https://doi.org/10.48417/technolang.2026.02.03
Research article

Concrete Structure, Fragile Voice: The Bunker as an Interface

Arne Gieshoff (✉)
Akademie für Tonkunst, Ludwigshöhstraße 120, Darmstadt 64285, Germany
arne.gieshoff@darmstadt.de

Abstract

Framed as an essay on site, listening, and compositional practice, this text reflects on how a musical composition can emerge from sustained engagement with a historically charged architectural site. Against the background of compositional traditions centred on originality, authorship, and the search for an individual artistic voice, the essay asks what changes when compositional attention turns away from inward expression and toward the acoustic, material, and historical conditions of a place. The aim is to examine site-sensitive composition as a practice of listening, activation, and response. Rather than treating the site as a neutral container for musical performance, the essay understands it as an interface between architecture, memory, sound, and embodied experience. It considers how places marked by historical violence, later informal use, and partial archival absence can be approached without reducing them to stable narratives or illustrative representation. Methodologically, the research combines archival inquiry, conversations, repeated site visits, situated listening, acoustic exploration, and collaborative work with performers. These practices generate a compositional process in which sound materials, spatial actions, recorded traces, and instrumental gestures are developed in relation to the specific conditions of the site. The essay shows that such a process does not simply give voice to a place. Instead, it constructs a fragile field of relations in which absent, mediated, and partially perceptible presences can resonate. It concludes that site-sensitive composition can become a form of attentive activation: a temporary making-audible of the tensions between place, memory, listening, and artistic practice.

Keywords: Site-specific composition; Winkel-type bunker; Darmstädter Ferienkurse; Archival research; Situated listening; Electroacoustic Performance; Memory culture

Acknowledgment I would like to thank the Internationales Musikinstitut Darmstadt (IMD) and the Darmstädter Ferienkurse für Neue Musik for making the project possible, as well as the institutions of the City of Darmstadt that supported access to the site. I am also grateful to the performers and collaborators who contributed to the development and realisation of *music for a concrete structure*. This text was developed with the assistance of AI-based tools for language refinement and general support during the writing process. All ideas, interpretations, and arguments are the author's own.

Citation: Gieshoff, A. (2026). Concrete Structure, Fragile Voice: The Bunker as an Interface. *Technology and Language, 7*(2), 23-37. https://doi.org/10.48417/technolang.2026.02.03

УДК 130.2: 338.48-44
https://doi.org/10.48417/technolang.2026.02.03
Научная статья

Бетонная конструкция, хрупкий голос: Бункер как связующее звено

Арне Гисхофф (✉)
Академия изящных искусств, Людвигсхехштрассе, 120, Дармштадт, 64285, Германия
arne.gieshoff@darmstadt.de

Аннотация
Данный текст, оформленный как эссе о месте, слушании и композиционной практике отражает, как композиция может возникнуть в результате постоянного взаимодействия с исторически насыщенным архитектурным объектом. На фоне композиционных традиций, основанных на оригинальности, авторстве и поиске индивидуального художественного голоса, эссе задается вопросом, что меняется, когда внимание к композиции переключается с внутреннего выражения на акустические, материальные и исторические условия места. Цель состоит в том, чтобы изучить композицию, чувствительную к месту, как практику слушания, активации и реагирования. Вместо того чтобы рассматривать место как нейтральное вместилище для музыкальных выступлений, автор статьи рассматривает его как интерфейс между архитектурой, памятью, звуком и воплощенным опытом. В нем рассматривается, как можно подойти к местам, отмеченным историческим насилием, более поздним неформальным использованием и частичным отсутствием архивов, не сводя их к устойчивым повествованиям или иллюстративному представлению. Методологически исследование сочетает архивные исследования, беседы, повторные посещения, прослушивание на месте, акустические исследования и совместную работу с исполнителями. Эти практики порождают композиционный процесс, в ходе которого звуковые материалы, пространственные действия, записанные следы и инструментальные жесты разрабатываются в соответствии с конкретными условиями места. В эссе показано, что такой процесс не просто придает голос месту. Вместо этого он создает хрупкое поле отношений, в котором могут резонировать отсутствующие, опосредованные и частично ощутимые присутствия. Делается вывод о том, что композиция, учитывающая местоположение, может стать формой активизации внимания: временным проявлением напряженности между местом, памятью, слушанием и художественной практикой.

