

Meru Art*Science Research Program 2023: MSHR

MSHR is an artist collective based in Portland, Oregon and founded by Birch Cooper and Brenna Murphy. MSHR creates immersive installations and performances using light, sound, and physical structures. The collective's work often incorporates elements of ritual and mythology, and they have been described as creating "aestheticized technology-driven environments that explore and challenge contemporary notions of identity, community, and the human experience."

MSHR installation for Spazio Zero is the ninth iteration of *Nested Scapes Series* (2017-ongoing) (1). The installation is part of *Salto nel vuoto. Arte al di là della materia* ("A Leap into the Void. Art Beyond Matter") and is conceived in the frame of Meru Art*Science Research Program, fostering art projects linked to the development of scientific research. Promoted by the Fondazione Meru/Medolago Ruggeri for biomedical research, along with GAMEC and Associazione BergamoScienza, the Meru Art*Science Award grants every year the research by artists invited by the board, represented by the promoting institutions.

Nested Scapes Series (2017- ongoing)

Nested Scapes is a composition that unfolds through the exploration of the observer. The piece is made up of a computer music system inside a virtual reality environment, inside a physical installation, forming a nesting loop. The system is woven between virtual and physical dimensions, both of which are in feedback with the presence of the VR user. Visitors to the installation may wear a VR headset to traverse a virtual environment that is overlaid onto the physical one. As the visitor explores the zone, their movements collide with embedded triggers that activate mutations to the virtual space as well as the live generative music and light system in the physical room. Through this interaction, the VR user takes on the role of the performer of a generative sound and light composition as they navigate the sculptural environment, while the other visitors in the installation become an audience.

Tapestries on the walls and floor are formalized flow charts that serve as graphic scores for the interactive music system and as a blueprint for the virtual sculpture installation. The shapes in these diagrams each represent functional elements in the system such as the VR user, randomization triggers, sound producing units, modulators, and the speakers. The lines connecting these symbolic nodes represent causal relationships and signal flow in the generative system. In the virtual space, MSHR's sculptural forms rise up out of the 2D floor graphics, projecting the diagrams into three dimensional space for the VR user.

Lights are arranged on the ceiling that turn on and off in relation to the volume, frequency and channel of incoming sound- the resulting RGBW flickering animates the RGBW graphics on the floor and wall prints, allowing the events in the virtual space to cause ripples in the physical one.

Musically, this piece is based in the context of cybernetic electronic music, using indeterminacy and feedback as compositional elements to construct a synthetic network of causal relationships that mimics the complexity of a natural system.

MSHR's distinct sculptural entities are constructed with a combination of intuitive and procedural techniques. The artists leverage simple geometries in a balance between

mental presence and computer algorithms to produce forms that suggest a digital hyper-biology. MSHR's approach to sound and sculpture are intricately entangled. In this piece, the two domains modulate each other both technically and aesthetically, producing mutually inspired forms.

(MSHR in <https://mshr.info/MSHRnestedScapesSeries.html>)

Anna Daneri: I decided to 'open' our conversation with the text on your website describing *Nested Scapes Series*. Could you explain us how you conceived its ninth iteration for Meru Art*Science Research Program at GAMEC? What is the title you chose for it and what is its meaning?

MSHR: For this series we make all of the components from scratch every time. We do this to encourage mutation and to stay open to new inspirations. Because of the recursive conceptualism and formalism, this series really does have an emergent quality- murky and unformed as we work then crystallizing in the installation. At the time of this conversation, we don't yet have a title for this new iteration. We need to see more about its form first. This iteration is particularly exciting for us because we are taking a new approach on many of the technical elements, which is revealing some new dimensions of the system.

AD: There are several aspects of *Nested Scapes* that are extremely intriguing. Its 'formal' aspect is mirroring its 'conceptual' one, making visible the system behind, and the music scores that animate its multilayered dimensions, made of visual patterns, lights, sounds and of a 3D sculptural landscape visible only with VR users. I would like to know more about this synaesthetic process and output.

MSHR: When we conceive of a project, we often combine a very intuitive approach with a strict systems oriented one. This allows us to be simultaneously very free and grounded in our work. We're speaking here about the process that enables the work to be made. The output of this process is plugged into the input of the process- when it reaches a stable state, the work is ready.

For us, the synaesthetic relationships between visuals, movement, sound and sculpture are a driving force. Infinitely inspiring and unanswerable questions that propel our process forward. Intuitively we realize that these things are somehow "the same". But in practice when we try to unify them, their differences cause an imbalance- this imbalance keeps us moving.

AD: The installations of *Nested Scapes Series* create immersive and interactive spaces that are also multifunctional: they can be accessed both as a Virtual Reality and as environments. Could you explain the reason? Are you interested in creating collective experiences?

MSHR: For us, the most interesting thing about virtual reality is how it affects one's

experience of space and how that carries over after the goggles come off. We construct a situation where the physical design and the virtual design are overlaid, so that as the visitor transitions between realities, the spatial continuity can bring an interesting sensation of dissonance that might offer an insight into one's fundamental spatial sense. There is also the relationship between the person in the headset and the other people in the room, who are often waiting for their turn in the headset. We wanted to point to this unaddressed aspect of VR because we felt that it was an opportunity for an interesting exchange and because it is (for now) an essential characteristic of the medium. With *Nested Scapes*, the person in the headset becomes the performer of our composition. Their movements around the space modulate the sound and light in the room. So those standing in line become their audience, perhaps noticing the correlations between the performer's position on the floor design and the sonic mutations. When a visitor gets their turn to enter the virtual space, their approach may be influenced by having experienced it from the outside, producing another type of recursion in the work. The experience of the person in the headset has another dissonance in that they are at once the center of attention on stage, but at the same time they can't perceive anyone else, or even see their own body. So in their own perceptual experience, they are totally alone in another world, but they know that their movements are being observed by an audience and that they are modulating the shared world of the room's sound and lights through their actions. Yes, we are absolutely interested in collective experience.

