blindness." While much of the early discussion surrounding radio focused on its potential for political agitation through mass communication, Arnheim was one of the first theorists to approach the medium aesthetically, to explore "wireless as a means of expression." Dr. von Boeckmann, one of the heads of radio in Germany, saw the medium as sensorily deficient in its lack of imagery, and that to compensate producers should focus primarily on helping listeners imagine pictures in their mind. Instead, Arnheim believed radio was most powerful when it leveraged its uniquely non-visual character, its "blindness," creating its own aural world rather than striving foremost to convey visual pictures. For Arnheim, the key to successful radio is work focused on the unique nature of the medium, its renunciation of the eye. He writes,

The wireless artist must develop a mastery of the limitations of the aural. The test of his talent is whether he can produce a perfect effect with aural things, not whether his broadcast is capable of inspiring his listeners to supplement the missing visual image as realistically and vividly as he can. 42

Arnheim did not deny that listeners would indeed foster images in their mind, but he wanted to secure a space within the medium for purely sonic experimentation, where the affect would be emotional and non-literal as in music.

40 Ibid.: 136-137.

<sup>&</sup>lt;sup>37</sup> "Jerzy Toeplitz im Gespräch mit Walter Ruttmann," in *Wiadomsci Literackie* 28 (1933): 499. Re-printed in *Walter Ruttmann. Eine Dokumentation*, ed. Jeanpaul Goergen (Berlin: Freunde der Deutschen Kinemathek, 1989): 90.

Rudolf Arnheim, *Radio*, trans. Margaret Ludwig and Herbert Read (London: Faber and Faber, 1936): 176.

<sup>&</sup>lt;sup>39</sup> Ibid.: 14.

<sup>&</sup>lt;sup>41</sup> Ibid.: 176.

<sup>&</sup>lt;sup>42</sup> Ibid.: 136.

For Arnheim, it is radio's space outside of vision's hegemonic position that makes it so powerful, as it can help to destabilize our normalized sensory state. He writes,

The sensory preponderance of the visual over the aural in our life is so great that it is very difficult to get used to considering the aural world as more than just a transition to the visual world....

By the disappearance of the visual, an acoustic bridge arises between all sounds.... What hitherto could exist only separately now fits organically together; the human being in the corporal world talks with disembodied spirits, music meets speech on equal terms."43

Weekend derives its emotive power from this "acoustic bridge." Ruttmann immerses listeners in the auditory landscape of the city, foregrounding the aural qualities of phenomena often represented visually.

While the basis of *Weekend* is its rejection of traditional visual representation, the work should not be seen in exclusively aural terms. Like the lived experience of the city, Ruttmann creates a rich, multisensorial environment. Writing from the field of art history and visual studies, W.J.T. Mitchell argues, "There are no purely visual media because there is no such thing as pure visual perception in the first place."44 For Mitchell, there is no such thing as "reified sensory labels such as 'visual,' 'aural,' and 'tactile'," but instead that "the specificity of media...is, rather, a question of specific sensory ratios that are embedded in practice, experience, tradition, and technical inventions." Mitchell's approach is supported by recent discoveries within neuroscience. Oliver Sacks writes that "there is increasing evidence... for the extraordinary rich interconnectedness and interactions of the sensory areas of the brain, and the difficultly, therefore, of saying that anything is purely visual or purely auditory, or purely anything."46

Mitchell also highlights how often multiple media are "nested" within each other, for

<sup>&</sup>lt;sup>43</sup> Ibid.: 136 and 195.

<sup>&</sup>lt;sup>44</sup> W.J.T. Mitchell, "There Are No Visual Media," in *Journal of Visual Culture* 4.2 (2005): 264.

<sup>&</sup>lt;sup>46</sup> Oliver Sacks, "The Mind's Eye: What the Blind See," in *Empire of the Senses*, ed. David Howes (New York: Berg, 2005): 33. Page 20

example when a television program is treated as the subject of a film. Weekend demonstrates the effectiveness of such an approach to media analysis. In Weekend, the sound of the saw does not evoke an image of a saw. Instead, the sound functions independently, rhythmically, musically. The sound of a train, though, is more recognizable and is not spliced and repeated like an independent note. The rhythm of the train is the actual rhythm of the train, as it operates in the city. However, Ruttmann subverts a purely literal representation by embedding the sound of the train in the overall montage as another musical component. It is, in Mitchell's terms, thereby "nested." The blindness of the medium remains foregrounded, while the visual is not entirely suppressed. Weekend, effectively utilizing the unique potential of radio, offers a context for the sighted to become temporarily blinded.

