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SONIC CITIZENSHIP AND THE FEELING OF AWE IN URBAN SPACE

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ABSTRACT

To intentionally design for thriving communities, it is central to better understanding how people experience spaces and how emotions are connected to different urban environments. Exposed through everyday wonders, the feeling of awe is argued to hold the key to a more fulfilling life helping us to fold into more social collectives. Exploring the city at ear-level is a critical aspect of understanding the feeling of awe, and to address the relational framework between listener and soundscape. With current methods within soundscape research coming short in grasping the complexity of emotional and socio-cultural values shaping our auditory perception, we propose sonic citizenship as an approach to adopt a more community-oriented understanding of soundscapes. Gehl has a long history of being methodologically focused on collecting soft data within urban space to understand the human collective experience and what people cherish in a place, thereby informing sustainable urban development. This therefore serves as inspiration in the exploration of how to pay attention to the auditory dimensions of the feeling of awe and the cherished places in the urban city. We further acknowledge the inherent unpredictability of affective experience and suggest intentional fuzziness as a methodological tool to navigate constructively within such conditions.

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1. INTRODUCTION

In previous work we presented the imperative of approaching the urban space at ear-level and qualifying the role of soft data within soundscape research [1]. Building on this and drawing from the urban strategy and design consultancy Gehl's eye-level methodology, this paper advances the exploration of soft data methods, arguing that soundscape practices should be anchored in value- and emotion-oriented approaches to fully capture the contextual complexity of soundscapes.

The methodologies established within the ISO 12913 series [2-4] have significantly advanced the use of quality of life as a key outcome measure, moving beyond traditional approaches focused solely on noise reduction and control. This shift is reflected in the definition of soundscape in the standard [2], which places human perception at the core of soundscape evaluation and underscores the need to consider contextual factors such as individual attitudes toward sound, culturally informed expectations, and emotional states. This emphasis is also integrated into methodological and data analysis parts, as exemplified in ISO 12913-3, Annex A.3, which suggests that when people describe their soundscape experiences in their own words, they tend to express their experiences in terms of emotions and feelings [4].

However, we argue that current soundscape evaluation methods remain insufficient in capturing the full complexity of emotional dimensions and the socio-cultural values that shape auditory perception. In the data collection methods specified in Annex C, Section C.3.1.3 of ISO 12913-2 you are guided on how to assess the affective qualities of the environment by

querying respondents on their agreement with attributes of the soundscape such as "pleasant, chaotic, vibrant, uneventful, calm, annoying, eventful, monotonous." [3]

When analyzed according to ISO 12913-3, these affective responses are mapped onto a two-dimensional model, where the primary dimension reflects the perceived pleasantness or unpleasantness of the soundscape, and the secondary dimension captures its perceived eventfulness or uneventfulness [4]. The ISO methods focus primarily on getting people to evaluate the sound environment in isolation, leading to assessments of sound rather than the holistic experience of a place. Isolating sound from the broader tapestry of lived experience risks missing how soundscape perception is deeply embedded in socio-cultural and multisensory contexts, as well as broader emotional experiences.

We therefore propose to supplement the existing methods with an approach that begins with a multisensory, cultural, and emotional perspective—only then analyzing how specific sound elements support or disrupt the overall experience of a place. Inspired by Gehl's methodology, this integrative perspective enhances existing methodologies by embedding soundscape evaluation within a broader contextual understanding. In the Gehl approach it is important to understand the cherished aspects of urban life, where the collective dimensions are especially important to people. With this overall focus an important area of soundscape evaluation would be how some soundscapes foster inclusion, encourage interaction, and support social cohesion. Conversely, how hostile soundscapes — dominated by traffic noise, mechanical reverberations, and auditory clutter — can inhibit human connection and diminish the quality of urban life [5]. From an epistemological perspective, we propose a sonic citizenship approach as a means to adopt a more community-oriented understanding of soundscapes, focused on how the sensory aspects of participation in collectivities create or counteract forms of belonging.

