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Soundscape of the Ruhr: Sensitive Sounds. Between Documentation, Composition and Historical Research^{*}

Abstract: The following article discusses the *Sound Archive of the Ruhr*. Our project touches upon a set of questions that are of interest to sound studies. They concern intention and modes of archiving sound, working for museums, exhibitions, film, theatre productions, education and science, recordings as testimony as well as cultural heritage. Working on and with the archive made us sensitive to the aurality of the confined space and to the horizons of meaning that people attributed (and still attribute) to the acoustic dimensions of their everyday life. As a result, we began to conceptualize history based on the sensual constitution of reality and thus were able to take a different view of social transformations. The sounds in the *Sound Archive of the Ruhr* are not “sensitive” like surveillance tapes that document state repression and blackmail, uncover political scandals or are used for propaganda purposes. These sounds are sensitive because they are endangered and therefore should be recorded with respect for cultural heritage. Moreover, they raise questions about the political power, which defines when and how sound is considered noise in a changing social order.

Keywords: Ruhr region, soundscape, heavy industries, post-industrialization, sound archive

The following article discusses the *Sound Archive of the Ruhr*. Our project touches upon a set of questions that are of interest to sound studies. They concern intention and modes of archiving sound, working for museums, exhibitions, film, theatre productions, education and science, recordings as testimony as well as cultural heritage. Working on and with the archive made us sensitive to the aurality of the confined space and to the horizons of meaning that people attributed (and still attribute) to the acoustic dimensions of their everyday life. As a result, we began to conceptualize history based on the sensual constitution of reality and thus were able to take a different view of social transformations.

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Documenting the Soundscape of the Ruhr

Since the 1980s we have been documenting the soundscape of the Ruhr, a heavy industrial area until 2018. With 4,438.69 square kilometres and around 5.1 million inhabitants, the Ruhr region is the largest conurbation in Germany and one of the largest metropolitan regions in Europe. From 1830 onward, the use of steam engines made it possible to tap the rich coal deposits of the Emscher valley.¹ Under the pressure of new energy and economy, the construction of gigantic production plants, the expansion of new traffic routes, and the enormous influx of workers, the sleepy atmosphere of pre-industrial rural communities was transformed into a heavy industrial soundsphere.

This was a disorderly and rampant process, which was geared solely to the profit-maximizing of the coal industry. Industrial villages sprang up just behind factory gates. And they extended up to the production sites. In 1930, the author Heinrich Hauser (1901–1955) described the aural atmosphere as sounds of work, production, and traffic: “Silence — listening: I hear soft, muffled rolling, thin echo from curved walls. It comes from everywhere — from in front of me, from behind me, from the right, from the left. These are the freight trains, the endless coal trains. The rolling of thousand wheels travels through the landscape all night long. From far away, I hear a clink, as if very thin glasses were bumping against each other. These are the hard cast steel bodies of the rolling mills that rub against each other when idling. Now comes a rumbling, as if from a dying thunderstorm: these are the red iron blocks stretching over the rolling lines. Echoes boom far away from the glass roofs of high halls.”² For generations, this soundscape shaped the senses of the inhabitants. With the coal crisis since the 1960s and the decline of the steel industry since the 1970s, the soundscape changed: the large mining

¹ The statistical and spatial basis of the Ruhr region is the “Regionalverband Ruhr” (RVR), which was founded as early as 1920 under the name of “Siedlungsverband Ruhrkohlenbezirk.” See *Urbanität gestalten. Stadtbaukultur in Essen und im Ruhrgebiet*, ed. Museum Folkwang Essen, Göttingen 2010; J. Reulecke, *Geschichte der Urbanisierung in Deutschland*, Frankfurt am Main 1985, p. 84ff.

² H. Hauser, *Schwarzes Revier*, ed. B. Weidle, Bonn 2010, p. 133 (published as an exhibition booklet by the Ruhr Museum, Zollverein Colliery, Essen).

plants were gradually shut down. Blast furnaces, rolling mills, and ironworks that once orchestrated the sound of work and life were replaced by road traffic and aircraft noise that form a permanent background. In December 2018, the last pit was closed. The era of coal mining came to an end.

From Radio Plays to Sound Research

The acoustic dimension of shutdowns inscribed itself in the German language: we use the verb “stilllegen,” which means “bringing something to stillness” or “silencing.” The *Sound Archive of the Ruhr* is the materialization of our own biographical experiences with decommissioning and bringing something to stillness. Musician Richard Ortmann, filmmaker and sound engineer Ralf R. Wassermann, and myself, a historian — we were all born in the 1950s in Herne in the middle of the Ruhr region and grew up within earshot of pits called “Shamrock,” “Teutoburgia” and “Constantin.”³

We were all radio lovers and what particularly impressed us was the Studio Akustische Kunst, a department within the Westdeutscher Rundfunk public broadcasting station (WDR). We could follow how radio plays broke away from the criteria of literary radio drama.⁴ It opened up to collages of quotations and acoustic ready-mades as well as experimented with noise and sound.⁵ Under the direction of Klaus Schöning,⁶ the Studio Akustische Kunst came to be recognized as the centre of international acoustic art. We absorbed its radio plays with utter enthusiasm. We used to have some cold drinks and sit excitedly together in front of the radio, listening to *Ars Acustica* and plays by Berry Bermange, Bill Fontana, Pierre Henry, and Murray Schafer. We recorded the plays on tapes in order to listen to them again and let them circulate. Having jumped into the soundscapes of London, Kyoto, Berlin or Paris, we realized that we also lived in a unique soundscape — an industrial soundscape — not an urban one like San Francisco, Tokyo or Paris. We lived in a soundscape shaped by heavy industry in times of industrial transformation.

