

If the Walls Could Sing: Bringing Barcelona's Oldest House to Life with Sound

Abstract: The expression “if the walls could talk” is used to describe a place with such a rich history that, if its walls could share what they have witnessed, they would tell endless stories. That is the case of Casa Adret—deemed the oldest habitable house in Barcelona—and *Ashmorot*, the soundscape composition created for it. Although not literally making the walls talk—or sing, to paraphrase the idiom—the piece succeeds in evoking a sense of Casa Adret's bygone soundscape through the reflection of sound from its walls. *Ashmorot* is an electroacoustic work for computer, narrator, *pandero cuadrado*, and violin, characterized by its combination of a found-sound soundscape with an imagined historical one. The work's central feature is its use of surface transducers to sonically activate the historically significant space in which it was performed. This method of amplifying, projecting, and resonating sound proved highly effective in creating an immersive acoustic experience. Moreover, it offers a particular perspective on soundscape composition—one that produces the sensation that echoes from the past are coming to life and reverberating in the present.

Introduction

In 2024 I took part in the LABA BCN fellowship, a creative program rooted in Jewish literature, thought, and culture. Its activities take place at Casa Adret, a Jewish cultural center located in Barcelona's Gothic Quarter. LABA BCN is the Spanish hub of the international LABA organization, serving as a laboratory for studying Judaism's rich traditions and for exploring them creatively. Every year all the LABA hubs select a theme, and all study sessions and art works relate to that theme (<https://labalab.org/about>). The theme for 2024 was “night.”

During my LABA fellowship, I composed two soundscape works. The first, *Atzeret* (2024), is an algorithmic audiovisual installation. The second, *Ashmorot* (2024), is a piece for computer, narrator, *pandero cuadrado*, and violin, using surface transducers to project and resonate sound. The piece aims to evoke a bygone—likely imaginary—soundscape of Casa Adret, bringing it to life through an immersive acoustic experience. Although this article focuses on *Ashmorot*, it is worth briefly discussing *Atzeret* for contextual purposes, especially since it presents a different approach to soundscape composition, a term coined by Barry Truax (2012).

Q1 *Atzeret* was created for an event celebrating the Jewish harvest holiday *Shavuot*. Aligned with

the “night” theme, it is inspired by the tradition of *Tikkun Leil Shavuot*, an all-night Torah study held on the eve of *Shavuot*. The audio component, made with Pure Data, consists of five sound layers: some synthesized in real-time, others recorded and manipulated live. The synthesized layers include chimes, drums, and choir; the recorded materials include samples of *shofar* (a ram's-horn instrument) and crowd murmurs from communal Torah study. The video component, made with Processing, consists of hand-drawn looping GIFs. Audio modifies the visuals via Open Sound Control (OSC), altering elements such as color, visibility, and motion. The work evokes aspects of *Tikkun Leil Shavuot*: the group study, vocalization of sacred text, meditative experience, and enlightenment associated with that night. A short version is available online (https://youtu.be/3Nxmf6VxMDI?si=2f_njk0G69TVaMD5).

Truax (2002) situates soundscape composition on a spectrum between *found-sound* and *abstract*. The former involves minimal processing of recorded environmental sound; the latter constructs imaginary soundscapes using any sonic material. *Atzeret* lies on the abstract side. *Ashmorot* lies closer to the found-sound end, though not at the extreme, as it blends real field recordings with an imagined historical soundscape and activates a specific performance space through resonance. Both pieces were conceived within particular historical and cultural contexts. Such contextual approaches, as Brona Martin (2018) notes, highlight the role of sound in connecting people, place, and history. Thus, before discussing *Ashmorot*, I present a brief historical

overview of the Jewish quarter and Casa Adret, along with relevant soundscape works.

Historical Background: The Jewish Quarter

El Call de Barcelona is the Catalan name for the city's historic Jewish quarter, located in its medieval center. *Call* denotes a narrow street or alley—apt for this area's layout. It was the largest Jewish quarter in the Crown of Aragon and one of the most important Jewish centers in Southern Europe (Riera i Sans 2015). Although the earliest documentation of Jewish presence dates from the late 9th century, it is believed that Jews arrived after the First Jewish–Roman War. By the 11th century, the community in the Call was well established, with all institutions needed for Jewish communal life (Banks and Jáuregui 2023).

