

# RESPONSIVE LANDSCAPES

STRATEGIES FOR RESPONSIVE TECHNOLOGIES IN LANDSCAPE ARCHITECTURE

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ROUTLEDGE



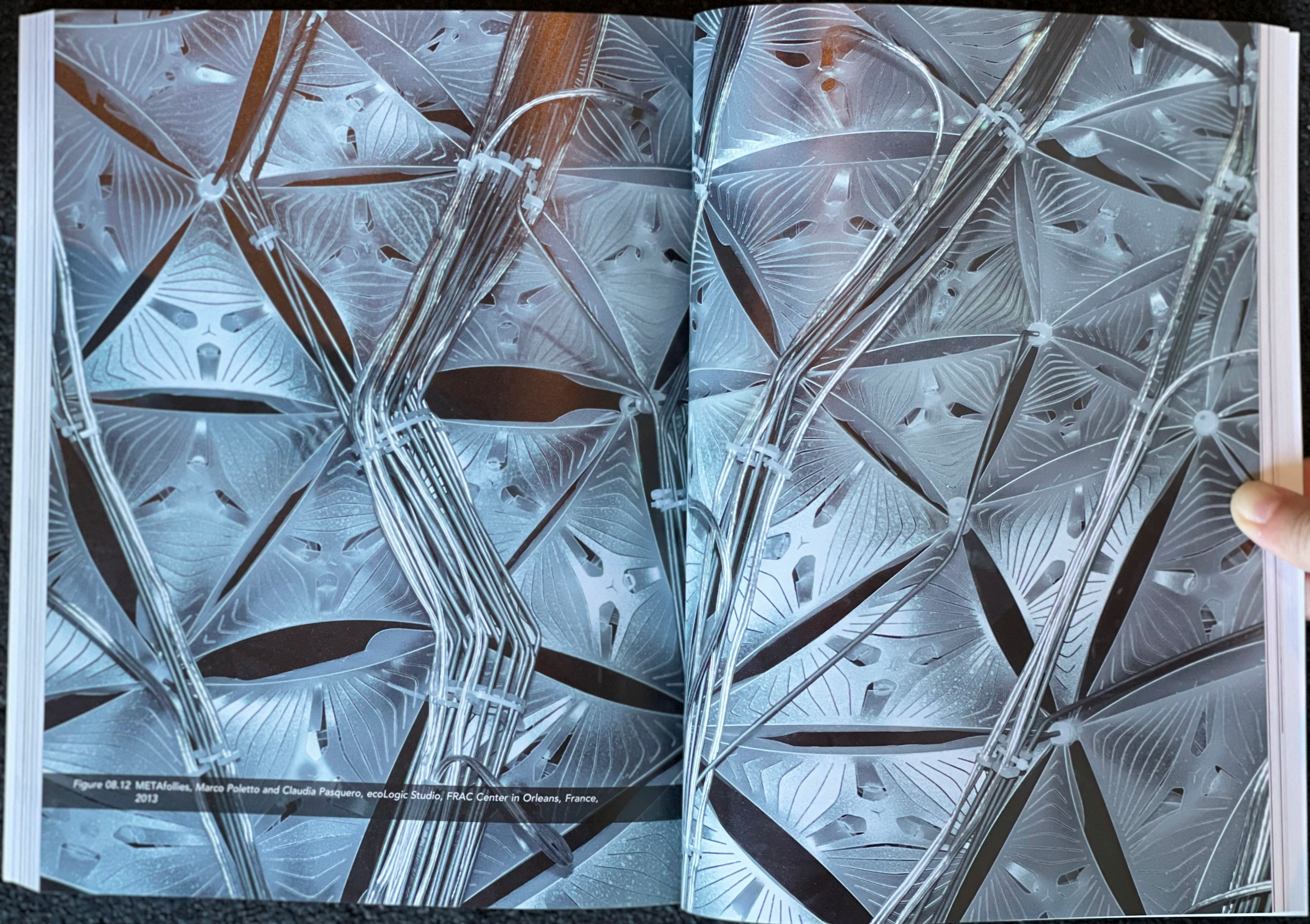


Figure 08.12 METAFolies. Marco Poletto and Claudia Pasquero, ecoLogic Studio, FRAC Center in Orleans, France, 2013