³ See *Vor Ort. Geschichte und Bedeutung des Bergbaus in Herne und Wanne-Eickel*, ed. R. Piore, Herne 2010.

⁴ See K. Schöning, “Von der menschlichen Stimme, dem Universum der Klänge und Geräusche inmitten der Stille,” liner notes from the CD, *Riverrun, Klangreise in das Studio Akustische Kunst des WDR*, CD 1: *Voicings*, CD 2: *Soundscapes*, Mainz 1999; F. Kriwett, *Das Studio Akustische Kunst des WDR*, München 2001.

⁵ This experience was described by Walter Murch when he first heard *Premier Panorama de Musique Concrète* by Pierre Schaeffer and Pierre Henry, see: W. Murch, “Foreword,” [in:] M. Chion, *Audio-Vision: Sound on Screen*, New York 1994, p. xiii–xiv.

⁶ See K. Schöning, “Programmhefte / Kataloge (Auswahl),” <https://www.klaus-schoening.de/hgprgr.html> (accessed 14.08.2021).

This marked the start of our private project aimed at recording the sounds of heavy industry in the Ruhr area. It was not easy to capture them. Collieries and steelworks were forbidden “cities.” We had to convince plant managers to let us in. We needed accreditations. Sometimes we had to wait hours until we heard noticeable sound events emerging in the process of production. Workers told us about their sound experiences. They had learnt to listen very carefully to the sounds of their machines, because technical problems were articulated in deceleration, oscillation, and interruption.

For Ralf Wassermann, the project was a technical challenge. For Richard Ortmann, it provided a source of sound effects that could be used for composition and performances. I began to ponder on the sonic impacts of social power relations between capital and work. Murray Schafer offered to me the key concept with his studies on the historicity of the acoustic environment.⁷

Richard Ortmann und Ralf Wassermann began working as freelancers for the WDR. In 1995 they produced a radio play entitled *Einmal Herne und zurück* (*To Herne and Back*) for Klaus Schöning’s Studio Akustische Kunst. From then on, in the world of Ars Acustica, a small, dirty unknown hometown called Herne⁸ had the same standing as San Francisco, Tokyo, London or Berlin.⁹

Technical Equipment

The archive has continued to grow over the years. So far, we have collected about 4,000 minutes of sound effects, human voices, and machine sounds. We have recorded entire work processes in which “events” suddenly emerge: the keynote sound takes on a different rhythmic structure, signals resound, sound marks arouse curiosity, the timbre and the dynamics change, the tempo slows down and speeds up, frequencies shift. We have long used magnetic tapes and DAT tapes — now we record material on SD cards.¹⁰

⁷ R.M. Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*, New York 1977.

⁸ See *Herne 50/80. Fotografie*, eds. R. Piore, T. Schmidt, Herne 2017.

⁹ We created the radio play *Einmal Herne und zurück. Klanglandschaft Ruhrgebiet*. Inspired by such authors as Bill Fontana, Murray Schafer, Mauricio Kagel, Pierre Henry, Richard Kostelanetz, and Marielouise Franke, we actively contributed to the development of the acoustic art itself. See R. Fleiter, R. Ortmann, dir., *Einmal Herne und zurück. Klanglandschaft Ruhrgebiet*, 45 min., WDR 1995; also broadcast in DLR Berlin 1996, WDR 1998, DLR Cologne 2000, WDR 2000, HR 2002; see also CD 2000.

¹⁰ We documented pumps, hammers, saws, milling machines, steam engines, shipyards of the Duisburg Harbour, rolling mills and sheet metal stamping plants, coking plants, blast furnaces, mining hammers, signals, bells. The sound cosmos of colliery housing estates, boxing booths, churches, monasteries, mosques, allotment gardens, chip shops, drinking halls, corner pubs, soccer fields (like the “Singing Yellow Wall,” the southern terrace of the BVB-stadium in Dortmund, which is the largest free-standing grandstand in Europe), ornithological excursions, highway intersections, festivals,

We started our field recordings by using a Stellavox SP-7, a compact portable reel-to-reel magnetic tape audio recorder. We then switched to a portable Tascam DA-P1, a digital audio tape recorder. Now we use a Fostex FR 2LE field memory recorder. For microphones, we chose Sennheiser's professional microphones and Sennheiser's closed-back headset. Thus, our work also reflects the history of technology, that is, the digitalization and miniaturization of recording equipment.

Conceptual Approaches

Figure 1 illustrates different modes and fields of our work with sounds. Sometimes they “re-sound” again, sometimes they initiate educational processes, sometimes they are researched and discussed. But they are always first recorded and documented. Our mission is based on Murray Schafer's call to give special attention to sounds that are in danger of disappearing.¹¹