At the center stood the main synagogue. Archaeological evidence shows that parts of its structure date to Roman times, with Roman and Visigoth artifacts recovered from the site, although the earliest documentary evidence referring to the building as a synagogue dates to the 14th century (Riera i Sans 2002). (For a detailed archaeological survey of the site, see <https://arxiu.arqueologiabarcelona.bcn.cat/memoria-de-la-intervencio-arqueologica-realitzada-al-carrer-marlet-5-de-barcelona-5-14-agost-de-1997>). As I explain later, the synagogue became the compositional focal point of the third movement of *Ashmorot*.

Casa Adret, located near the synagogue, is considered Barcelona's oldest habitable house (Cócola Gant 2010). Named after Salomó ben Adret (1235–1310 CE), the preeminent rabbinic authority of medieval Europe, it is a 14th-century medieval house that survived the 1428 earthquake (its tilt is still visible today). Restored and renovated over the centuries, its restoration in 2000 emphasized medieval elements and its interior patio (<https://invarquit.cultura.gencat.cat/card/42546>). This patio served as the protagonist of *Ashmorot*.

The 1391 massacre ended Jewish life in the Call. Over 300 Jews were murdered, many homes were destroyed, and survivors were forced to convert.

By 1492, Jews were expelled from all territories of the Crown of Aragon (Pérez 2007). A central aim of *Ashmorot* is to revive, through sound, the soundscape of Jewish life in the Call.

Soundscapes of Remembrance

Many compositions attempt to revive the soundscape of a place. Iain Foreman (2014) distinguishes between approaches that preserve a real soundscape and those that imagine one. Both seek to make past soundscapes audible again.

Some works connect explicitly to tragedies. The *Sonic Memorial Project* (<https://www.sonicmemorial.org>) documents the history of the World Trade Center in the context of the September 11 attacks. Its soundwalk, as described by Haidy Geismar (2005), becomes a visceral memorial experience, engaging sound, sight, and movement.

Similarly, the *Pulse Memorial* (<https://pulse.memorial>) commemorates victims of the 2016 Pulse nightclub shooting. Its eight rotating soundscapes combine field recordings and data sonification to evoke grief (Vann, Molina-Garcia, and Black 2024).

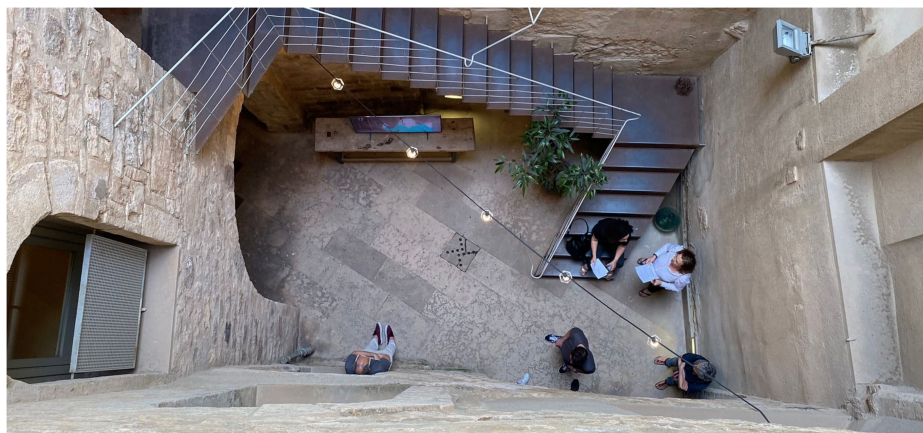
Other notable works explore physical space: Alvin Curran's *Floor Plan/Notes From the Underground* (1991), an installation beneath an illuminated synagogue floor plan with shifting walls of sound; and Jacob Kirkegaard's *4 Rooms* (2006), in which repeated recordings reveal each room's acoustic signature (<https://fonik.dk/works/FourRooms.html>).