**ecoLogic Studio**

**Collaborators:** Claudia Pasquero and Marco Poletto

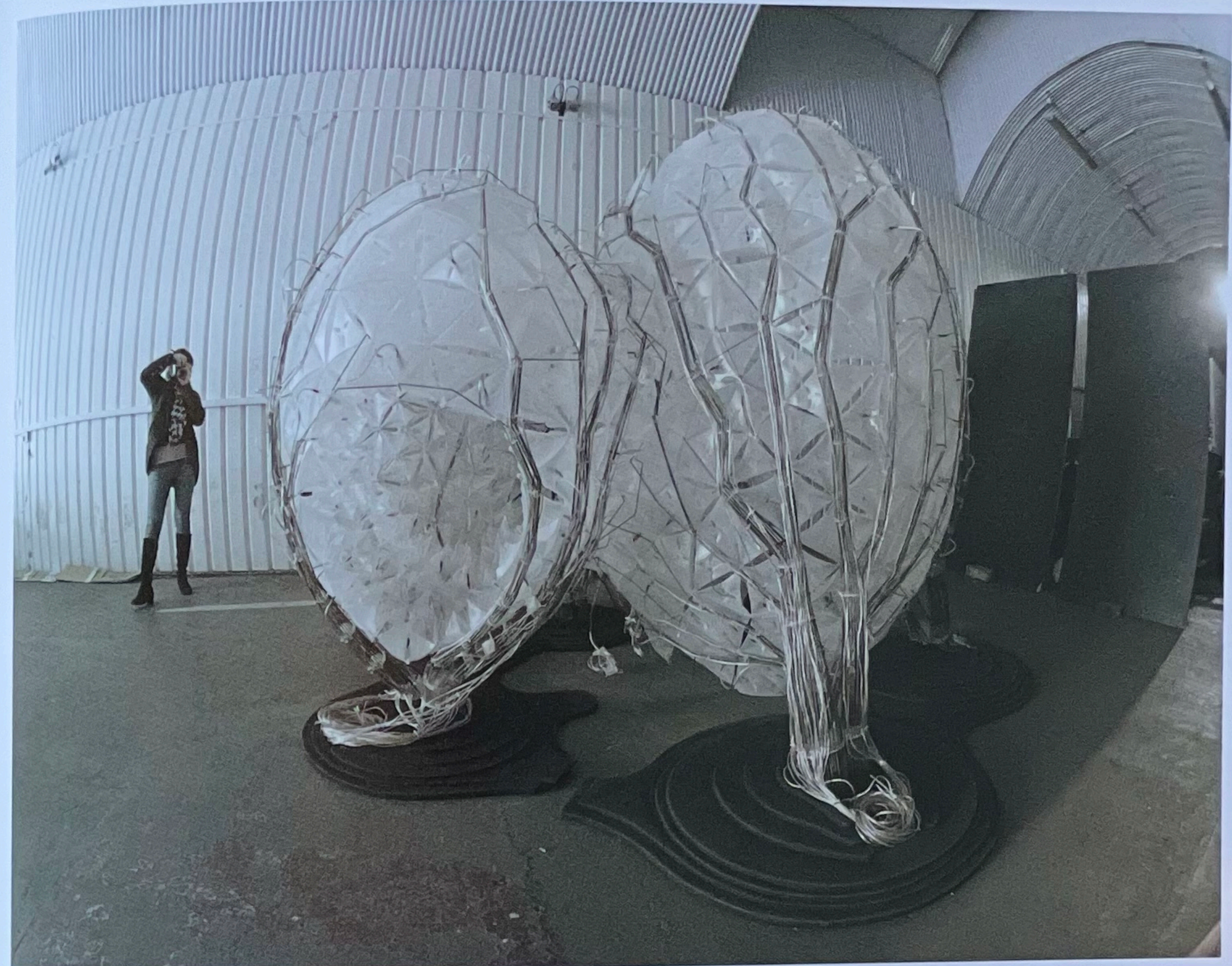
Andrea Bugli, Philippos Philippidis, Mirco Bianchini, Fabrizio Ceci, Phil Cho, George Dimitrakoulous, Manuele Gaioni, Giorgio Badalacchi, Antonio Mularoni, Sara Fernandez, Daniele Borraccino, Paul Serizay, Maria Rojas, Anthi Valavani