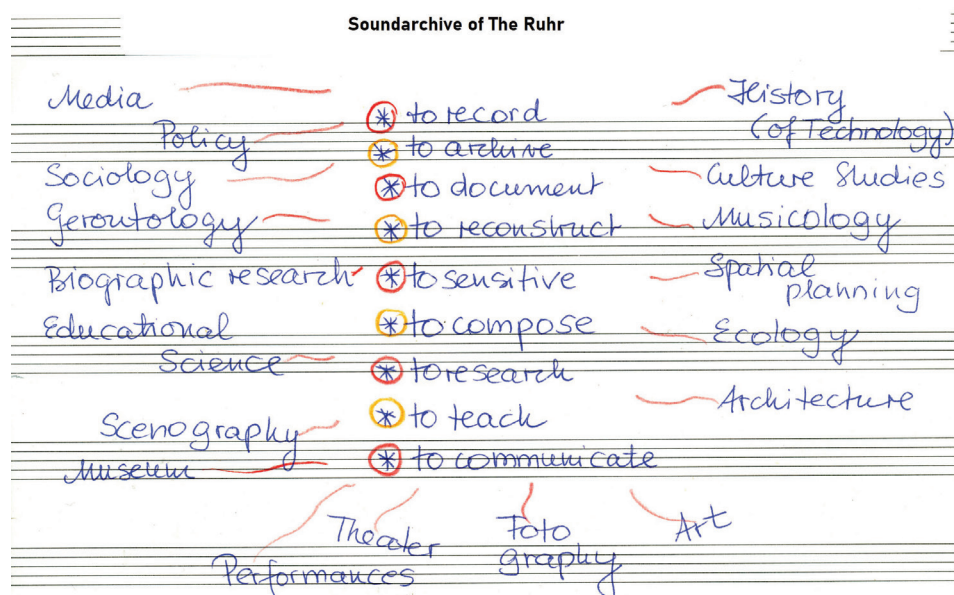


Figure 1. Modes and fields of the *Sound Archive of the Ruhr*

Source: Author.

celebrations, demonstrations, strikes, choral societies, women's choirs, marching bands, interviews. The archive preserves narratives about work and life in the coal and steel industry and about experiences with structural changes. It also documents the sonic qualities of future technologies, logistics locations, and cultural industries through to the sound of the renaturalized industrial landscape. The sounds are categorized as “work,” “leisure,” “machines,” “people,” and “nature.” The documented richness is the result of our social, technical, cultural, and scientific interests in the soundscape of the Ruhr.

¹¹ See R.M. Schafer, *The Soundscape*, p. 209.

Our work on and with the archive is not driven by nostalgia. “Recording,” “collecting,” “archiving” are by no means the right ways to compensate for the experience of loss.¹² The documentation of sounds serves to sharpen the auditory sense and raise the awareness of the existing soundscape in the face of abstract socio-economic changes.¹³ “Recording” and “documenting” are ways of active appropriation of the present — not only for us documentarians, but also for those who tell us about their sound experiences. To conceptualize the appropriation, we employ a notion of the German sociologist and filmmaker duo Oskar Negt and Alexander Kluge: “experiential work on the reality machine” (“Erfahrungsarbeit an der Wirklichkeitsmaschine”).¹⁴ While the documentarists concentrate on their equipment and recording, the interviewees (from the Ruhr) begin to talk about their work with machines and sounds. They share their specific experiences with economy and ecology. Sometimes, they formulate ambivalences and paradoxes: for example, on the one hand, they are scared of losing their job through decommissioning, but on the other, they enjoy life without the industrial noise, dirt and stench.

The focus on sound, that is, on the dimensions of aurality, stimulates narratives that thematize the relationship between humans and machines. We were also very interested in sounds of the Schalker Verein, an ironworks that for many decades provided work for several thousand workers in Gelsenkirchen-Bulmke-Hüllen. Back then, there was a bell that indicated to the steelmakers when the blast furnace released the molten pig iron. A former worker was to tell us something about his indigenous knowledge about this sound. Instead, he let us take part in the subversive, clandestine rescue of this unique (and, in terms of today’s scrap prices, truly precious) sonic artefact. The former plant workers were against “a scraping of the past and a de-qualification of the future in favour of a self-absolving present.”¹⁵ They fought for their unconditional need to preserve materializations of their life and work to enable mediation and communication. The Schalker Verein was finally shut down in 2004/05.¹⁶

If we are interested in the sonic qualities of the environment (and in the epistemes of their evaluation), we should conceptualize the human senses within broader processes of social and historical developments. “The work of the five senses is a work of the entire history of the world,” as Oskar Negt and Alexander Kluge claim in

¹² See H. Lübke, “Der Fortschritt von gestern. Über Musealisierung als Modernisierung,” [in:] *Die Aneignung der Vergangenheit. Musealisierung und Geschichte*, eds. U. Borsdorf, H.T. Grütter, J. Rüsen, Bielefeld 2004, p. 19.

¹³ See R.M. Schafer, *A Sound Education*, Indian River 1992.

¹⁴ O. Negt, A. Kluge, *Geschichte und Eigensinn*, Frankfurt am Main 1983, p. 230.

¹⁵ N. Rath, “Erfahrungsarbeit an der Wirklichkeitsmaschine. Negt/Kluge und der Eigensinn der Sinne,” [in:] *Sinnenreich. Vom Sinn einer Bildung der Sinne als kulturell-ästhetisches Projekt*, ed. W. Zacharias, Essen 1994, p. 41.