Ключевые слова: Специфическая композиция объекта; Бункер типа Винкеля; Дармштадтерский Фериенкурс; Архивные исследования; Прослушивание с места; Электроакустическое исполнение; Культура памяти

Благодарность Я хотел бы поблагодарить Международный музыкальный институт Дармштадта (IMD) и Дармштадтские летние курсы новой музыки за то, что они сделали этот проект возможным, а также учреждения города Дармштадта, которые обеспечили доступ к месту проведения мероприятия. Я также благодарен исполнителям и сотрудникам, которые внесли свой вклад в разработку и реализацию проекта “Музыка для бетонной конструкции”. Этот текст был создан с помощью инструментов на основе искусственного интеллекта для уточнения языка и общей поддержки в процессе написания. Все идеи, интерпретации и аргументы принадлежат автору.

Для цитирования: Gieshoff, A. Concrete Structure, Fragile Voice: The Bunker as an Interface // Technology and Language. 2026. № 7(2). P. 23-37. https://doi.org/10.48417/technolang.2026.02.03

During my studies as a composer, the phrase “finding one’s original compositional voice” was repeated again and again as the class goal. It was a catch-all metaphor referencing a vague inner voice which, once uncovered, would express something about the world, and maybe even about the artists themselves that could be worthwhile to listen to. It served to justify a practice of inward listening, guided by history and craft, in the hope of discovering something new and original to say within the field of contemporary art music. In terms of what exactly the “new” might be, there was and is little collective agreement. Michael Rebhahn (2012) has pointed to a tendency in established new music practices toward works whose focus lies “on the effort to demonstrate a ‘state of the art’, conveyed in the varyingly skilled application of material currently considered ‘progressive’” (p. 1). This tendency still resonates, in disguise, with the idea of the Romantic genius artist: the composer-personality who wills one-of-a-kind musical works into being. From within, they would draw them out of the self, making instruments and performers sound and sing with their distinctive voice. Much, though not all, of the musical infrastructure of art music in the Western hemisphere – conservatoires, concert halls and opera houses, sophisticated recording and hi-fi equipment – can be understood as being built around this model. New concert venues are often conceived as prestigious local architectural endeavours, and their sophisticated acoustic construction offers perfect, untarnished surroundings so as not to disturb music-making with acoustic idiosyncrasies or historical weight. They can be admired as architectural achievements or failures, but this is mostly separate from the requirement that the sound inside remains unadulterated. Within this framework, extraordinary and awe-inspiring works have been and continue to be created, its strengths and flaws are being reflected upon, and as a composer I remain invested in this tradition.

And yet, over the past years, my interest has increasingly shifted toward a different way of understanding what I do as a composer: not necessarily new, and not necessarily original. What happens when the focus moves away from listening inward, from searching for sounds that might fill any given place, and turns instead toward listening to a place itself: to a building, a landscape, something outside oneself? What happens when one moves through such a place – listening, exploring, tracing? Is there a way of uncovering the voice of such a place, or rather of creating conditions of listening that allow it to be heard? Michel de Certeau (1980/1988) suggests that a place becomes space through practice; through what one does with it (p. 218). Composition, in this sense, can be understood as such a practice: a way of activating a place, of framing it temporarily as a sonic space, and leaving echo-like traces. Since 2020, in a number of projects, it has become a focus of my practice to create musical situations that activate places in such a way that they may be heard anew.[1] This essay develops this question through a reflection on *music for a concrete structure*, a site-sensitive composition created for a Winkel-type high-rise bunker in Darmstadt, Germany.

Spatial thinking has long been embedded in musical composition: from the polychoral works associated with Giovanni Gabrieli and San Marco, where musical form

[1] For the context of my compositional work, including site-specific projects such as *Osthang* (Staatstheater Darmstadt, 2021), works for music theatre such as *Bär*in* (Deutsche Oper Berlin, 2023), and concert works, see www.arnegieshoff.org.

is closely tied to architectural disposition, to twentieth-century experiments by composers such as Iannis Xenakis – from *Terretektorh* (1965–66) to the later *Polytope de Cluny* (1972–74) – in which sound, spatial distribution, architecture, and, in the later *Polytopes*, light become compositional concerns in their own right. Alvin Lucier’s work marks a further shift: room resonance, filtering, and feedback are not treated as secondary effects, but become part of the material itself. In sound-art practices by artists such as Christina Kubisch and Maryanne Amacher, this spatial thinking extends into specific environments, architectural conditions, infrastructures, and listening bodies. Here, listening is not detached reception, but a situated and embodied activity, implicated in relations between sound, architecture, environment, and the specificity of location. This resonates with Brandon LaBelle’s (2015) account of sound art as an expanded relational practice, in which sound is understood through its interactions with space, architecture, site, environment, and the perceiving body.