AD: Meru Art*Science Research Program has been granting projects enhancing the dialogue between arts and science since 2012. I find your research very strongly connected both with computing sciences and neurosciences. Do you have a scientific background? Are you collaborating with scientists?

MSHR: We find the connection between science and the arts essential and inspirational and we have huge respect for the fields of science. In our art practice, we develop personal methods for exploring fundamental frameworks of human experience. It is not a scientific approach, but it comes from a similar motivation to look at the mysteries of reality.

AD: Quoting co-curator of *Salto nel vuoto. Arte al di là della materia* Domenico Quaranta: "According to Levitin, the alternation between daydream and functional thinking is necessary to recalibrate and rest the brain; but daydreaming is compromised in the contemporary world by two conditions that have emerged in the digital age: information overload and multitasking. As MSHR's work demonstrates, the particular form of immersivity that virtual reality makes possible, especially when mediated by VR headsets, can help solve these two problems, offering a less distracted aesthetic experience and encouraging daydreaming". Would you like to comment on DMN (Default Mode Network) as potential dimension created by your work?

MSHR: This is a welcome perspective on our work. We often design situations where there is a kind of sensory overload that allows one to meditate on the static.

AD: Being also the artistic co-director of Electropark, a festival of electronic music taking place in Genova, I am particularly interested in your relation with music, specifically cybernetic electronic music. You referred in a former interview to David Tudor. Could you tell us more about this in the context of this work, the construction of your instruments and your live performances?

MSHR: *Nested Scapes* is rooted in the context of cybernetic electronic music. Our work draws from the lineage of David Tudor and his colleagues' approach to electronics in that we construct situations where electronic flows unfold as a kind of synthetic ecosystem. We're interested in compositions that have a life-like complexity to their internal dynamics. Sometimes we build systems that play themselves, but more often we build situations where generative systems can be interacted with by people as a kind of collaboration between the player and the system. We use this approach in our installations as well as in our own music and performances.

In our live performances, we interact with a light-audio feedback system, adjusting sensors and lightbulbs to shift the patterns of sound and light. We enjoy the element of extreme presence that improvisation requires. Improvising with a living system demands that we listen closely and react fluidly in a kind of dance with the electronic flow.

We build our own instruments because it allows us to interact with systems on a more fundamental level. For a long time our instruments were all analog, often using light sensors and sending the outputs of **cross-modulating logic gates** to speakers. In the past several years we've incorporated software instruments into our systems, building sculptural controllers that modulate instruments we coded in SuperCollider. Now we often use our analog synths as a kind of skeleton system, with the digital synths tracking them as a kind of virtual flesh. The interaction between the two can produce unexpected behaviors and novel sonic palettes.

AD: I would like to close with an excerpt from *A Cyborg Manifesto* by Donna Haraway (1991): "It is not clear who makes and who is made in the relation between human and machine. It is not clear what is mind and what body in machines that resolve into coding practices. In so far as we know ourselves in both formal discourse (for example, biology) and in daily practice (for example, the homework economy in the integrated circuit), we find ourselves to be cyborgs, hybrids, mosaics, chimeras. Biological organisms have become biotic systems, communications devices like others. There is no fundamental, ontological separation in our formal knowledge of machine and organism, of technical and organic." Is this 'old' text still resonating to you?

MSHR: *Cyborg Manifesto* will always resonate in some form. Like any text that describes a present with such sharp illumination, it is also tied to its own time- but it ripples on through all the work that takes its influence. We're interested in contemporary theory that works through the issues that tech brings to culture, from labor rights to questions around embodied consciousness. We

appreciate N. Katherine Hayles' take on posthumanism, with her insistence on embodiment as an essential element of human experience. At the same time, we're really into Science Fiction literature for its ability to experiment with the parameters of reality and illustrate scenarios that might tweak a few essentials. Greg Egan is one of our favorite authors, and a lot of his stories involve digital humans who operate within the vast worlds of their software realities but of course they are still bound to a physical substrate and their ultimate struggles are against physical obliteration by impending cosmic collisions.

(1) MSHR presented eight iterations in this series:

Integrated Scape Transducer, PS1 MoMA, NYC, 2017

Integrated Scape Transducer, Ben Russell's Hallucinations, Documenta 14, Greek Film Archive, Athens, 2017

Source Fold Compound Generator, Fotomuseum Winterthur, Switzerland, 2017

Source Fold Compositor, The Anderson Gallery, Virginia Commonwealth University, Richmond, 2018

Source Fold Compositor, Boston Museum of Fine Arts, Boston, 2018

Source Fold Compositor, Fenko Catalysis Chamber + Double-Grass, Taipei, 2018

Module Braid, National Arts Festival, Grahamstown, South Africa, 2018

Frame Wave, Calm & Punk Gallery, Tokyo, 2019