Ashmorot belongs to the category of imagined soundscapes. It does not memorialize a specific event, but integrates live performance into its approach, strengthening the sense of revival through sound.

Ashmorot: Concepts and Composition

Ashmorot combines recorded and synthesized audio (edited in Reaper) with live performance processed in real time (Pure Data). The central concept is that all sound is played through surface transducers mounted in Casa Adret's patio. The

Figure 1. A top-down view of Casa Adret's patio, showing the floating staircase and chimney-like structure. (Courtesy of the Institute for Jewish Studies Barcelona.)



work was designed for that space, amplifying and resonating sound through the house itself. Because the thick stone walls cannot, in practice, function as a resonant board, the transducers were placed on the floating metal staircase anchored to the outer wall but located within the patio. The patio's chimney-like structure greatly enhanced reverberation (see Figure 1).

Much of the composition process involved testing transducer placement, quantity, resonance, equalization, filtering, and amplitude. Four transducers were eventually mounted equidistantly on the staircase's wire mesh: one on the small top section, two on the main middle section, and one on the small bottom section. The transducers require an amplifier, which takes the output from the audio interface. From there, two transducers were connected to each of the amplifier's outputs. I tested resonant frequencies extensively, as these shaped EQ and filtering choices for both prerecorded and live audio. I also noted which types of sounds resonated best: Low-frequency percussive sounds produced unwanted rumbling, whereas fricative consonants resonated exceptionally well. In editing, I often isolated and time-stretched fricatives. Of many manipulations tested, a very short delay proved most effective, enhancing spatial depth via the precedence effect. According to Blauert (1996), 100 msec is the maximum delay time for this psychoacoustical effect to be produced. Applying delay in this manner also served a compositional purpose, as it formed similar

sound objects that help define the piece. For example, the first movement contains isolated syllables in fragments of 85–300 msec, with delays of 60–100 msec and feedback of -3 dB. Delay with the same parameters is applied in the second movement to parts of words, although without isolating them, as well as to short synthesized tones of 130 msec. In the third movement, a dedicated track with a fixed delay of 50 msec is used to process selected audio fragments ranging between 130 msec and 10 sec. The live signal processing also prominently features delay.

Aligned with the “night” theme, the composition's three movements represent stages of the night following the Jewish tradition. Although unified conceptually, each can stand alone. The complete work is available online (<https://soundcloud.com/gil-dori/sets/ashmorot>), along with an individual movement as its own electroacoustic binaural piece (<https://soundcloud.com/gil-dori/ashmorot-no-2-dreams-binaural>).

The first movement, “Darkness,” is for violin and electronics. Electronics include synthesized drones and field recordings of Judeo-Spanish lullabies recorded by ethnomusicologist Susana Weich-Shahak (2014). Judeo-Spanish blends Old Spanish, Old Catalan, and Hebrew and was spoken throughout medieval Iberia (Rodríguez 2007). The lullabies were heavily edited to move from fragmented syllables to clear phrases. Violin and electronics alternate and intermix, fully merging in the last section. The

violinist improvises using motives derived from the lullabies, listening and imitating emerging phrases, culminating in a cadenza-style solo of a complete, written-out melody in the penultimate section. Synthesized drones guide the performer through modal and microtonal fluctuations. The live processing of the violin includes a delay of up to 500 msec, combined with a low-pass filter.

The second movement, “Dreams,” is for narrator, *pandero cuadrado*, and electronics. The *pandero cuadrado*—a square tambourine—was traditionally played by Judeo-Spanish women (Cohen 2008), and is even depicted in the medieval Golden Haggadah’s illustration of the *Dance of Miriam* (see Figure 2).