**Scope:** Permanent Interactive Installation at the FRAC (Regional Contemporary Art Fund) Center in Orleans, France

**Technology:** Piezo Buzzer, Microprocessor Arduino, Proximity sensors

With the design of *METAfollies*, Claudia Pasquero and Marco Poletto, founders of ecoLogic Studio, have woven together concepts surrounding the material conditions of contemporary urban landscapes—particularly the landscape of “urban trash,” expanded from the concept of garbage to include an assemblage of “products, landscapes, media content, attitudes and lifestyles.” Through a feedback of “meta-language” the *METAfollies* ask contemporary society to reconceptualize and evolve our role with “urban trashing” through radical ecologic thinking and material activism. Commissioned for the permanent collection at the FRAC Center in Orleans, *METAfolly* is a “sonic environment” digitally fabricated from urban trash and coupled with responsive technologies. Humming similar to the sound of swarming crickets emerges from alien and organ-like pods—the “synthetic organism” records movement and plays back sounds between the visitors and the installation as a “real-time meta-conversation” about the physical and material pervasion of urban trash.<sup>16</sup>

*METAfolly* was inspired by historical concepts of the architectural folly originating from the Romantic English Landscape as a method for playfully engaging “nature.” ecoLogic studio was particularly interested in the “grotto” for its “immersive environment” and ability to “[fake] the spatial effects of a natural cave.” Likewise, the *METAfolly* develops a new naturalness from lifeless materials and technologies—and from the synthetic combination of localized recordings and interactions—simulates complexity. The project was developed over a month long workshop in which a team of young architects were asked to act as “cyber-craftsmen” to hack low-cost responsive technologies in combination with the materials of urban trash. Working with off-the-shelf parts, cheap Chinese gadgets, and machining recycled plastic panels, the team developed customized assemblages of found and recycled objects—termed by Pasquero and Poletto as “slow-prototyping” in reference to the contemporary need for “slow architecture,” where the architecture is able to “simultaneously embody the object, the process and the interface.”<sup>17</sup>



The physical structure of the *METAfolly* is tied to the placement of responsive technologies to encourage interaction and distribute sound. The overall form provides three unique interactive access points to draw the viewers in, record their proximity, and translate it into sound. The physical system is composed of numerous digitally fabricated and technological components organized by a hierarchy of tiles, clusters, tendrils, and hubs. The tiles tessellate together to form the parametric skin of the structure, the clusters of tiles hold singular “active” tiles connected to “active” tendrils (in which active refers to the presence of technological components), and each tendril hosts a piezo buzzer. There are a total of 300 active tendrils within the *METAfolly*. The tendrils encase wires connecting the piezo buzzers to Arduino microprocessors and proximity sensors at the bases of all six hubs. The proximity sensors are capable of sensing visitors from up to five meters away. Once proximity and movement is sensed, the piezo buzzers are actuated. A system of delays and levels of inertia can be tuned and adjusted in real-time to behaviors of movement to synthetically mimic complex behaviors such as the swarming sounds of crickets: “overall the swarm would always escape you but with ever-changing behaviour and sound patterns.”<sup>18</sup> With the limited

Figure 08.13  
*METAfollies*, Marco Poletto  
 and Claudia Pasquero,  
 ecoLogic Studio, FRAC Center  
 in Orleans, France, 2013