The piece was premiered in the summer of 2025 at the *Darmstädter Ferienkurse für Neue Musik*, a biennial international forum for contemporary and experimental music founded in 1946 (Internationales Musikinstitut Darmstadt, n.d.).[2] It explores how a place can be activated, how it can become a bodily manifestation of repressed memory, and how composing can become a way of attending to voices that are only faintly present, hidden, or unheard. At the same time, it proposes composition as a means of making this choir of voices perceptible. The following reflections draw on a combination of archival fragments, conversations, and situated listening practices rather than a comprehensive historical reconstruction. Through local research, archival work, and engagement with the sonic conditions of the site, fragile responses to the place were woven and wove themselves into a musical composite, building a counterpoint to the architectural and historical structures of the space.

The place I was drawn to – and with which I worked over the course of two years, between 2023 and 2025 – was a Winkel-type high-rise bunker, one of four such concrete structures in Darmstadt built in 1939 (Eisenmann, 2002).[3] Originally constructed as an air-raid shelter for employees of the *Reichsbahn* railway company, the structure was later used informally – possibly as a party venue, a place of refuge, and a shelter for unhoused people (Fig. 1). Like other *Winkeltürme* – high-rise bunkers developed by engineer Leo Winkel and constructed in large numbers across Germany – it was designed to protect industrial laborers during aerial attacks (Stadt Darmstadt, 2024). Its conical form and rounded exterior were intended to make bombs miss the structure or glance off its surface, while leaving the blast waves of nearby detonations little surface to strike (Eisenmann, 2002). In Darmstadt, the remaining structures are now largely inaccessible: one is sealed, two are situated on restricted military grounds, but all of them are listed as historical monuments, acting as reminders of the terrors of war (Stadt Darmstadt, 2024; O. Köhler,

[2] For project documentation, see Internationales Musikinstitut Darmstadt / Darmstädter Ferienkurse (2025).
[3] For architectural documentation of the bunker, including laser-scan material and a preliminary building survey, see TU Darmstadt, Department of Digital Building Research and Archaeological Sciences, “Spitzbunker auf der Knell: Bauaufnahme und Analyse” [building survey and analysis], accessed May 28, 2026, https://www.architektur.tu-darmstadt.de/bauforschung/lehre_baufo/lehrprojekte_baufo/spitzbunker.de.jsp.

personal communication, January 22, 2024). Such structures can be understood, following Paul Virilio (1975/1994), as remnants detached from their original function and meaning – effectively rendered mute. To work with this place therefore did not mean to restore or stabilize meaning, nor simply to "give it a voice," but to attend to what remains partial, obscured, or unheard – and to explore how such conditions might be rendered perceptible, even if only faintly, through compositional means.

Figure 1. The bunker during one of my earliest visits to the site, March 2023. Photo: Arne Gieshoff.

Although I had encountered the buildings many times before, passing them on the train or on my way to work, I had never clearly identified them: they could have been a water tower or an old industrial storage facility. With their sugarloaf-like shape, they seemed almost camouflaged. They remained indistinct, blending into the post-industrial landscape. Only in the context of this project did the structure come into focus, while searching for a site for a new composition commissioned by the *Darmstädter Ferienkurse*. As a resident of Darmstadt, I felt it was necessary for me to work locally,