¹⁶ *Der Schalker Verein. Arbeit und Leben in Bulmke-Hüllen*, eds. Örtliche Arbeitsgemeinschaft, Arbeit und Leben (DGB/VHS), Gelsenkirchen 2008.

a reference to Karl Marx.¹⁷ In this conceptualization, the acoustic sense — like the other senses — is no longer a biological fixum, a guarantor of a constant, human experience, but a historically formed sensorium: it helps us appropriate the environment and make the world our own. This ability is shaped by cultural experiences and historical knowledge. In turn, it generates new experiences and knowledge.¹⁸

The human ear is alert and it functions with seismographic subtlety. The former miners told us about the importance of the aural sensorium: back then in the coal mine, the wooden buttresses began to “creak” in warning of an impending rock-quarry collapse. So the miners had to prick up their ears and pay attention to the sounds. But after the wooden buttresses were replaced by hydraulic steel ones, this sensorial “early warning” system disappeared.

Work with Sounds

The *Sound Archive of the Ruhr* received a huge boost with the transition from industrial capitalism to industrial culture. Industrial culture became a landmark of the post-industrial era in the Ruhr, and the musealization of industrial society called for new representations. Thus, we were commissioned to do a series of sound installations for museums and exhibitions. People are well aware of artefacts, documents, photos, posters and movies, but there are only a few sources that explore the history of industrial soundscapes. Almost all the movies about industrial plants work with voices off and use grinding music as soundtrack. They do not feature the authentic sounds of machines, traffic, or everyday life. It was not long before industrial museums began to ask us to acoustically redesign their movies. They also commissioned sound installations for the new scenography. Sounds from the *Sound Archive of the Ruhr* can now be heard in all the major museums in the Ruhr region.¹⁹

We often have to explain to curators that a machine in operation doesn’t usually sound like a spectacular or meaningful event. Of course, this does not apply when it comes to the specific technical understanding of a particular machine. But when the scenography is to sensitize the audience to how mechanization transformed the world of sound and the human perception through interdependency

¹⁷ O. Negt, A. Kluge, op. cit., p. 45.

¹⁸ I described these interdependencies in interaction between the new radio technology of the 1920s and the rise of a new sensorium of hearing. See U.C. Schmidt, “Radioaneignung,” [in:] *Zuhören und Gehörtwerden I. Radio im Nationalsozialismus. Zwischen Lenkung und Ablenkung*, eds. I. Marbolek, A. von Saldern, Tübingen 1998, pp. 243–256.

¹⁹ “Das Schallarchiv in ständigen Ausstellungen,” at R. Ortmann, <https://www.richard-ortmann.de/geraeuscharchiv.html> (accessed 14.08.2021).

and interaction, we need compaction and composition to create a multilayered sound atmosphere.²⁰

The staff at the Zollverein Colliery, which is now a UNESCO World Heritage site, asked us for the sound of a coal wagon circuit. Unfortunately, we had never recorded one. Nobody knew what it sounded like. Thus, Richard asked the former miners to recall this specific sound. Again they talked about their work, remembering the earsplitting soundscape. Slowly, they began to reconstruct the sonic impression of a coal wagon circuit. Each new audio track brought them closer to what they had originally heard. In 2009, Richard Ortmann continued his field recording of industrial sounds in Upper Silesia.²¹ In the Silesian “Wieczorek” Colliery in Katowice-Nikiszowiec, Richard could “see with his ears” what a coal wagon sounds like. He immediately started his field recordings. Back in Dortmund, he compared the original sound from Poland with the one recalled and reconstructed in Germany. They were pretty similar. The successful reconstruction showed that people were able to accurately recall the sounds and noises of their everyday work. Today, the sound installation in the Zollverein Museum uses the sounds recorded in Silesia as an authentic aural document.

Upper Silesia and the Ruhr region share a common geological, technical, political, economic as well as sonic history. In Upper Silesia we can still feel what coal mining, road traffic, everyday life, and the industrial landscape sound like. Together with artists and institutions in Upper Silesia, we created so-called online “sound bridges” by exchanging sounds with one another.²² They were inspired by the Sound Bridges of Bill Fontana (b. 1947) realized via satellite between Cologne and San Francisco (1987) and Cologne and Kyoto (1993) for the Studio Akustische Kunst of the WDR. During the 2020/21 coronavirus pandemic we communicated by cloud-based tools, but back in 2006, the year of our first sound bridge, “Katowice–Katernberg,” this was truly a technical and artistic challenge (without the support of a big broadcasting station like the WDR).²³

²⁰ See M.M. Smith, *Listening to Nineteenth-Century America*, Chapel Hill 2001; M.M. Smith, “The Garden in the Machine: Listening to Early American Industrialization,” [in:] *The Oxford Handbook of Sound Studies*, eds. T. Pich, K. Blijsterfeld, Oxford 2012, pp. 39–57.

²¹ See “Geräuschearchiv Tomek Hałas,” at R. Ortmann, op. cit.; see T. Vossbeck, *Struktura i architektura. Postindustrialne dziedzictwo Górnego Śląska*, ed. Deutsches Kulturforum östliches Europa e.V., Potsdam 2010, which is also available on YouTube: <https://www.youtube.com/watch?v=42QYn6GfVUc> (accessed 14.08.2021).

²² Our partners in Upper Silesia included artists and students of the Academy of Fine Arts and the Academy of Music in Katowice. We would like to express our gratitude to Marian Oslislo (Academy of Fine Arts) and Jarek Mameczarski (Academy of Music).

²³ On 31 May 1987, the first satellite bridge in the history of radio took place with the use of two sound sculptures: the Cologne–San Francisco ear bridge. The “orchestra” consisted of 18 sound sources in the city of Cologne and 18 in San Francisco. The two simultaneous, parallel, and mutually independent events in both cities were brought together by Bill Fontana through the mixing console in the WDR and blended into a collage to create the live composition *Satellite Ear Bridge Cologne–San Francisco*. On 5 June 1993, for the first time, a city in Europe was connected to a city in Asia



Figure 2. View into a shaft hall with wagon circulation, Kaiserstuhl 2 colliery, Dortmund, 1950s

Source: Fotoarchiv Ruhr Museum; photograph by Johann Schmidt.