In the following, we introduce the different levels of the Gehl approach to understanding urban life, with particular attention to how people experience and emotionally connect with the built environment. Central to this exploration is the feeling of awe—an often-overlooked, yet powerful, dimension that helps explain why certain places become deeply cherished parts of the city. Then we present sonic citizenship as a framework for understanding soundscapes through more community-oriented perspectives, as well as methodological tools for how to navigate within the complexity of the emotional and socio-cultural aspects of the human experience of soundscapes. Finally, we illustrate a practical implementation of participatory methods drawing on a case of developing soundscapes for delivery rooms.

2. GEHL EYE-LEVEL METHODOLOGY

To develop the sonic citizenship approach, specifically focused on methods for capturing soft and emotional data on soundscapes, we are inspired by how Gehl for almost 60 years has focused on understanding human collective experience to inform sustainable urban development. Urban planning has traditionally prioritized the visual dimension of space, often neglecting the multisensory and collective experiences that define urban life. At the level of the pedestrian — the "5 km/h experience" as described by Jan Gehl — sensory details become crucial. Walking speed allows for heightened engagement for example with subtle auditory layers at ear-level: footsteps on varying surfaces, distant conversations, birdsong, and the rustling of foliage. These sounds signal not only environmental quality but also social presence and safety. Gehl uses a triangulated approach, as the ISO 12913-3 suggests [4], combining sources and methodologies to gain a comprehensive understanding of urban environments. Their approach combines big data analysis with lived experiences and firsthand accounts, focusing on emotions and human interactions within the built environment.

In recent years, the Gehl approach has continued to evolve by placing greater emphasis on understanding the city through the perspectives of citizens. By engaging directly with people—particularly those whose voices are often underrepresented—Gehl explores the emotional and lived dimensions of urban life. Focusing on groups such as youth, seniors, or caregivers helps uncover the subtle yet powerful ways different people experience, navigate, and connect with their environments. Their lived knowledge, creativity, and cultural fluency not only reveal what works and what doesn't in the city, but also inspire new participatory methods and storytelling formats. This evolving approach deepens our understanding of what makes

spaces truly meaningful and opens up new pathways for imagining more inclusive and caring urban futures.

2.1 Big data

As Gehl's methodology continues to evolve, greater emphasis is placed on combining traditional urban observation with digital and data-driven tools. High-level patterns in mobility and access are revealed through the integration of sociodemographic data, spatial datasets, and mobility trends—translated into actionable insights through data processing and visualization.

To capture the emotional and lived experience of a place, a multi-modal approach is used, drawing on photos, text, voice recordings, and maps. Expressive language models, such as those developed by Hume AI, help detect emotional signals in qualitative inputs, while tools like image classification and dimensionality reduction reveal broader perceptual patterns.

These computational techniques are paired with analogue analysis, such as manual coding and cross-referencing of qualitative material, to preserve the richness and authenticity of participants' experiences. This mixed-method approach enables a more holistic understanding of urban life—connecting diverse datasets to tell deeper, more human-centered stories about the city.

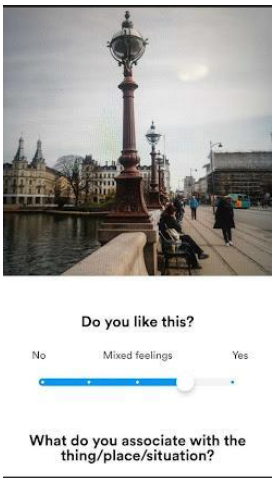

Figure 1. The Eye Level City app enables Gehl to collect people's perspectives of a specific location.

2.2 Neighborhood context

Understanding place-based conditions is a foundational element of Gehl's approach to human-centered urban design. To uncover the layered identities, aspirations, and challenges within different neighborhoods, the process often begins with walking tours and/or on-the-ground engagement. These tours—often in collaboration with local experts—offer valuable insight into how people experience their environments and what contributes to a sense of belonging.

By collaborating with local partners and creating space for community-led dialogue, the approach surfaces both shared and divergent perspectives across neighborhoods. These engagements help identify opportunities to foster more vibrant, connected, and equitable places.