Ruttmann's *Weekend* actively engages the dual notions of hearing and listening. Rodaway delineates the difference latent in these related, yet distinct terms. He writes, "To hear is to register auditory sensation or vibration. To listen is to pay attention to auditory phenomena." *Weekend* directly confronts this dynamic between passive and active, as it effectively transforms that which is normally only heard into something to which to listen. In other words, *Weekend* helps train a more effective listening, such that "a mere cacophony or noise can become a delightful music — a symphony of nature or an urban tone poem."

The ability to train listening, or more generally to alter one's sensory capabilities has also been illustrated by research in contemporary neuroscience, in particular research that has been on the effects of temporarily induced blindness. Sacks writes,

Alvaro Pascual-Leone and his colleagues in Boston have recently shown that, even in adult sighted volunteers, as little as five days of being blindfolded produces marked shifts in non-visual forms of behavior and cognition, and they have demonstrated the physiological changes in the

<sup>47</sup> Mitchell, "There Are No Visual Media": 262.

<sup>&</sup>lt;sup>48</sup> Rodaway, *Sensuous Geographies*: 97.

<sup>&</sup>lt;sup>49</sup> Ibid.: 97.

brain that go along with this. And in June 2003, Italian researchers published a study showing that sighted volunteers kept in the dark for as little as ninety *minutes* may show a striking enhancement of tactile-spatial sensitivity.

The brain, clearly, is capable of changing even in adulthood. 50

Ruttmann's *Weekend* is like a blindfold, and it effects might go so far as even changing the physiological character of the brain.

One of the most remarkable stories of intentionally cultivating a heightened sense auditory sense is the life of John Hull, documented in his memoir *Touching the Rock: An Experience of Blindness*. A professor of religious education, Hull had developed cataracts at the age of thirteen, losing sight in left eye fours year later, and ultimately going completely blind at the age of forty-eight. Initially distressed by his loss of sight, Hull came to adopt his new condition with great passion, theorizing a form of "deep blindness" that facilitated a fuller development of his other senses, in particular hearing. <sup>51</sup> In his diary Hull writes,

The idea of a nice day is largely visual. A nice day occurs when there is a clear blue sky.... For me, the wind has taken the place of the sun, and a nice day is a day when there is mild breeze. This brings into life all the sounds in my environment. The leaves are rustling, bits of paper are blowing along the pavement, the walls and corners of large buildings stand out under the impact of the wind, which I feel in my hair and on my face, in my clothes.<sup>52</sup>

Like many 20<sup>th</sup> century cultural critics<sup>53</sup>, Hull identified a sense of sight with a potential for dominance over its object. He writes,

The evil eye has power over the world, but nobody every heard of an evil ear... The ability to close one's eyes represents the power one has over things that are seen, the power to exclude. Hearing, however, is always receptive, whether to sound or to silence. You can look away, but you cannot listen away. 54

In contrast to a mode of being dominated by sight, Hull revels a consciousness attuned to the receptive nature of auditory perception.

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 $<sup>^{50}</sup>$  Sacks, "The Mind's Eye: What the Blind See": 28.

<sup>51</sup> Ibid · 26

<sup>&</sup>lt;sup>52</sup> Jeff Hull, *Touching the Rock: An Experience of Blindness* (London: SPCK Publishing, 1990): 12.

Here I am thinking of the intellectual history in Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press, 1993).

Hull, *Touching the Rock*: 126.