Figure 3. The new lakefront district on the site of the former Phoenix steel mill, where a blast furnace has been preserved as a landmark. It stands on a heavy-industry site, as does the water tower on which the company name Hoesch is written. In the background, the Protestant and Catholic churches are seen, which were built in the 19th century for the growing congregations of working-class families

Source: Author.

for several hours via satellite with the use of a sound sculpture: Cologne and Kyoto. For the first time, sounds were transmitted via satellite — simultaneously and digitally — from one place to another. The result was broadcast live on three WDR radio programmes (curated, written and edited by Klaus Schöning, WDR Studio Akustische Kunst, 1987, 1993). See K. Schöning, “Programmhefte / Kataloge (Auswahl).”

The expertise in soundscapes we developed over the years resulted in a very funny project that led from documenting to anticipating the future. Dortmund had been the city of steel since 1841. The year 1998 saw the end of steel production. As a result, two blast furnaces were demolished and shipped to Shagang in China. The steel plant and the rolling mill, whose sounds we recorded some years before, were dismantled. Now, a 96-hectare area was ready for redevelopment, including a lake, expensive houses on the waterfront, shops, restaurants, and leisure facilities. One of the flagship projects of post-industrial transformation began on a site where workers used to work around the clock to produce iron and steel in a noisy, filthy environment, and where an entire district followed the rhythm of heavy labour. None of the old working class could picture the idea of a lake in “their” steel plant. For an exhibition on the “New Dortmund” organized by the city council, Richard Ortmann composed a soundscape of splashing water, quacking ducks, and sailing equipment being hit by the wind. The audio track was meant to be a critical commentary on the coming gentrification of the area. It proved to be a huge success, because it stimulated people’s imagination. The worn control buttons of the sound installation had to be replaced several times during the exhibition. Indeed, the elements of the sound stations demonstrated that the public was no longer exclusively interested in recalling familiar sounds like those from steel mills. Listening to the imagined sounds triggered a premonition of the inevitable and painful transformation taking place in their environment. Hard labour was gradually replaced by expensive real estate and waterfront life — deindustrialization also set in motion the process of social displacement.

Historical Research on Soundscapes

While Ralf Wassermann and Richard Ortmann kept developing the electroacoustic equipment and perfecting recording techniques, the historian opened her ears to the historicity of the aural environment. We were already familiar with the work of composer and acoustic ecologist Murray Schafer, his sound education and methodology of sound walks, the *World Soundscape Project*, and the Vancouver soundscapes recordings.²⁴ He taught us to cultivate the habit of listening. His *Tuning of the World* laid the theoretical foundations for the study of the Ruhr’s soundscape.²⁵

Four aspects were of particular importance. According to Schafer, “[t]he vanishing sound object should be treated as an important historical artifact, for a carefully recorded archives of disappearing sounds could one day be of great value.”²⁶

²⁴ See *Soundscape Vancouver 1996*, CD, Cambridge Street Records: CSR-2CD 9701.

²⁵ R.M. Schafer, *The Soundscape*.

²⁶ *Ibid.*, 209.

Our entire documentary work is based on this call. As the author highlights, “[w]e will not argue for the priority of the ear.”²⁷ This argument is of special relevance to sound studies and the study of the Ruhr’s sonic environment, as during industrialization people’s health was affected primarily by polluted water, stench, and bad air. Schafer used the term “soundscape,” derived from sound and landscape, to describe the atmosphere that encompasses all the sounds within any defined area. This concept lends itself particularly well to the Ruhr area research, since the historical genesis of the settlement led to a specific form of polycentric urbanization. Depending on the discipline, the Ruhr area is conceptualized as an “urban landscape”²⁸ or an “industrial landscape.”²⁹ These two representations of the “landscape” can be used as a basis to describe the “soundscape” of the Ruhrgebiet.

Schafer’s concept of “sacred noise,” defined as the connection between sound and power, came to be of central importance to sound research. “During the Industrial Revolution, Sacred Noise sprang across to the profane world. Now the industrialists held power and they were granted dispensation to make Noise by means of the steam engine and the blast furnace, just as previously the monks had been free to make Noise on the church bell or J. Bach to open out his preludes on the full organ. The association of Noise and power has never really been broken in the human imagination. It descends from God, to the priest, to the industrialists, and more recently to the broadcaster and the aviator. The important thing to realize is this: to have the Sacred Noise is not merely to make the biggest noise; rather it is a matter of having the authority to make it without censure.”³⁰

In the German historical sciences, the work of Schafer is approached critically: his sound studies, which serve as a basis for acoustic ecology, were grounded in a normatively founded critique of civilization and culture. From the linear perspective, the history of sound could be seen as a history of loss, in which pre-modern hearing was lost through the noise of modernity.³¹ I counter this criticism by pointing out that Murray Schafer did not start out his research as a sound historian, but as a musician, and above all as a sound ecologist and a pedagogue. His work reflected

²⁷ R.M. Schafer, *The Music of the Environment* (reprint of an article from *Cultures* 1, 1973, no. 1), Wien 1973, p. 8.