embedded over a longer duration. I approached the city's heritage office about a different place I had in mind (underground catacombs) but was subsequently sent images of the bunker's interior with a note that this site might interest me. In these initial photographs the bunker appeared as a layered environment. They showed the building's grey concrete walls covered with official inscriptions urging the invisible user to remain calm ("Ruhe bewahren!") and not to smoke ("Rauchen verboten!"); graffiti-like murals depicting devil-like figures, half-naked bodies, burning rabbits and expletives were clearly added much later; concrete rubble, candle stubs, half-broken wooden benches, rusty metal structures and barrier tape from construction sites were scattered throughout. Many elements, the benches as well as the wooden toilet compartments in the middle of the structure – now a gaping hole – were evidently burned for firewood. The ceilings were still covered in soot. These traces of decay and various uses suggested a density of histories that started to haunt me. Furthermore, the imposing structure of the bunker was strongly reminiscent of religious architecture, an impression echoed in *Bunker Archaeology*, where Virilio (1975/1994) compares the shelters of the Atlantic Wall to "Egyptian mastabas" and "Etruscan tombs" (p. 11): funerary structures that mark a passage between the living and the dead. Such places invite sonic interaction: through prayer, chant, lament, and ritual song. The bunker, too, drew me in as a place that could become active through sound. Yet its threshold is not only symbolic. As a protective shell, the bomb shelter mediates between life and death in a concrete and material sense: its walls, geometry, and capacity to absorb blast pressure may decide whether those inside survive. One is left to consider what such bunker structures may have absorbed – not only in terms of sound, but of human presence under extreme conditions, as well as through their more mundane subsequent uses as sites of gathering, shelter, or informal appropriation – regardless of the specific and only partially documented histories of individual sites.

These defensive structures were not only technical responses to aerial warfare, but also part of a system of oppression and exclusion. The nearby railway repair facility employed hundreds of forced laborers during the war (*Die Sklaven der Bahn*, n.d.). Polish and Soviet forced laborers were generally denied access to air-raid shelters during bombardments, even as their labor sustained the infrastructures of war (Arolsen Archives, n.d.). Whether and how this exclusion applied to this specific Darmstadt bunker cannot be fully reconstructed from the material available to me. The stories of those forced laborers remain absent. This absence stands in stark contrast to the preserved institutional memory of the railway repair facility and its regular workforce, documented in two commemorative publications held by the Stadtarchiv Darmstadt, the Darmstadt City Archive (*75 Jahre Reichsbahn-Ausbesserungswerk Wagenwerk Darmstadt*, 1947; *100 Jahre Ausbesserungswerk Darmstadt*, 1973). Rather than attempting to recover these absent voices, the work engages with the conditions of their absence. While it was clear from the outset that I did not want to evoke or appropriate narratives that were not mine, these voices, experiences, and histories – left unrecorded, unarchived, and resistant to direct access – became something like silent guides in my explorations of the bunker.

Any attempt to ascribe a "voice" to the bunker itself – what it might be made to utter – remains necessarily speculative. Rather than foregrounding this question, the work

establishes a set of conditions within which such questions can be approached indirectly: through compositional practices of wandering, sustained presence, listening, and archival research. The bunker is not ascribed a "voice," but a heterogeneous "choir" of site-intrinsic and narratively projected musical responses is constructed through the activation of its spatial-acoustic conditions and through compositional responses informed by research-based sonic association.

Staying with the bunker became a practice of learning, following Jacques Derrida (1994), "to live with ghosts" – voices no longer present, not yet present, or not fully present (p. xvii-xviii). It required an attentiveness to presences that emerge through absence, above all to victims of violence whose absence continues to shape the present. In the bunker, this presence-through-absence became a guiding condition of listening. The ear seemed the appropriate guide for this fragile endeavour. The bunker became a musical interface: it allowed sound and loosely woven narratives to emerge while also acting as an instrument of sound-making and listening. As Salomé Voegelin (2010) has argued, "hearing is full of doubt": it does not provide a detached overview, but requires immersion. To listen is to share the time and space of the sonic object rather than to observe it from a distance, offering no position outside of what is heard (p. xii). I am not a historian, an architect, or a scientist capable of measuring and stabilizing the site. What I could offer was tracing archival fragments, following traces, and remaining within the temporal, spatial and sonical conditions of the place.