Workshops focused on themes like everyday joy, awe, and belonging are used to explore emotional connections to place. Participants are often invited to reflect on and map locations that hold personal or cultural meaning—highlighting patterns tied to access to nature, diverse mobility, and the character of neighborhoods.

This qualitative, place-based understanding is then linked with broader planning conversations, ensuring that lived experience informs both current priorities and future visions for the city.

2.3 Firsthand accounts

To deepen the understanding of lived experiences in cities, Gehl often engages specific citizen groups whose perspectives are underrepresented in traditional planning processes. One such group could be youth—whose insights into public space, mobility, and social interaction offer a fresh and often overlooked lens on urban life.

Through participatory research methods, young people are invited to act as citizen scientists, documenting their neighborhoods through photos, observations, and emotional reflections. Using digital tools such as mobile apps designed for urban exploration, they tag and categorize places based on how those environments make them feel, offering a qualitative richness that complements more conventional datasets.

The process continues with co-analysis workshops where participants share their stories, reflect on patterns, and collaboratively interpret the data. These sessions not only validate the participants' contributions but also uncover themes related to belonging, safety, social life, and access to nature—key ingredients in creating inclusive and engaging cities.

By centering youth perspectives, this approach highlights the value of designing with, rather than for, communities—and reinforces the importance of emotional and experiential knowledge in shaping urban futures.

2.4 Outcomes

Engaging specific groups, like youth, in participatory urban research reveals how people emotionally connect to their surroundings, highlighting places that feel safe, welcoming, and meaningful. These spaces often evoke feelings of joy, connection, and belonging, with qualities like access to nature and cultural authenticity.

Such processes lead to tangible outcomes, from identifying areas for improvement to informing design strategies that resonate with people's lived experiences.

Drawing on Dacher Keltner's work on awe, we understand how certain spaces inspire emotional engagement and connection. Awe, tied to beauty and profound experiences, helps guide the creation of spaces that foster both individual reflection and shared connection. Additionally, considering soundscapes is essential, as they play a key role in shaping emotional responses and the overall experience of the place.

3. AWE

"Awe is the feeling of being in the presence of something vast that transcends your current understanding of the world" [7].

Awe arises from experiences that challenge our mental frames and foster a sense of vastness and connection to something larger than oneself. In urban spaces, moments of awe can be triggered not only by monumental architecture but by collective, multisensory experiences: the sudden hush of a square at dusk, the unexpected harmony of urban sounds and soft light, or the communal experience of silence punctuated by distant laughter or the rustle of leaves. Such moments can slow perception, heighten awareness, and deepen social bonding. In trying to understand what happens when we find ourselves in moments of awe, one effect is the vanishing of the *default-self*. A self that, from the perspective of psychology, is introspective and concerned with control and being distinct and independent from others. With the growth of individualism and materialism, this sense of self has become ever more pronounced, which is argued to be undermining and challenging the collaborative efforts and goodwill of our communities. In his book, *Awe - The Transformative Power of Everyday Wonder*, Dacher Ketlner describes how a dominating default-self makes us excessively focused on ourselves, overwhelming us with feelings of anxiety, rumination, depression, and criticism. However, studies show that awe seems to quiet the urgent voice of the default-self and instead alter our mindsets from being oriented toward our individual self to being part of an interdependent network as collaborating individuals [7].

Similar to the concept of resonance, as described by Hartmut Rosa [8], awe is inherently uncontrollable and cannot be predicted or engineered, which therefore makes responsivity essential to being capable of reaching the experience of awe (or resonance). When experiencing resonance with someone or something, we both experience being inwardly touched and to orient ourselves outward. There is a transformative change of how we relate to the world, but we have no control over when this experience will occur or how we are transformed [8].