The narrated text consists of dreamlike verses from *Song of Songs*, recorded in Hebrew and Spanish and used as electronic material. Electronics also include *pandero cuadrado* recordings and short synthesized tones functioning mainly as cues for the narrator. The narrator reads only the Spanish translation live and improvises on the *pandero cuadrado* following textual prompts. The movement is structured in the order of the poem’s verses, with four sections in a through-composed form, each one with similar sounds but a different character. Synthesized drones, similar to those in the first movement, mark the endings and beginnings of sections. Languages, sound sources, and signal processing are intertwined to heighten the surreal quality of the text. The live processing includes a delay of up to 100 msec, but with feedback of –9 to –12 dB, combined with a high-pass filter. A short buffer is also used to capture live input and loop it, normally or in reverse, with variable playback rate, combined with a flanger effect oscillating at up to 1 Hz with a delay time range of 100 msec.

The third movement, “Dawn,” uses electronics only. Field recordings of the Call—mostly nighttime—are minimally processed. Six layers form the texture: two “people” layers; two percussive layers; and two special layers, the “Guide” and the “Heart.” The “Guide” layer features a tour guide explaining the main synagogue—a serendipitous recording that became the structural centerpiece. The “Heart” layer features a percussive recording resembling a heartbeat, edited to heighten the resemblance. Its low frequencies were challenging

for the transducers, however, and required careful placement, amplitude, and EQ adjustments. The latter boosts around 200 Hz, with a high-pass cutoff frequency of 60 Hz and a low-pass cutoff frequency of 1000 Hz. This rhythmic gesture is a central motive of the whole composition. In the first movement it is more hidden but exists in the grouping and editing of syllables and word fragments, and in the second movement it becomes more prominent, being played on the *pandero cuadrado*. Its main use in the second movement is word painting *Song of Songs* 5:2: “I was asleep, but my heart waked: It is the voice of my beloved that knocketh.” The second movement ends with this motive, making the transition into the third movement, which begins and ends with the “Heart” alone. The third movement has a ternary form: Section A builds texture, starting from the “Heart”; B features the *Guide* alone; A’ gradually reduces layers, slowly going back to the “Heart.”

Conclusions

Ashmorot premiered in November 2024 at Casa Adret during the LABA Live event. Two performances were given. In the first, too many audience members crowded the staircase, dampening its vibration and limiting amplification. The narrator, who decided not to use an earpiece, also struggled to hear cues—despite rehearsals indicating an earpiece would be necessary. For the second performance, the staircase was kept clear and the narrator used an earpiece. The results exceeded expectations.

The live performance was electrifying. Even during testing, it became clear that the transducer system successfully activated the space. The immersive effect was profound: Sound seemed to come from everywhere and nowhere simultaneously. This sensation cannot be replicated in recordings; it existed only in situ.

This unique acoustic experience is central to the soundscape approach in *Ashmorot*. The work not only represents a soundscape—it becomes the soundscape. More than the found-sound approach of the third movement, it is the integration of Judeo-Spanish language, the *pandero cuadrado*,

Figure 2. The Golden Haggadah depiction of the Dance of Miriam, portraying Miriam playing the pandero cuadrado (top right). The Hebrew text above quotes Exodus

15:20: “Then Miriam the prophetess, the sister of Aaron, took a tambourine in her hand.” (Courtesy of the British Library, Add. 27210.)



and the resonant architecture that creates the impression of reviving a soundscape of the past, even if imagined. It felt as though echoes from Casa Adret’s long history were returning to life. Although the sound did not literally emanate from the stone walls, those walls were essential in reflecting vibrations from the staircase and filling the space.

Consequently, although *Ashmorot* does not make the walls “talk”—or “sing”—it succeeds in creating the perception of bringing Casa Adret to life with sound.

Beyond the approach to soundscape composition presented by this specific piece, transducer-driven spatial activation offers an accessible, cheap, and

highly effective way to produce immersive work. It does not require special equipment or a complicated speaker system; it simply has to be set up in the place as described, taking into consideration specific acoustic and structural features of the space. Although the article discusses an experimental imagined soundscape, it encourages implementation of its concepts within the context of real historical soundscapes. It can even be combined with video mapping, projecting images of the historical place and its community, thus offering a meaningful remembrance experience that not only evokes the past, but recreates it viscerally in the present.

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