Hull's trained "deep blindness" is a remarkable story, but by no means represents the experience of all those who lose their ability to see. However, his ability to train the development of his auditory faculty illustrates the strength of Arnheim's notion of "blindness" in radio. Radio's unique position within the media arts is its ability to temporarily induce its listeners in a state of blindness, helping them to cultivate their sonic perception, thereby challenging people's normalized sensory state and revealing the contingency of the sensorium itself. In "Author as Producer," Benjamin detailed the unique potential of documentary montage, drawing parallels with Bertolt Brecht's theories of Epic theater and the *Verfremdungseffekt*. He writes:

Epic theater, as you see, takes up a procedure that has become familiar to you in recent years from film and radio, literature and photography. I am speaking of the procedure of montage: the superimposed element disrupts the context in which it is inserted.... It is not brought home to the spectator but distanced from him. He recognizes it as the real situation — not with satisfaction as in the theater of Naturalism, but with astonishment. Epic Theater, therefore, does not reproduce situations; rather, it discovers them.<sup>55</sup>

After listening to Ruttmann's montage of trains, children's voices, cash registers, machines, automobiles and the other sonic elements of this weekend in Berlin, one's perception of the city is changed. The collage does not reproduce the urban landscape in the language of "Naturalism, but astonishment." It is Ruttmann's varied approach to documentary material, used both to evoke real urban phenomena and abstracted as musical sound, that draws the listener's imagination into a discovery of the multisensorial nature of urban space. Ruttmann's *Weekend* offers the opportunity to cultivate a heightened sense of presence and listening in the urban environment.

Walter Benjamin, "The Author as Producer," in *Selected Writings*, eds. Michael Jennings, Howard Eiland, and Gary Smith, trans. Rodney Livingstone et al., Vol. 2, part 2 (Cambridge: Harvard University Press, 1999): 778.

#### **Bibliography**

- Aitken, Stuart and Leo Zonn, eds. *Place, Power, Situation, and Spectacle: A Geography of Film.* Lanham, MD: Rowman and Littlefield Publishers, 1994.
- Arnheim, Rudolf. *Radio*. Translated by Margaret Ludwig and Herbert Read. London: Faber and Faber, 1936.
- ——. Rundfunk als Hörkunst. Munich: Carl Hanser Verlag, 1979.
- Barnouw, Erik. *Documentary. A History of Non-Fiction Film.* Oxford: Oxford University Press, 1993.
- Benjamin, Walter. "The Crisis of the Novel." In *Selected Writings*. Edited by Michael Jennings, Howard Eiland, and Gary Smith. Translated by Rodney Livingstone et al. Vol. 2, part 1. Cambridge: Harvard University Press, 1999.
- ——. "One Way Street." In *Selected Writings*. Edited by Michael Jennings, Howard Eiland, and Gary Smith. Translated by Rodney Livingstone et al. Vol. 1. Cambridge: Harvard University Press, 1999: 444-448.
- ——. "The Author as Producer." In *Selected Writings*. Edited by Michael Jennings, Howard Eiland, and Gary Smith. Translated by Rodney Livingstone et al. Vol. 2, Part 2. Cambridge: Harvard University Press, 1999: 768-782.
- Boym, Svetlana. The Future of Nostalgia. New York: Basic Books, 2001.
- Brecht, Bertolt. *Brecht on Film and Radio*. Edited and translated by Marc Silberman. London: Methuen, 2000.
- ——. *Brecht on Theatre*. Edited and translated by John Willett. New York: Hill and Wang, 1964.
- Bruno, Giuliana. Atlas of Emotion. Journeys in Art, Architecture, and Film. New York: Verso, 2002.
- Buchloh, Benjamin. "Allegorical Procedures: Appropriation and Montage in Contemporary Art." In *Artforum*, September 1982: 43-56.
- Bulgakowa, Oksana. "The Ear against the Eye: Vertov's *Symphony*." In *Monatshefte*, Vol. 98, No. 2, 2006: 219-239.
- Cory, Mark and Barbara Haggh. "Hörspiel as Music: Music as Hörspiel: The Creative Dialogue between Experimental Radio Drama and Avant-Garde Music." In *German Studies Review*, Vol. 4, No. 2. (May, 1981): 257-279.
- Cory, Mark. "Soundplay: The Polyphonous Tradition of German Radio Art." In *Wireless Imagination. Sound, Radio, and the Avant-Garde*. Edited by Douglas Kahn and Gregory