While the theoretical insights on awe and resonance reveal these phenomena as emergent, transformative experiences that defy planning and control, this very unpredictability poses a significant methodological challenge. Awe—the feeling of being in the presence of something vast that transcends our current understanding—and resonance—a relational experience of being deeply connected to the world—arises spontaneously when our default-self is quieted and we become open to the uncontrollable. Rosa goes so far as to suggest that planning for resonance will work against the possibility of experiencing it as it is uncontrollable. Thus, if awe and resonance cannot be designed or planned in the conventional sense, how can they serve as guiding principles in the study and design of urban soundscapes? With departure in existing approaches within soundscape research there is a need for considering different theoretical and analytical frameworks, as well as more explorative methods in

order to support the navigation of such intangible feelings and experiences of urban (sound) environments.

4. SONIC CITIZENSHIP

When we epistemologically propose sonic citizenship as a means to adopt a more community-oriented understanding of soundscape, this is because we see this as a valuable framework for exploring how people interpret and participate in society through sonic practices, whether by speaking, listening, making noise, or remaining silent. Drawing on the concept of *sensory citizenship* [9], introduced to move beyond the traditional normatives of citizenship concerning legal rights and obligations, we wish to stress that we engage ourselves with the surroundings through our senses, which shapes our sense of belonging and how we participate in the community. Following this, it is critical to investigate how sounds play part in shaping our sense of belonging, whether we feel included or excluded, safe or unsafe. Through attunement to each others' sounds and in the regulation of our own, we assume the roles of sonic citizens [10]. With sonic citizenship as an approach within soundscape research, it encourages us to consider how we audibly engage with and connect to our communities. This serves as an entry point for understanding the cherished aspects of urban (sound) environments and a context for emphasizing emotional and value-oriented perspectives in the investigation of a soundscape.

4.1 Listening as a social practice

In contemporary public life, listening has been largely overshadowed by an emphasis on speech, expression, and the spectacle of public communication. As Kate Lacey [11] argues in *Listening Overlooked: An Audit of Listening as a Category in the Public Sphere*, listening—when understood as a communicative and participatory act—is inherently political. Yet, political theory traditionally prioritizes the rights and responsibilities of speaking, neglecting the equally vital role of listening. Rethinking audiences as "listening publics" invites us to shift our focus from individual expression to a collective, intersubjective engagement that is essential for a democratic culture.

This reorientation can be framed by contrasting the concepts of *vita activa* and *vita contemplativa*. Historically, contemplative life required isolation from the sensory noise of the world—a withdrawal into stillness that necessitated the suppression of bodily movement and sensation. In contrast, active life is characterized by an openness to engage with the world, a deliberate act of listening to its diverse voices and textures. This shift—from a self-contained, introspective mode of existence to one defined by intersubjective, communal participation—marks a departure from the individualistic paradigms that have long dominated public discourse. In doing so, it challenges us to consider the duty of listening as a complement to the freedom of speech [11]. In a similar vein Yves Citton emphasizes that our cultural sensibilities are collectively structured. He contends that the capacity to receive—to listen and be affected by our surroundings—is as fundamental as the capacity to speak [12].

Within soundscape research, however, there is a noticeable disconnect as current ISO methodologies predominantly focus on individual auditory experiences. As Milena Droumeva [13] critiques, this individual-centric approach neglects the broader citizenship perspective—overlooking the cultural and social practices through which soundscapes are both experienced and constructed. Rather than representing a single, objective sound map, a soundscape is inherently pluralistic; it is continuously co-created through the interactions of citizens in their everyday environments. By reclaiming listening as a collective, participatory act, we challenge the prevailing individualistic model and advocate for a more democratic approach to understanding urban soundscapes. This perspective posits that the auditory environment is not merely a backdrop to be controlled, but a vibrant arena for public life—one that fosters intersubjective engagement, shared understanding, and the development of a collective democratic sensibility. In this light, listening becomes both a means and an end: not only does it facilitate the amplification of diverse voices, but it also cultivates the very conditions necessary for a flourishing public sphere. This renewed focus on collective listening corresponds to the exploration of resonance and awe in urban spaces, with sonic citizenship being a framework for paying attention to the auditory dimensions of these experiences and feelings—We argue that sonic citizenship can be a valuable lens for exploring what we cherish in our urban city soundscapes. However, the challenge remains of how to navigate these explorations.