My engagement began in the personal sphere. In conversations with my grandparents, memories surfaced that did not directly concern bunkers, but cellars, bombings encountered on open train routes, and later, ruins as spaces of play. German society has developed highly institutionalized forms of remembrance, yet continues to struggle with silence in the private and familial sphere. The legacy of historical violence often persists not in official narratives, but in what remains unspoken – at kitchen tables as much as at sites such as the bunker. The bunker became a point of entry into these conversations. It offered a way for us, as a family, to find a voice in speaking about these experiences. Our conversations could not fully access the traumas and silences of the preceding generation, but nevertheless made us sense how the past persists in the present. The work with the site is grounded in a sense of responsibility that emerges from this historical context. At the same time, the bunker exceeds any singular narrative. It contains multiple temporal layers that cannot be fully reconciled.

Access to the site was mediated through a range of actors. I conducted interviews with the head of the heritage office, Olaf Köhler, and with a former mayor, Peter Benz, who recalled the site both from childhood and from his later involvement as the city's social affairs councillor, particularly during periods when the bunker was used by alternative groups and unhoused people. Employees of Darmstadt's waste management services, which now owns the site, supported the project in practical ways – from providing access by handing out the key to sharing their own perspectives on the space. Over time, the bunker began to register less as a discrete object than as a body: its interior carrying faint resonances, its shell like a discarded skin fossilized into the landscape – "an empty carcass, abandoned, toppled over into the sand, like the skin of a defunct species" – a "survival apparatus" (Virilio, 1966/2004, p. 12).

The building itself is organized as a vertical sequence of twelve half-levels, spiraling upward toward a lookout point at the top. Remnants of technical infrastructure – such as valves intended to seal the structure in case of gas attacks – are still visible. Some levels contain niches for equipment and sanitation. Each level was designed to hold several dozen people, roughly 500 overall, in close proximity, positioned at a small distance from the walls in order to mitigate the effects of blast pressure (Stadt Darmstadt, 2024; O. Köhler, personal communication, January 22, 2024).

My work developed through repeated visits to the site throughout 2024. I walked the structure, remained in it for extended periods, and observed how external signals echoed through its interior. From the outside, faint industrial noise would bleed into the enclosure during working hours, cars from the nearby street, or, a few times a year, city-wide test alarms, which left me with unease. The approach was not driven by a search for heightened affect, but by sustained engagement with the site as a working environment; the bunker became my workshop, and I learned to wander it with ease. It was comfortably cool during the summer months and offered weather protection during cold and wet winter days. One day, after heavy rainfall, many levels and the basement were flooded. The concrete wall, the site’s protective skin, had deteriorated over time. At the time, the building was not safe to access; a vertical opening extended through its center where former wooden structures had been removed. In preparation for the performance, a wooden railing was installed by the ingenious production team, making the space navigable for a larger number of people. This intervention remains in place and has enabled subsequent uses of the site, something I am particularly proud of, since it offers the bunker a presence within the city’s memorial and cultural activities.

Working with the space meant engaging in close listening practices: examining surfaces with microphones and stethoscopes, keeping acoustic diaries, and documenting the process with a head-mounted camera. At home I would study promotional films about concrete, medical studies, and archival footage focusing on skin and membranes. These references informed an understanding of the bunker not as a neutral container, but as a structure mediating between interior and exterior – a membrane of sorts, an interface between life and death, between past and present, between mute and sounding, between voices unheard and heard.

Gradually, I assembled a heterogeneous collection of sonic materials. Some emerged directly from interaction with the surfaces of the bunker: contact microphones, light amplification, and movements across the concrete walls. Others explored the acoustic behaviour of the space itself: feedback loops generated through megaphones (not activated by speech, but simply turned on) and my open mouth cavity close to the microphone, screaming silently – an experiment first developed during my explorations of the site and later transferred into the performance, where it was carried out by three performers across three levels of the space**.** Additional materials were drawn from specific elements of the structure. I recorded airflow inside the ventilation valves, producing a layered field of various types of dynamic white noise. I worked with faint traces of historical sound, including archival recordings of heartbeats, which came to echo my own bodily presence in the bunker: a body and heart enclosed within the larger body of the structure.

Instrumental interventions were developed in relation to the spatial and symbolic qualities of the site: organ pipes were played into the structure, responding to its vertical, cathedral-like appearance. The space is semi-open and acoustically permeable – sound enters from above and below. Two large speakers were installed at either end of the vertical axis: one at the top, one at the bottom. The audience is positioned on alternating platforms alongside the musicians, directly experiencing certain actions, while others remain invisible – filtering in from above and below. A detuned concertina, acquired for the project, became a fragile, unstable sound source at the centre of the work, suggesting a form of intimacy or ritual completed by the congregation of listeners gathered in the space.