²⁸ See U.C. Schmidt, “‘Lasst uns den Kohlenpott umfunktionieren!’: Repräsentationspolitik der Stadtlandschaft Ruhrgebiet,” [in:] *Stadt und Kommunikation in bundesrepublikanischen Umbruchzeiten*, ed. A. von Saldern, Stuttgart 2006, pp. 257–282.

²⁹ See the term “industrialscape” at: “10 Euro Münze ‘Industrielandschaft Ruhrgebiet,’” Muenzen, <https://www.muenzen.eu/gedenkmuenze/deutschland-10-euro-ruhrgebiet-2003.html> (accessed 14.08.2021).

³⁰ R.M. Schafer, *The Soundscape*, p. 76.

³¹ See J.-F. Missfelder, “Period Ear. Perspektiven einer Klanggeschichte der Neuzeit,” *Geschichte und Gesellschaft* 38, 2012, p. 37; see also S. Binas-Preisendörfer, “Lärmkonflikte — soziale Auseinandersetzungen auditiver Emissionen,” [in:] *Gegenwartsdiagnosen. Kulturelle Formen gesellschaftlicher Selbstproblematisierung in der Moderne*, eds. T. Alkemeyer, N. Buschmann, T. Etzemüller, Bielefeld 2019, p. 537ff, <https://doi.org/10.14361/9783839441343-027>.

his engagement with the environmental movements of the 1970s.³² Following Pierre Schaeffer, he dissolved the distinction between “sound” and “noise” that is central to German epistemology.³³ Instead, he focused on the morphology of sounds, its forms and structures like mass, dynamic, timbre, etc. He developed a typology of “keynote sounds,” “signals,” and “soundmarks” in a sonic environment classified as lo-fi and hi-fi and made the acoustic environment systematically describable.³⁴

German scholar Jan-Friedrich Missfelder points out that it is worth orienting oneself to Schafer — one does not have to follow his critique of civilization and linear construction of history, but approach historical sounds as dynamic systems and social appropriations. The “entire spectrum of acoustic phenomena and their location in social space” can be brought into view. Schafer does not distinguish between sound, language, and music — nature and culture — and thus he draws our attention to the historicity of this distinction.³⁵ From the perspective of a musician, a composer, and a pioneer of acoustic art, this separation became obsolete after noise emancipated itself from the dominance of sound in the first half of the 20th century³⁶ and after the French composer Pierre Schaeffer (1910–1995) developed his theory and practice of *musique concrète*.

Schafer’s concept of sacred noise refers to the sounding spaces as social spaces structured by power relations: “to have the Sacred Noise is [...] a matter of having the authority to make it without censure.”³⁷

Having started field recording in large factory sites, we realized that the sound of the factory affected the workers and radiated into the environment. The loudness differs depending on what kind of factory sounds are involved. According to Hans-Joachim Braun, “[t]he Prussian General Trade Code (Preußisches Allgemeines Landrecht), which became binding for the North German League in 1871, required factories to obtain a license.”³⁸ In the Ruhr region, however, despite these regulations, an extremely flexible legal principle allowed the coal and steel industry to freely shape the sound sphere according to their interests. It was called “local custom” (“Ortsüblichkeit”).³⁹ The workers and employees with the fam-

³² See R.M. Schafer, *The Book of Noise*, Wellington 1970.

³³ See P. Schaeffer, *Traité des objets musicaux*, Paris 1966.

³⁴ See R.M. Schafer, *The Soundscape*, p. 161.

³⁵ J.-F. Missfelder, op. cit., p. 38.

³⁶ See W. Rathert, “‘Fabriksirenen, Nebelhörner, Dampfbootspfeiffen.’ Die Klangwelt der Moderne und das Geräusch,” [in:] *Sound des Jahrhunderts*, eds. G. Paul, R. Schock, Bonn 2013, pp. 106–111.

³⁷ R.M. Schafer, *The Soundscape*, p. 76.

³⁸ See H.J. Braun, “Turning a Deaf Ear? Industrial Noise and Noise Control in Germany since the 1920s,” [in:] *The Oxford Handbook of Sound Studies*, eds. T. Pinch, K. Bijsterveld, Oxford 2012, p. 59.

³⁹ § 906 Abs. 2 BGB; see H. Wiethaup, *Lärmbekämpfung in der Bundesrepublik Deutschland, mit einem Überblick über das Lärmbekämpfungsrecht in Mitteleuropa, Westeuropa und den USA*, Köln 1967, pp. 99–108.

ilies living in the factory facilities came to terms with the regulations — for them the noisy machines provided jobs, wages and prosperity. For Murray Schafer, most environmental sounds have social symbolism. The Ruhr's soundscape, dominated by whizzing and thumping of the steel mills, whirring of the wheels of the pithead frames, was seen as very progressive — not only by entrepreneurs and workers, but also by the whole society.⁴⁰

However, the colliery barons and mining entrepreneurs moved to quiet and clean neighbourhoods in the urban south, where the air was clean and free from industrial noise. Here, the increasing street and traffic noise was found to be more disturbing than industrial noise.⁴¹

Sensitive Sounds: The Signal of Minister Stein

Schafer's concept of sacred noise can be used to analyze a social conflict over sensitive sounds in the Ruhr. At this point, I would like to refer to Emily Thompson, who, following the French historian Alain Corbin, defines soundscape "as an auditory and an aural landscape." Like a landscape, "a soundscape is simultaneously a physical environment and a way or perceiving that environment; it is both a world and a culture constructed to make sense of that world."⁴²