Rather than attempting to directly elicit or control awe and resonance, we suggest creating methodological conditions that embrace the inherent

unpredictability of affective experience. Our proposal is to work with the very ruptures in everyday experience that have the potential to trigger these elusive states. In the following methodological section, we propose how this approach can be operationalized—transforming the unpredictable into a tool for exploration, and allowing the study of soundscapes to become a process of co-creation where moments of uncontrollability are not obstacles but opportunities for the emergence of awe and shared resonance.

5. RUPTURES AND INTENTIONAL FUZZINESS AS METHODOLOGICAL TOOLS

In our exploration of urban soundscapes through collective, participatory research—drawing inspiration from Gehl's approach—we propose incorporating "intentional fuzziness" as a key methodological tool. This concept recognizes that the unpredictable "ruptures" in our everyday sensory experience are not obstacles to be eliminated but rather opportunities to access deeper, shared affective states. Drawing on Daniel Stern's work on affect attunement, the present moment—typically a unit of up to 10 seconds, characterized by an "elastic" sense of time—is a fundamental building block for intersubjective meaning-making [14]. In these brief moments, the normal flow of sensory input is disrupted, creating a rupture that encourages participants to move beyond their default, self-focused states. This disruption can catalyze a transition toward collective resonance, where emotional attunement and shared experiences of awe become possible.

Stern posits that affect attunement is about "catching" the underlying emotion behind an action. In this context, the coordinated timing—rhythms, resonance, and synchronicity—is central to how individuals access and understand one another's inner worlds [14]. Sharing the fleeting moments of awe experienced in an urban setting may mirror the "ruptures" in affective attunement that Stern describes—moments when the regular flow of interaction is disrupted, opening towards hearing and sharing emotional attunement with each other in new ways.

In this context intentional fuzziness as a methodological principle embraces this very process. Rather than striving for a perfectly controlled capture of sensory data, this approach welcomes the "messy" and evolving nature of human experience. By deliberately allowing for redundancy, variability, and moments of repair, researchers create a dynamic space where participants can articulate the ambiguities and shifting nuances of their emotional responses. This "hit-miss-repair-elaborate" process not only accepts moments of failure but also fosters unexpected insights and transformative experiences. By designing research methods that incorporate intentional fuzziness, facilitators create a space where participants are encouraged to express the ambiguity inherent in their sensory and emotional responses. For instance, when groups explore a city's sound environment, they are invited not only to describe what they hear but also to articulate the feelings, memories, and resonances that arise and change doing the process. This approach leverages the intermodal nature of human experience: we do not perceive intentions solely as precise actions, but as part of a broader, often ambiguous, tapestry of meaning. The difficulty in pinning down one's own intentions and the challenge of communicating these to others—what can be termed as "intentional fuzziness"—becomes a tool rather than an obstacle. It allows for a deeper, more honest interaction with the environment and with each other.Furthermore, this method resonates with the idea that we are inherently "group-animals." The present moment, as experienced collectively, is enriched by the diverse perspectives and emotional rhythms of the group. Intentional fuzziness facilitates a form of co-creation where participants collectively navigate the unpredictable nature of urban soundscapes. The method does not strive for an overly sanitized, controlled capture of sensory data; instead, it celebrates the messy, unpredictable process of shared experience. This dynamic process fosters a kind of sonic citizenship—one where listening is a social practice and where the built environment becomes a canvas for collective emotional and sensory attunement.

This method acknowledges that ruptures—moments when the usual flow of perception is disrupted—can serve as fertile ground for affect attunement, opening up the possibility for moments of awe and resonance. These ruptures, much like sudden shifts in a musical rhythm, invite participants to step out of their default self, engaging more deeply with both the sonic environment and with each other.

5.1 A practical case of developing sensory delivery rooms for a hospital

To illustrate how such a participatory method can be applied in practice, we conclude by drawing on our experience from a case study situated in a different domain than urban space. Specifically, we outline the steps involved in a two-year participatory process of developing soundscapes for delivery rooms. This process was led by a group of artists (including second author) and designers in close collaboration with healthcare staff and users [15].