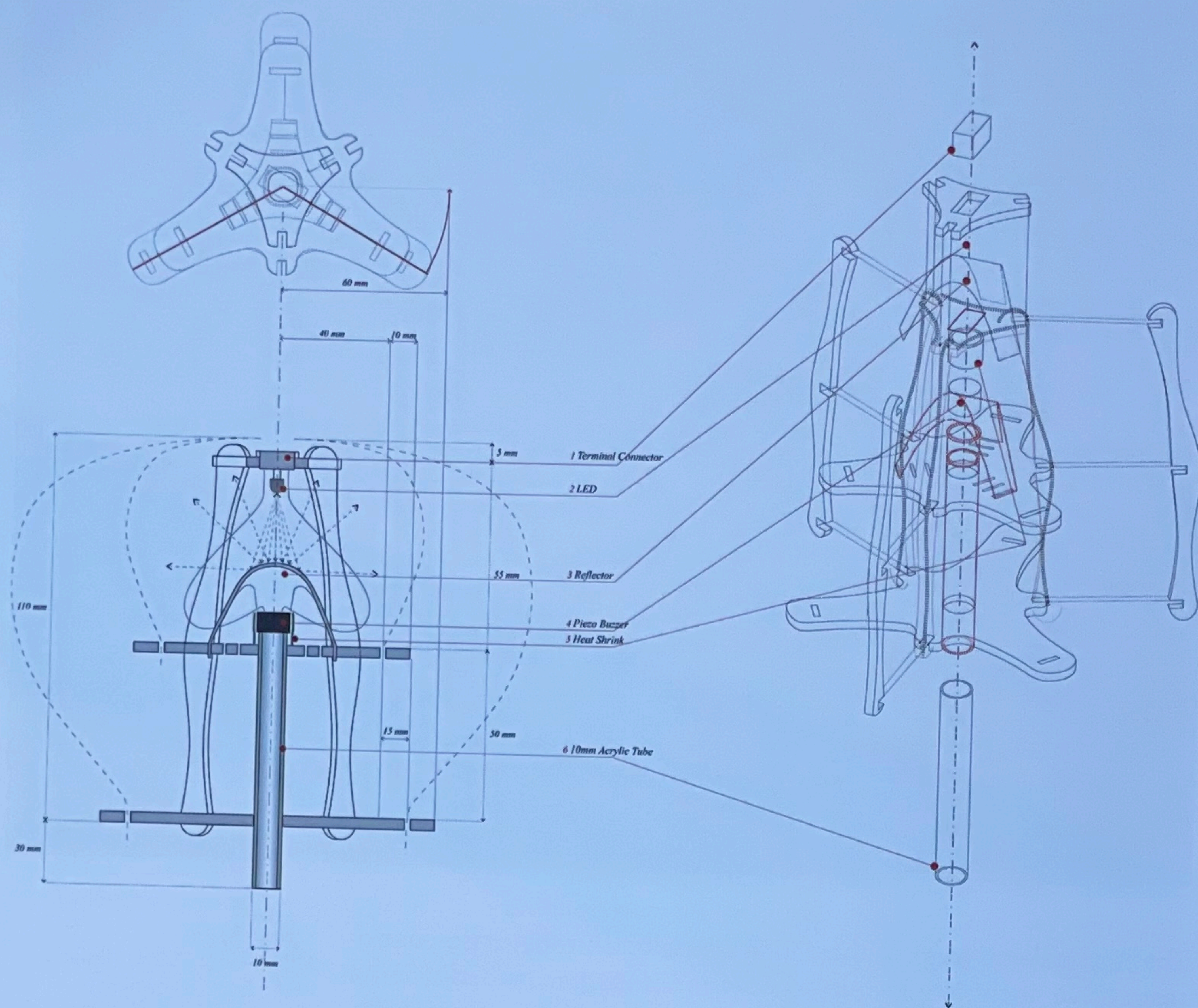


Figure 08.14  
Responsive component  
diagram, METAfollies, Marco  
Poletto and Claudia Pasquero,  
ecoLogic Studio, FRAC Center  
in Orleans, France, 2013

range and performance capabilities of the piezo buzzers, their quantity is harnessed through looping time delays and augmented analogically by the length of acrylic tubes extending from the tendrils, producing infinite variations. The emergent complexity between materiality, responsive technologies, and interaction continues to build relationships between time, space, and materiality.

The METAfolly utilizes an “ambient” mode of response through establishing vague yet evolving relationships. By animating inanimate materials through human interaction, a relationship is drawn between our experience of “trashing” that questions how we value contemporary landscape. These relationships reference environmental phenomena and behavior through correlating human interaction with sounds that evoke the complexity of naturally occurring sounds found within the landscape through entirely artificial materials. The folly does not attempt to elucidate a particular phenomenon, rather the