In 1871, the first pit of "Minister Stein" in Eving, the present district of Dortmund, was sunk. The pit was named after the Prussian minister Heinrich Friedrich Karl vom und zum Stein (1757–1831). In 1875, the mine began its production with 90 workers. Colliery plants, suppliers, transport infrastructure, and the endless migration of human capital broke into a rural space with around 1,000 people. In 20 years, the population increased by more than 120 percent. In the war year of 1941, Minister Stein achieved the highest annual production of 3,668,790 tons of coal. In the economic boom after World War II the mine had the strongest workforce with about 8,500 men and women. On 31 March 1987 the mine was closed. Minister Stein was the last Dortmund pit that was shut down. Almost 700 years of coal mining in Dortmund — the first documented mention of coal mining dates back to 1296 — came to its end. Eving lost its lifeline. For more than 100 years, the spatial organization of the community as well as the human practices of everyday life had been dominated by the pit.

⁴⁰ See R.M. Schafer, *The Book of Noise*, p. 14.

⁴¹ See K. Bijsterveld, "Listening to Machines: Industrial Noise, Hearing Loss and the Cultural Meaning of Sound," [in:] *The Sound Studies Reader*, ed. J. Sterne, London–New York 2012, p. 158.

⁴² E. Thompson, "Sound, Modernity and History," [in:] *The Sound Studies Reader*, ed. J. Sterne, London–New York 2012, p. 117.

After demolishing the colliery, the area underwent redevelopment. For the first time Eving was to gain an urban “centre” in terms of urban planning. When the professionals started spatial planning, the former miners started pursuing urban visions. The old European city is centred around a church with a bell, whose centripetal sound brought the community together and marked the hour of death. Collective memory always moves within a geographical framework. Memory has to be grounded in landscape and architecture in order not to get lost.⁴³ The miners realized that the prospective concepts of new urbanity would blow up their frameworks of history and memory. So they conceptualized an audible monument for the prospective urbanity by combining a colliery signal bell made by Siemens & Halske as an authentic mining artefact with the modern technology of customary church bells.⁴⁴



Figure 4. Mine bell

Source: Author.

The centripetal sound of their mining signal was to impact the future life of the community as well as create a new urban environment with a sound identity of its own. Being aware of the role sound plays in the urban environment, they proposed that their sound monument would strike every hour, like all church bells have done for thousands of years. Unfortunately, the investor who built a shopping mall on the site of the former mining plant — the new promised “urban centre” of Eving — did not grant his consent to the project. He argued that tenants would be annoyed by the noise. This needless noise pollution would cause his property value to decrease. The miners couldn’t understand his decision: “When I came to the pit, I heard the signal. It was not unpleasant. You simply heard it...”

⁴³ See M. Halbwachs, *Das kollektive Gedächtnis*, Frankfurt am Main 1991, p. 134.

⁴⁴ See U.C. Schmidt, “Der Bergmann war immer von Signalen umgeben. Das akustische Denkmal von Dortmund-Eving,” *Technikgeschichte* 72, 2005, no. 3, pp. 127–147.

As miner Ulrich Kneisel recalled, “we heard this signal for a hundred years, so — it is not that it knocks you for a loop!”⁴⁵ The miners didn’t realize that there are different sensitive cultures. The investor, who didn’t agree to the acoustic monument, followed a new ranking system in the soundscape.

The investor didn’t want additional noise pollution. New entrepreneurs promised jobs and wages, they had the authority and the power to censor and legitimize sound and noise without any respect for the cultural tradition of the city district. The investor was in charge, he was the “king” who defined and legitimized sound and noise.⁴⁶ In this sonic conflict, the new structures of power became visible as argued by Schafer, who pointed to the ongoing alliance between sacred noise and power.

Interestingly, the conflicts over the sound of Minister Stein bring to mind the disputes over church bells in proto-industrial France after the French Revolution. Historian Alain Corbin has described these conflicts as a power struggle between the religious authority and the state, between the centralist regulation and the local population, between the city dwellers and the rural residents. These struggles for authority represented the French shift to modern times and industrialization.⁴⁷ The conflicts over the sound of Minister Stein in Eving at the end of the 20th century represented the structural shift towards the post-industrial Ruhr area.

The miners didn’t give up and found a new location for their monument. Now the sound comes from the former pithead bath building. Today, it is one of the hottest regional discotheques. The miners suggested that the bell rang only three times a day, at 8 AM, noon, and 6 PM, almost a secular form of old canonical hours. The discotheque owner sponsors the electricity for the timer so that the bell can mark the disco time at 9 PM. The monument sounds in a very unpoetic way — the sound comes down from the former pithead bath and resonates across a large parking area. The next building is more than 200 metres away and is separated by a street; in the background you can hear a tram and the car noise of a four-lane road. But the Mining Association achieved its goal.

In recent decades, the conflicts over the legitimacy of sound have come to a head. Recently, there have been heated disputes over sensitive sounds that I’m interested in. In Essen, there has been the long-standing legal dispute over a soc-

⁴⁵ “Alles erlischt einmal — es kommt darauf an, wie es erlischt” (“Everything once expires — it depends on how it does”). Ulrich Kneisel (Geschichts- und Kulturverein Eving/Grubenwehrkameradschaft “Minister Stein”) explains the former shaft signal system and its current significance as an acoustic monument. Interview with U.C. Schmidt and R. Ortman, 26 June 2003.

