

Veer

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Veer is a multimedia installation that transforms space, sound, and light into variable dimensions of an experiential field. A base of polyester batting wraps a branching steel structure creating a soft, interior sleeve comprised of tunnel-like folds. Participants bend and push through saturated matter, initiating changes in light and sound through interactive sensing technology distributed throughout. In *Veer*, space provokes movement, movement provokes sound, and engaged participants instigate an emergent perceptual form.

Veer is divided into five discrete zones, each characterized by a parsing, calibration, and alignment of its qualitative aspects—from material texture to sonic grain to spatial proportion. Physical characteristics in the material walls are mirrored in localized sonic responses that are triggered as participants move over pressure sensors embedded in the floor. Layers of recorded noise are spliced and sculpted to exhibit different densities and degrees of harmonic warmth. Across the space, gradations in color move from near white to burnt orange and fuchsia. These changes are mapped to shifts in both the register (high/low) and spectral density of the accompanying sounds: blanched pale walls are linked with soft white noise; regions saturated with color emit thick multiphonic screeches. Speaker placement follows the curvature of the ceiling. At moments of spatial compression, therefore, sound projects from speakers just inches from the ears of participants. As participants rise into cavernous regions, sound recedes to speakers high above head-level. Throughout *Veer*, sensors modularize the temporal forms of sound and light and embed them within shifting spatial contours.

Compositionally, the internal structuring of individual sound events and their aggregate impact as dramatic gestures are designed to be temporally elastic. Each local reaction is composed of four overlapping soundfiles on loop. The durations of these internal layers are distinct, ensuring their repetitions are misaligned so that the composite sound constantly morphs. Each tunnel-like space is conceived as a disaggregated musical phrase that fuses through the movement of the participant. Beginnings, middles and ends are composed into separate sensor reactions, but the rate at which they unfold is controlled by the gait of the participant. The dramatic contour of the entry tunnel, for example, will be similar whether a participant sprints

or crawls through the tunnel. In other words, the duration of the phase changes, but the arc of its intensity is preserved; it is temporally elastic.

On the whole, *Veer* offers an aesthetic experience where subject and object merge in a dynamic process of becoming. No archetypal interactivity dominates, rather, the participant initiates a cascade of spatial/sonic relations structured with different temporalities. Upon entry, the participant encounters an initial jolt of sensory stimuli. With each encounter, these stimuli begin to coalesce into logical relations only to be undone as new temporal relations are revealed through alternate bodily movements. The time of *Veer* is a manifold time, characterized by overlapping temporal shapes that fade in and out of focus in a dynamic play of experiential tension.

Veer is a collaboration between an architect and a composer. Our multi-disciplinary design approach aims to create links between the sensory output of our respective mediums: architecture and music. By simplifying architectural and musical experience into base sensory stimuli (visual, sonic, and proprioceptive (sense of movement)) we are able to relate the effects of each medium and bridge the conceptual divide stemming from our respective disciplinary training. In our design process, logics of form are replaced with logics of relation, which guide the organization of sensory stimuli into emphatic experiential moments.

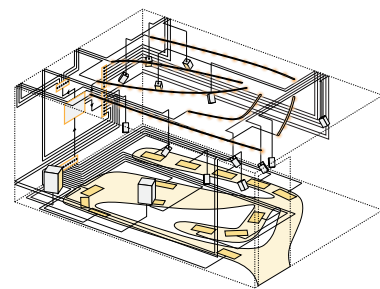


Diagram of sensors and speakers

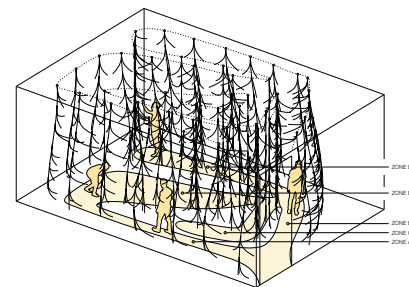
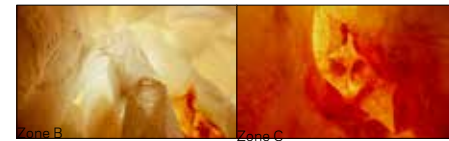


Diagram of branching steel structure and spatial definition



Zone A Zone B



STRUCTURE AND MATERIAL

Veer is comprised of a continuous sleeve of polyester batting hung from a branching steel structure. Two hundred thin steel sections, ranging in length from three to five feet, connect in vertical chains. The three section types—top, middle, and bottom—are interchangeable, allowing both continuity and subtle variation. Each section has four thin branches that bend away from the vertical chain providing a wide range of connection points for the batting. Extremely compact prior to assembly, the branching structure unwinds into a cloud of thin lines providing ample support for the continuous sleeve that wraps it.