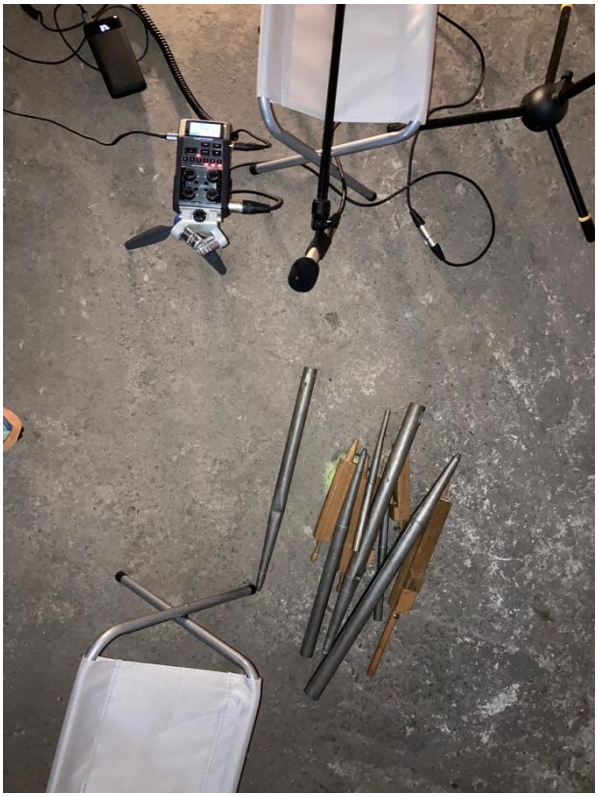

Figure 2. Organ pipes with microphone and recording device. Photo: Arne Gieshoff.

These materials were not treated as isolated elements but brought into relation (Fig. 2). The piece unfolds as a sequence of interconnected structures, performed by five musicians in interaction with a fixed electroacoustic layer. The performers of the premiere were Sun-Young Nam (concertina), Eva Boesch (cello), and Martin Adámek (clarinets) from *Trio Catch*, as well as Sarah Saviet (violin) and Paul Hübner (trumpet). They shaped the work through their presence and their specific interactions with the site. Our process oscillated between authorial composition and collaborative development in the bunker, which, in a sense, became an additional ensemble member itself. I brought musical and performative ideas into the room as starting points, which were then tested, transformed,

and sharpened together with the performers. The roles remained clearly delineated, but the process depended on trust and responsiveness rather than hierarchy. The music that emerged is not a representation of the research or of historical layers. It is more like excerpts from a protocol – seismographic readings. The work moves through concrete conditions and dwells in them sonically. Yet there are deliberate musical interventions, compositional gestures, performative acts which measure the space. An initial phase focused on identifying ways of moving and playing within the vertical architecture of the bunker. Possibilities were deliberately reduced, leading to clearly defined, quasi-scientific ritualisations of action.

The following examples indicate some of the modes of interaction that emerged; they do not describe the work in its entirety:

– Paul Hübner developed a configuration in which a long tube was attached to both mouthpiece and bell of the trumpet, suspended across multiple levels of the bunker space. By gradually moving along this axis while creating sound, the instrument functioned like a measuring device, translating spatial extension into sonic texture.

– Martin Adámek pursued a related approach using extended tubes, three and five metres long, attached to a bass clarinet mouthpiece, creating very low frequencies, felt through the entire body, moving through the space as he walked slowly up the spiraling stairs like a wandering surveyor, equipped with a fantastical measuring tool.

Figure 3. Eva Boesch performing with cello, mini-amp, and contact microphone in a feedback configuration. A megaphone is placed beside her; behind her is the inscription “Ruhe bewahren!” (“Keep calm!”). Photo: Kristof Lemp / IMD.

Figure 4. Sarah Saviet exploring the ceiling surface with contact microphone, speaker cones, and mini-amps; a megaphone is positioned behind her. Photo: Kristof Lemp / IMD.