⁴⁶ See A. Portelli, “Geteilte Welt. Laute und Räume im kulturellen Übergang,” [in:] *Wir kriegen jetzt andere Zeiten. Auf der Suche nach der Erfahrung des Volkes in nachfaschistischen Ländern*, eds. L. Niethammer, A. Von Plato, Berlin–Bonn 1985, pp. 220–230.

⁴⁷ See A. Corbin, *Les cloches de la terre. Paysages sonore et culture sensible dans les campagnes au XIX siècle*, Paris 1994.

cer field called the “Kray-Arena.” In Dortmund, there has been the ongoing dispute over the site of the former steelworks with the new Phoenix Lake, as the public appropriation of the urban environment collides with the owners of the exclusive residential property. The Federal Republic of Germany adapted its emission protection legislation to manage the conflicts fuelled by social questions about social displacement and gentrification. But nowhere are so many dimensions of cultural practice and experience of sound and space addressed as in the conflict over the sensitive sound of Minister Stein: memory culture, urban planning, structural change, post-industrial society, participation, identity, tradition and heritage. The sensitive sound of Minister Stein offers an interesting insight into the acoustic production and representation of sociopolitical orders in the past, present, and the future. Although the miners weren’t familiar with Schafer’s *Tuning of the World*, they followed his dictum: “The unique soundmark deserves to make history as surely as a Beethoven symphony.”⁴⁸

Reflecting the Soundscape of the Ruhr

Preparing for field recording starts at home. Then, location recording is all about the physical experience of the space with all our senses — seeing, hearing, feeling, smelling, breathing, and touching — before putting on the headphones and turning on the recording equipment.⁴⁹ Sounds travel across space and time and are produced by humans, materials, and machines in the industrial complex. Staying focused on sensitive sounds and its recipients while organizing, recording, documenting, listening, and asking — let us conceptualize history based on the sensual formation of “the world.” Therefore, it might be said that the knowledge of the materiality and texture of the sonic world in connection with sensorial abilities and ways of perception informs my conception of history and historiography: when asked about the sounds of work in their everyday life, people always rely on their sensually mediated experience. This opens up a different, complex view on the social transformation and its mental formations. Thus, I can make a strong case for experiential history as a complementary tool for social history. In debates about history as text and the epistemological importance of the “linguistic turn” I vote for the “materialities of history.”

To this day, the historiography of the Ruhr is structurally androcentric. This also applies to the myths surrounding the Ruhr region, where the master narrative is based on masculinity and male communities. While much of the research focuses on the miner and the blacksmith as archetypal images of the coal and steel industry, I would like to examine whether these deeply rooted pat-

⁴⁸ R.M. Schafer, *The Soundscape*, p. 239.

⁴⁹ See G. Böhme, *Anmutungen. Über das Atmosphärische*, Ostfildern 1998.

terns of representation could also be explained by the symbolism of the soundscape. The loudness of the metal industry symbolized its power and mastery over nature and social progress. Loudness also stood for masculinity, since it was men who kept these noisy machines running. Karin Bijsterveld pointed out that “a higher level of noise stood for an increase in income” and that “noise was enjoyed by the workers as an indicator of the employment opportunities that allowed them to share in the region’s progress.”⁵⁰ The Ruhr area has always derived its self-confidence from its role as a potent and powerful energy supplier for the reconstruction of West Germany. Back then, the workers earned high wages and for the first time, the old utopian demand that a wage paid to a male worker be high enough to support his family seemed to be coming true. But this was also the time when the process of refamiliarization began. According to Robert G. Moeller and his research on women and family in postwar West Germany, the society of the Federal Republic was to be organized in a completely different way than the collectivist German Democratic Republic.⁵¹ Due to the Cold War logic, West Germany developed a normative gender system with a male breadwinner (in the Ruhr area, it mostly applied to the coal mine and the steel mill), and a female housemaker and guardian of the family. After the Second World War and National Socialism women were pushed back into the house, while male work and efficiency, culminating in a noisy soundscape, represented social progress and the prosperity of West Germany.⁵²

Conclusion

Working on the *Sound Archive of the Ruhr* has brought us a lot of technical, artistic, and scientific experiences and insights. Over the years, we have met many people: workers, engineers, artists, urban planners, students, and scientists, thanks to the Central European Network of Sonic Environment. Through his work with photographer Thomas Vossbeck, Richard Ortmann has expanded his field recording practice to include the industrial soundscape of Upper Silesia.⁵³ Our focus remains on sensitive sounds and the meanings people assign to them. Meanwhile, we have also become increasingly interested in the post-industrial soundscape (Ruhr region). For us, the epistemological question still stands: what does the economic, social, and cultural transformation sound like? Our research on the sound-

⁵⁰ K. Bijsterveld, op. cit., p. 162.

⁵¹ See R.G. Moeller, *Protecting Motherhood: Women and the Family in the Politics of Postwar West Germany*, Berkeley–Los Angeles–Oxford 1993.

⁵² This is the first time such considerations are formulated. It would be interesting to find out how it applies to Upper Silesia and the Polish situation.

⁵³ See R. Ortmann, op. cit.

scape in the Ruhr area and elsewhere, the interplay of figure and ground, keynote sounds, signals and sound marks structured as low-fi and hi-fi will continue to be driven by Murray Schafer's belief: "The unique soundmark deserves to make history as surely as a Beethoven symphony."⁵⁴

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⁵⁴ R.M. Schafer, *The Soundscape*, p. 239.

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