The manipulability of the polyester batting supports a range of variations in color and texture. Color is applied both internally to embedded layers (visible once backlit), and externally, as paint applied directly to the surface. Changes in color track changes in space and sound. The “dead ends” of the two major tunnel spaces are coated in deep oranges, browns, reds and fuchsias. As participants travel into these spaces sound and light increase, intensifying the sensory pressures arising from the spatial compression and material change. In addition to applied color, the batting is altered through heat. Subtle melting of the outer layer hardens the batting creating a textural skin that fluctuates between hard and soft, increasing its haptic appeal and eliciting the touch of participants.

INTERACTIVE TECHNOLOGY

Interactive sensing technology enables phenomenological connections that bridge the gap between the temporal realm of music and the static realm of architecture. Fourteen pressure sensors are distributed over the floor, detecting the position of participants within the space. These sensors send binary signals (on or off) through an Arduino microcontroller to a custom software patch created in Max/MSP (an open platform interactivity software) that controls 16 channels of audio distributed to 16 speakers (hung—though unseen—throughout the space) and twelve RGB variable LED strips attached to the ceiling.

Materially, *Veer* is constructed from polyester batting that wraps a branching steel structure creating a soft, interior sleeve for a room twenty-seven feet long, nineteen feet wide, and twelve feet high. The space is roughly divided into five zones (Zones A-E): a tapered entry tunnel on axis with the doorway (Zone A) leads to an open central space (Zone B) with three flanking tunnels; one short (Zone C), one long (Zone D), and one that leads back to the doorway (Zone E).

SENSORY COMPRESSION

In *Veer*, sonic, visual, and proprioceptive cues are aligned in phenomenological moments of ‘compression’ and ‘expansion’. The first compressed moment (Zone A, illustrated in the photograph to the left and drawing to the right) is created by a low ceiling that forces participants to crouch while passing through. Sharp intensifications of color and light punctuate this off-kilter movement and trigger a flood of thick noise projected from hidden speakers.

By simplifying architectural and musical experience into base sensory stimuli (visual, sonic, and proprioceptive (sense of movement)) the effects of each medium are brought into relation with each other, bridging the conceptual divide between these two media. Ultimately, *Veer* posits a new conception of design—one governed by the logics of sensory relations rather than the disciplinarily logics of form.

TEMPORAL VARIABILITY

In *Veer*, rhythm is articulated through the comingling and overlap of three distinct temporalities: the participant’s gait, influenced by spatial changes; the triggering of sound and light reactions caused by a participant’s position in the space; and the composed sound itself, complete with its own internal temporality. Movement is encouraged differently within the space. Tunnel shapes were deployed as a means of influencing movement down a particular path. This allows us to design linear progressions of material, sonic, and spatial change.

The central space, Zone B (illustrated in the photograph to the left and the drawing to the right), is open and promotes more variation of movement. Here participants wander and perceive differences in the spatial field as they discover that the walls are lined with sensors initiating sound and light. Participants may stay in Zone B for a few moments or considerably longer, a marked difference from the relatively predictable pace and progression of the tunnel spaces. From Zone B one enters either of the subsidiary tunnels (Zones C and D) or the exit tunnel (Zone E).

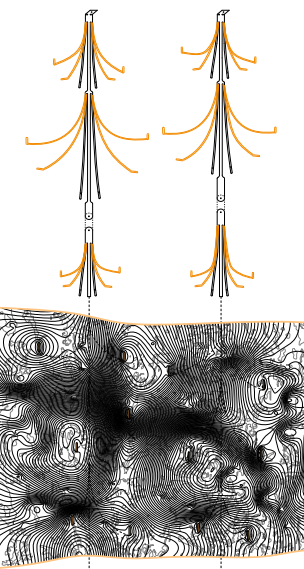
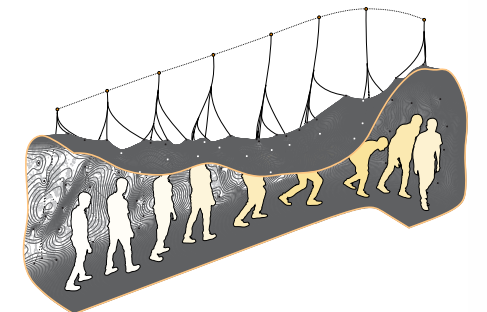
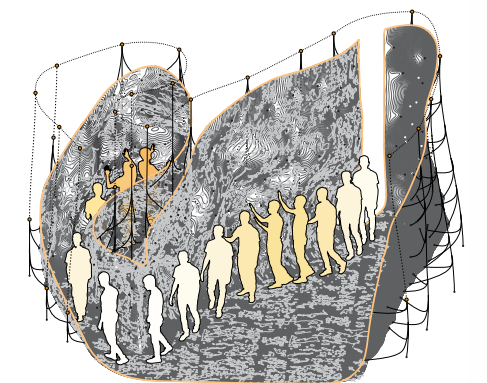


Diagram of branching steel structure and connection to batting



Isometric drawing of Zone A



Isometric drawing of Zone B