Participatory workshops with healthcare staff where the researcher team presents an analysis of the department as a rupture to open staff for new ways of seeing their habituated workplace. The analysis is based on in-depth interviews with patients and relatives, group interviews with nurses, doctors and other staff members, atmosphere-observations, soundwalks, sound- and video recordings, object-interviews, and photo observations. The analysis also includes patient stories and is aimed at producing situated knowledge about the department as a place with "other eyes and ears"; what is now, what is needed and what is wanted. This will act as a rupture opening for discussions about atmospheres and cherished places including intentional fuzziness with staff aimed at defining key-questions (themes) for the design process as e.g. "how can we create a feeling of homeliness at the maternity ward".

As part of the participatory process, expectant parents were invited to take part in a series of interviews in which they were asked to reflect on places in nature that they cherish and associate with calmness—places they imagined sharing with their future child. These conversations provided rich, emotionally grounded insights into personal experiences of peace, connection, and belonging. The places mentioned were subsequently plotted onto so-called *awe-maps*, which served as both conceptual and geographical guides for the artist team. Drawing on these maps, the artists visited the selected locations to explore their sensory and emotional qualities. Through video documentation, sound recordings, and field notes, they sought to capture the moods and atmospheres described by the participants. This material formed the foundation for the iterative creation of soundscapes intended to evoke similar feelings of calm and familiarity within the delivery room environment.

Building on the insights gathered through the awe-mapping process, the artist group selected one of the identified awe-places as the site for a subsequent phase of the participatory process—this time involving healthcare staff. Staff members were invited to visit the location and take part in a curated gathering that included informal conversation, shared singing, and time around a bonfire. This setting was intentionally designed to introduce a degree of ambiguity or *intentional fuzziness*, aiming to suspend habitual professional roles and foster a sense of openness, presence, and shared vulnerability. The gathering served as both a reflective and relational space in which participants could connect emotionally with the atmosphere of the site, while also revisiting and reimagining key questions that had emerged during earlier stages of the project. By creating conditions for a shared experience of awe—rather than framing the encounter as a workshop with predefined outcomes—the process invited new perspectives on the emotional, sensory, and relational dimensions of birth environments.

By engaging both expectant parents and healthcare staff in embodied and imaginative ways, the process helped surface latent needs and desires that might not have emerged through more conventional methods. The findings directly informed the development of the sensory delivery room design, guiding decisions about soundscape composition, lighting, spatial layout, and material choices. Ultimately, the participatory approach ensured that the final design was not only aesthetically coherent, but also emotionally resonant and attuned to the lived experiences of those giving birth and those supporting them.

6. SUMMING UP

In summary, intentional fuzziness—understood as the deliberate incorporation of unpredictability, redundancy, and evolving variations—is a vital methodological component for engaging groups in the study of urban soundscapes. It allows researchers and participants alike to access the rich, intersubjective layers of affect that underpin our everyday interactions, ultimately leading to more inclusive and resonant urban design practices. Within soundscape practices, in the design as well as implementation of soundscape interventions, it is crucial to establish methods focusing on understanding how we audibly engage with and connect with our surroundings to acknowledge how this shapes our experience of and emotions towards a place. This especially becomes of high relevance in light of the ongoing development of the fourth part within the ISO 12913 series concerning soundscape design and intervention [16]. Drawing on experience from designing sensory delivery rooms in healthcare settings, and informed by the Gehl methodology for identifying and supporting emotionally

significant urban spaces, we are developing sonic citizenship as a conceptual and practical framework for engaging with the auditory dimensions of awe, resonance, and situated belonging in urban environments. We further propose to complement existing methodologies with an approach that begins from a multisensory, cultural, and affective perspective—subsequently analyzing how specific sonic elements contribute to or detract from the overall experience of place. This includes plans for working with a practical case to apply the approach within the domain of urban space to substantiate how more community-oriented perspectives can inform soundscape research on decisive matters for successful and sustainable soundscape interventions.

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