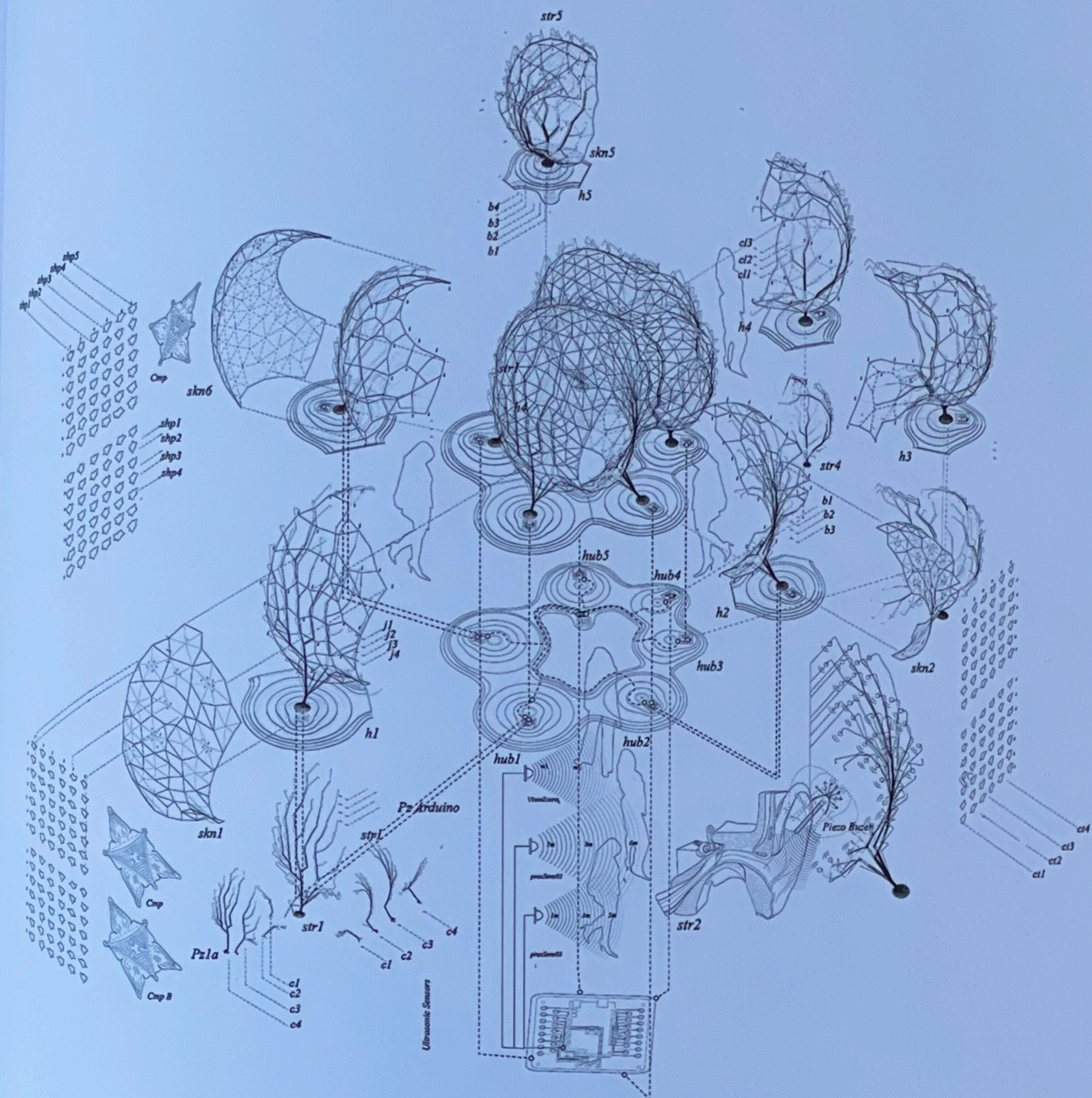


Figure 08.15 Assembly  
diagram, METAfollies, Marco  
Poletto and Claudia Pasquero,  
ecoLogic Studio, FRAC Center  
in Orleans, France, 2013

phenomenon (proximity) is abstracted, asking the viewer to develop an abstracted and metaphysical relationship with the installation—one that cannot be directly identified or choreographed. The translation of proximity into the orchestration of the piezo buzzers is not about establishing a specific connection, rather the swarming sounds produce a particular environment in which to experience the METAfolly. The translation of “the grotto” further relates the installation to an experience of landscape, and through this ambient interaction the installation takes on a new naturalness, heightening and exaggerating the experiential qualities of the METAfolly.