- Whitehead. Cambridge: MIT Press, 1992.
- Dimendberg, Edward. *Film noir and the spaces of modernity*. Cambridge: Harvard University Press, 2004.
- Döhl, Reinhard. *Das neue Hörspiel. Geschichte und Typologie des Hörspiels*. Darmstadt: Wissenschaftliche Buchgesselschaft, 1988.
- Eisenstein, Sergei. *Film Form: Essays in Film Theory*. Edited and translated by Jay Leyda. New York: Harcourt Brace Jovanovich, 1949.
- ——. "Montage and Architecture." *Assemblage*, No. 10. (Dec., 1989): 110-131.
- Eisner, Lotte H. "Reichsrundfunk sendet akustische Filme." In *Film-Kurier*, 6/15/1930. Reprinted in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- ——. "Walter Ruttmann schneidet ein Filmhörspiel." In *Film-Kurier* Nr. 33, 3/1/1930. Reprinted in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- . "Ruttmanns photographisches Hörspiel." In *Film-Kurier* Nr. 33, 3/1/1930. Re-printed in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- Falkenberg, Paul. "Tonmontage. A propos Walter Ruttmann." In *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- Fischer, Lucy. "*Enthusiasm*: From Kino-Eye to Radio-Eye." In *Film Quarterly*, Vol. 31, No. 2 (Winter, 1977-78): 25-34.
- Fore, Devin. "Döblin's Epic: Sense, Document, and the Verbal World Picture." In *New German Critique* 99, Vol. 33, No. 3, Fall 2006: 171-207.
- Frisby, David. Cityscapes of Modernity. Cambridge, UK: Polity Press, 2001.
- Fulks, Barry. "Walter Ruttmann, the Avant-Garde Film, and Nazi Modernism." In *Film and History* (May 1984): 26-35.
- Gleber, Anke. *The Art of Taking a Walk: Flanerie, Literature, and Film in Weimar Culture*. Princeton: Princeton University Press, 1999.
- Gludovatz, Karin, ed. *Auf den Spuren des Realen Kunst und Dokumentarismus*. Vienna: MUMOK Museum Moderner Kunst Stiftung Ludwig Wien, 2004.

- Goergen, Jeanpaul. "Walter Ruttmann ein Porträt." In *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- Gaughan, Martin. "Ruttmann's Berlin: Filming in a 'Hollow Space'?" In *Screening the City*. Edited by Mark Shiel and Tony Fitzmaurice. New York: Verso, 2003: 41-57.
- Gay, Peter. Weimar Culture: The Outsider as Insider. New York: W.W. Norton and Company, 2001.
- Hansen, Miriam Bratu. "Benjamin and Cinema: Not a One-Way Street," *Critical Inquiry 2* (Winter 1999): 306-343.
- Hilmes, Michele and Jason Loviglio, eds. *Radio Reader. Essays in the Cultural History of Radio.* New York: Routledge, 2002.
- Howes, David, ed. Empire of the Senses. Berg: New York, 2005.
- Hull, Jeff. Touching the Rock: An Experience of Blindness. London: SPCK Publishing, 1990.
- Huwiler, Elke. *Erzähl-Ströme im Hörspiel: Zur Narratologie der elektroakustichen Kunst.* Paderborn: mentis Verlag, 2005.
- "Jerzy Toeplitz im Gespräch mit Walter Ruttmann." In *Wiadomosci Literackie*, 10. Jg., 1933, Nr. 28. Translated to German by Erik Steiner. Re-printed in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- Kahn, Douglas. "Histories of Sound Once Removed." In *Wireless Imagination. Sound, Radio, and the Avant-Garde*. Edited by Douglas Kahn and Gregory Whitehead. Cambridge: MIT Press, 1992.
- ——. Noise, Water, Meat. A History of Sound in the Arts. Cambridge: MIT Press, 1999.
- Kittler, Friedrich. *Gramophone, Film, Typewriter*. Translated by Geoffrey Wintrhop-Young and Michael Wutz. Stanford: Stanford University Press, 1999.
- Kracauer, Sigfried. *The Mass Ornament: Weimar Essays*. Translated and edited by Thomas Levin. Cambridge: Harvard University Press, 1995.
- LaBelle, Brandon. *Backgrond noise: perspectives on sound art*. New York: Contuum Publishing, 2006.
- Levin, Maud. Cut with the Kitchen knife: The Weimar photomontages of Hannah Höch. New Haven: Yale University Press.
- MacDonald, Scott. The Garden in the Machine. A Field Guide to Independent Films about