– Sarah Saviet and Eva Boesch developed feedback-based configurations with violin and cello: miniature amplifiers and contact microphones mounted directly on the bow established unstable feedback loops in which instrument, space, and amplification formed a coupled, fragile circuit (Figs. 3 and 4). This approached allowed the space to actively shape and modulate the resulting sound. From there, we developed sonic actions with the walls, mapping sonic trajectories with contact microphones, speaker cones, and mini-amps, turning surfaces into acoustic interfaces and inscribing their movement onto the concrete while the surface texture of the walls was translated into sound.

– Sun-Young Nam explored the opposite condition: extended stillness (Fig. 5). Listening became primary, with sparse, carefully placed concertina sounds ranging from breath-like air sounds to fragile melodic fragments and unstable beatings emerging over time – less produced than received, like signals transmitted from the past.

Figure 5. Sun-Young Nam playing the concertina on the sixth level, with the audience above and below. Photo: Kristof Lemp / IMD

These and other practices form a heterogeneous field of operations. The composition does not reduce them to a single method; rather, it organises their coexistence, articulates transitions between them, and situates them within a larger temporal and spatial structure

At several points, recorded voices or vocal traces enter the work. They do not function simply as narration or explanation, although they mark dramaturgical shifts and guide perception. The voices are introduced as mediated presences which are detached from visible bodies and projected into the architectural body of the bunker.

The first instance appears at the beginning of the second part of the work: a historical recording of a promotional voice-over that describes the composition of concrete and its possible uses – all of this in an upbeat, matter-of-fact tone. Its confident language of utility, construction, and material progress contrasts with the bunker's physical and historical weight and reframes the space through a rhetoric of technical optimism.

The third and final section is introduced by way of a pre-recorded reading from Virilio's (1966/2004) "Bunker Archaeology," a text originally published in *Architecture Principe*, spoken by the violinist Sarah Saviet. The selected passage presents the bunker as a disused and ambiguous monument: a remnant whose former military function has disappeared, leaving behind a structure that feels at once archaeological, bodily, and

oppressive. Virilio emphasises its worn geometry, its massive enclosure, and its unsettling material presence, producing an atmosphere of weight, enclosure, and heightened sensory awareness (pp. 12–13). The text functions as a guide. It shaped my own approach to the site; in the composition, it becomes a guide for the listener as well. It offers orientation, but not authoritative commentary.

A third instance of voice(s) being introduced is more buried and indirect. A faint harmonic trace appears within the texture, recalling close-harmony vocal writing from the early twentieth century. The reference remains deliberately unstable, opening an association with voices interrupted, displaced, or forced into exile. It does not reconstruct or replace those voices but appears as a distant residue: a memory of collective singing that can no longer happen.

At the edge of these vocal layers, animal voices also appear. Goats became unexpected companions in the development of the work. In early blast simulations for this type of bunker, animals placed inside the structure lost their hearing. This was a detail I encountered in archival material and could not let go of (Darmstädter Echo, 2022; O. Köhler, personal communication, January 22, 2024). It points to a condition in which the capacity to hear itself is destroyed, and with it the conditions under which anything like a voice can be perceived at all. I later recorded goats on a small farm near Bamberg, while spending several months there on an artist residency. In the piece, their isolated calls appear only briefly and from a distance. Their source is left unexplained. they remain as small, displaced vocal events within the larger texture – ghostlike traces of a listening situation marked by violence.

All these voices remain within the space as guides, traces, and interruptions. What started to unfold was not a work in which a bunker alone was made to speak. Rather, a dialogue emerged: between the site and the sounds introduced into it, between what was found and what was made to resonate. Within the context of the *Darmstädter Ferienkurse* – a festival historically oriented toward renewal, experimentation, and collective exchange – the bunker became temporarily accessible as a space of shared listening over the course of several performances. The work opened a situation in which different layers of sound and history could be experienced in relation to one another, fully aware of what cannot be heard or appropriated, while allowing presences to emerge. The bunker became an active space in which a once mute site started to resonate, was filled with voices and was made audible – if only for an hour, to an international community of listeners. On the walls of the bunker, the inscription “Ruhe bewahren!”, the appeal to remain calm – once addressed to those seeking shelter – now read, as one attentive listener remarked, almost like a mantra meant to calm the ghosts.

