Originally conceived to be a solar-reactive facade system, the movement of this device was to create a set of network of louvers that would block light and create an air curtain (Figure 1, axonometric). The general impetus of this is to sense the ambient temperature at the surface of the façade and reduce significant heat gain. As seen in (Figure 2), the modularity of the CentriPETAL allows for varying patterns to be produced. When the device is closed, sunlight and views are permitted, and a thickness is produced across the façade as the folded louvers protrude from the surface. At a programmed threshold, the device would open and rotate, and the louvers would network across the entire elevation. Additional spinning tubes would generate currents of air to across the envelope. As they spin, centripetal force pushes them outwards and down so that air is blown across the surface to reduce radiant heat transfer.

However, due to the harmonic pitches that were created by varying lengths of the tubes and the figural quality of the surfaces of the louvers as they moved, more attention was given to the production of an architectural object that opened by unfolding and produced sound (Figure 3).
In its current assembly as shown in (Figure 4), three fiberglass louvers produce the enclosure. Within the enclosure are three corrugated plastic tubes covered in a thin Mylar (Figure 5). At the base of the device is a sensor that is networked to a motor for the tubes, and a linear actuator for the louvers. All of these components are fixed to an aluminum frame.

For this demonstration, a proximity sensor is used to trigger the CentriPETAL device that senses the approach of a human occupant (Figure 6). First, the outer louvers are pulled by the linear actuator to fold outwards and down at their base. This folding could be articulated so that more complex folding could be produced—for example, a curved-crease folding by E. Demaine—so that the enclosure may unwrap in space into a compressed sheath. Following the principal opening of the object, the tubes begin to spin on a motorized plate. The tubes—cut at varying lengths—are attached to the plate by a hinge and a spring (Figure 7). As the plate spins, a centripetal force pushes the tubes past the resistance of the spring and they fold outwards. The air that flows through the corrugated tubes produces a resonant frequency that corresponds to the speed of spin as well as length. In this device we have designed them to produce the pitches of E4, F4, and G4.

As this pod-like object could grow in size to allow for occupiable space and even extend outwards, the CentriPETAL claims an agency within an anthropic environment that suggests a biologic domain for architecture. Furthermore, the use of motion and interaction to produce harmonics allows for a greater discovery of architecture and space beyond moving geometries. Architecture that supplies dynamics in sound, temperature, kinetics, and light, at this level, begins to supercede a simple anthropomorphization for an agency that creates autonomy. This autonomy begins to layout a synthetic body within which a building becomes a creature.
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