- *Place*. Berkeley: University of California Press, 2001.
- Michelson, Annette. "From Magician to Epistemologist: Vertov's *Man with a Movie Camera*." In *The Essential Cinema: Essays on Films in the Collection of Anthology Film Archives*. Edited by P. Adams Sitney. New York: Anthology Film Archives and New York University Press, 1975: 95-111.
- Mitchell, W.J.T. "There Are No Visual Media." In *Journal of Visual Culture* 4.2 (2005): 258-266.
- Natter, Wolfgang. "The City as Cinematic Space: Modernism and Place in *Berlin, Symphony of a City*." In *Place, Power, Situation, and Spectacle: A Geography of Film*. Edited by Stuart Aitken and Leo Zonn. Lanham, MD: Rowman and Littlefield Publishers, 1994): 203-228.
- Nichols, Bill. *Introduction to Documentary*. Bloomington: Indiana University Press, 2001.
- Pascual-Leone, Alvaro and Roy Hamilton. "The metamodal organization of the brain." In *Progress in Brain Research*, Vol. 134, 2001: 427-445.
- Peukert, Detlev. *The Weimar Republic: The Crisis of Classical Modernity*. Translated by Richard Deveson. New York: Hill and Wang, 1993.
- Renov, Michael, ed. *Theorizing Documentary*. New York: Routledge, 1993.
- Richter, Hans. "Experiments with Celluloid." The Penguin Film Review 9 (1949), p. 114.
- ——. Köpfe und Hinterköpfe. Zürich: Verlag der Arche, 1967.
- Rodaway, Paul. Senuous Geographies: Body, sense and place. New York: Routledge, 1994.
- Ruttmann, Walter. "Die 'absolute' Mode." In *Film-Kurier*, Berlin, Nr. 30, Feb. 3, 1928. Reprinted in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- ——. "Wie ich meinen BERLIN-Film drehte." In *Licht-Bild-Bühne*, Berlin, Nr. 241, Oct. 8, 1927. Re-printed in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- ——. "Berlinals Filmstar." In *Berliner Zeitung*, Sept. 20, 1927. Re-printed in *Walter Ruttmann*. *Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- ——. "Kunst und Kino." 1917 letter in possession of Deutschen Filmmuseums Frankfurt/Main. Re-printed in *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.

- Sacks, Oliver. "The Mind's Eye: What the Blind See." In *Empire of the Senses*, edited by David Howes. New York: Berg, 2005.
- Schiel, Mark and Fitzmaurice, Tony, eds. Screening the City. New York: Verso, 2003.
- Schöning, Klaus and Mark Cory. "The Contours of Acoustic Art." In *Theatre Journal*, Vol. 43, No. 3, Radio Drama. (Oct., 1991): 307-324.
- Strathausen, Carsten. "Uncanny Spaces: The City in Ruttmann and Vertov." In *Screening the City*. Edited by Mark Shiel and Tony Fitzmaurice. New York: Verso, 2003: 15-40.
- Tonkiss, Fran. "Aural Postcards: Sound, Memory and the City." In *The auditory culture reader*. Edited by Michael Bull and Les Back. Oxford: Berg, 2003.
- Vertov, Dziga. *Kino-Eye: The Writings of Dziga Vertov*. Edited by Annette Michelson. Translated by Kevin O'Brien. Berkeley: University of California Press, 1984.
- Vowinckel, Antje. *Collagen im Hörspiel. Die Entwicklung einer radiophonen Kunst.* Würzburg: Königshausen und Neumann, 1995.
- Uricchio, William. "Ruttmann nach 1933." In *Walter Ruttmann. Eine Dokumentation*. Edited by Jeanpaul Goergen. Berlin: Freunde der Deutschen Kinemathek, 1989.
- Weiss, Allen S, ed. Experimental sound and radio. Cambridge: MIT Press, 2001.