REFERENCES

Arolsen Archives. (n.d.). Background information on documents relating to forced labourers. Retrieved May 28, 2026, from https://eguide.arolsen-archives.org/zusatzmaterialien/hintergrundinformationen-zwangsarbeit

de Certeau, M. (1988). *Kunst des Handelns* [The Art of Acting] (R. Voullié, Übers.). Merve. (Original work published 1980)

Darmstädter Echo. (2022, December 21). Auf den Spuren der Geschichte der Darmstädter Winkelbunker [Tracing the History of Darmstadt Winkel-type high-rise bunkers]. https://www.echo-online.de/lokales/darmstadt/auf-den-spuren-der-geschichte-der-darmstaedter-winkelbunker-2147922

Derrida, J. (1994). *Specters of Marx: The state of the debt, the work of mourning and the new international* (P. Kamuf, Trans.). Routledge. (Original work published 1993)

Eisenmann, S. (2002, October 16). Ruhe bewahren in Geschoss acht [Keep calm on floor eight]. *Darmstädter Echo*. [Newspaper clipping]. Stadtarchiv Darmstadt.

Die Sklaven der Bahn: Zwangsarbeiter im Ausbesserungswerk [The Slaves of the Railway: Forced Labourers in the Repair Plant]. (n.d.). [Newspaper clipping]. Stadtarchiv Darmstadt.

100 Jahre Ausbesserungswerk Darmstadt: 1873–1973 [100 Years of the Darmstadt Repair Works: 1873–1973.]. (1973). [Commemorative publication]. Stadtarchiv Darmstadt.

Internationales Musikinstitut Darmstadt [International Music Institute Darmstadt]. (n.d.). *Darmstädter Ferienkurse* [Darmstadt Summer Courses]. Retrieved May 28, 2026, from https://internationales-musikinstitut.de/de/ferienkurse/ueber/info/

Internationales Musikinstitut Darmstadt / Darmstädter Ferienkurse [International Music Institute Darmstadt / Darmstadt Summer Courses]. (2025). *Reader: Music for a Concrete Structure*. Retrieved May 28, 2026, from https://internationales-musikinstitut.de/de/ferienkurse/reader/reader-music-for-a-concrete-structure/

LaBelle, B. (2015). *Background noise: Perspectives on sound art* (2nd ed.). Bloomsbury.

Rebhahn, M. (2012). *I hereby resign from new music: On the problem of an involuntary labelling including a taxonomy of the species "composer"* [Lecture]. International Summer Course for New Music Darmstadt.

TU Darmstadt, Department of Digital Building Research and Archaeological Sciences. (n.d.). *Spitzbunker auf der Knell: Bauaufnahme und Analyse* [High-rise bunker on the Knell: Construction survey and analysis]. Retrieved May 28, 2026, from https://www.architektur.tu-darmstadt.de/bauforschung/lehre_baufo/lehrprojekte_baufo/spitzbunker.de.jsp

75 Jahre Reichsbahn-Ausbesserungswerk Wagenwerk Darmstadt: 1872–1947 [75 Years of the Reichsbahn Repair Works, Darmstadt Carriage Works: 1872–1947]. (1947). [Commemorative publication]. Stadtarchiv Darmstadt.

Stadt Darmstadt. (2024). *Luftschutz in Darmstadt* [Air raid shelters in Darmstadt]. Retrieved May 28, 2026, from https://www.darmstadt.de/fileadmin/Dateistruktur2024/02_KULTUR/07_Denkmalschutz/Veröffentlichungen/broschüren/luftschutz_in_darmstadt_3_3mb.pdf

Virilio, P. (1994). *Bunker archaeology* (G. Collins, Trans.). Princeton Architectural Press. (Original work published 1975)

Virilio, P. (2004). Bunker archaeology. In S. Redhead (Ed.), *The Paul Virilio reader* (G. Collins, Trans.; pp. 12–13). Columbia University Press. (Original work published 1966)

Voegelin, S. (2010). *Listening to noise and silence: Towards a philosophy of sound art*. Continuum.

СВЕДЕНИЯ ОБ АВТОРЕ / THE AUTHOR

Арне Гисхофф, arne.gieshoff@darmstadt.de

Arne Gieshoff, arne.gieshoff@darmstadt.de

Статья поступила 1 марта 2026
одобрена после рецензирования 3 июня 2026
принята к публикации 13 июня 2026

Received: 1 March 2026
Revised: 3 June 2026
Accepted: 13 June 2026