Sound Installations in Gardens Across India

Jayanta Sthanapati

Bamboo Grove, Auroville

Image credit: Author

Lithophone, Auroville

Image credit: Author

Metallophone, Auroville

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SOUND is created by vibrations that travel as longitudinal waves through solids, liquids, or gases. When these waves reach our ears, the brain interprets them as sound. Sound has five basic properties: pitch, which depends on frequency, with higher frequencies producing higher pitches; loudness, determined by amplitude, where larger amplitudes result in louder sounds; timbre, the unique quality of a sound, formed by its specific combination of harmonics and overtones, which is why a piano and a violin sound different even when playing the same note; duration, or how long a sound lasts; and velocity, the speed at which sound travels through a medium. Designing musical instruments relies heavily on the relationships between the physical properties of sound (frequency, amplitude, waveform, etc.) and human perception (pitch, loudness, timbre, consonance, dissonance) to create, organise, and express music.

Sound Installations Abroad

Outdoor installations worldwide use natural forces — wind, water, and waves to create musical sounds. These sound sculptures include the Singing Ringing Tree (Burnley, UK), the Aeolus Wind Pavilion (Bristol), the Wave Organ (San Francisco), the Sea Organ (Zadar, Croatia), and the Funnel Wall (Dresden, Germany). Beyond nature-powered designs, interactive installations invite public participation through artworks like Sonic Bloom's sound-producing flower sculptures in London and sensor-activated Musical Stepping Stones. Parks and playgrounds feature weather-resistant instruments, such as idiophones, chimes, and drums, enabling spontaneous musical exploration.

ISIS Speaks at Sikkim Science Centre, Gangtok

Image credit: Svaram

Sound Installations in India

In 1979, the Nehru Science Centre, a unit of the National Council of Science Museums (NCSM), established the first Children's Science Park in Mumbai, featuring 60 interactive exhibits. Six of these focused on the physics of sound, with two producing musical sounds. NCSM has since replicated these six sound exhibits at more than 50 science parks nationwide. Beyond NCSM, three organisations have created interactive sound installations. The Sound Garden at the Indian Music Experience Museum in Bengaluru features seven exhibits, while the DoScience Centre in Hyderabad has six. The largest is the Svaram Sound Garden at Auroville, with 20 exhibits, most of which are unique to that location.

We describe below 24 sound installations and how they work, organised into four distinct sections. Many of these exhibits are present in multiple science parks and gardens at the locations mentioned above.

A. Sound Transmission Demonstrations

These interactive sound-transmission installations demonstrate how geometry and enclosed paths convey speech, focus sound, generate echoes, and enable visitors to whisper and be heard from a distance.

1. **ISIS Speaks — Whispering across a Distance:** there are two fibreglass statues resembling Isis, the Egyptian Goddess of healing and magic, and both have small openings at their mouths. They are installed face-to-face but separated by 30m. Two visitors can interact with the installation simultaneously. While one visitor can speak softly into the mouth of a statue, the other can listen to it. They can then switch roles. The mouths of the statues are connected by a metal or PVC pipe that runs underground. The pipe serves as a sound transmission tube.
2. **Elliptical Speaking Tube — Focal Point Conversations:** the fibreglass fish has an elliptical shape. It features two openings, one at the mouth and the other at the tail end, positioned at the focal points of the hollow elliptical body. Two visitors can experience the sound effect; one speaks into the mouth while the other listens at the tail end. They can then switch roles. This occurs because sound generated at one focal point converges at the other after reflecting off the elliptical wall.
3. **Whispering Discs — Parabolic secrets over distance:** the installation allows two people to converse in a whisper. It consists of two identical parabolic reflectors, each 2m in diameter, separated by 16m, on a playground with no obstructions. A visitor is to place his/her mouth close to the central ring placed at the focus of a parabolic reflector. Another visitor moves to the other parabolic reflector and places his/her ear close to its central ring. Thus, when one visitor speaks softly or whispers, the other can easily hear it. Sound originating from the focus of one parabolic reflector is first reflected by its