DANA HEMES

EMERGENT PRACTICES, BEYOND THE HUMAN

The world is a complex system made up of many, small interactions, which produce endless patterns and forms. Each moment is an event: an active, participatory state where all parts of a system affect and are affected. These parts are living and nonliving, human and nonhuman. I develop an art that locates itself within these events and works directly on their terms. It is an art of systems, evolving boundaries, scale-shifting, stimuli conversions and multiple nonhuman actors.

I strategically and experimentally take a non-anthropocentric viewpoint to engage with these fluid environmental states. Treating all parts equally, I mirror actions: any experiment or analysis done to one species is done to all participating species. This facilitates a practice of shared, emergent experience, as a constructed environment of living and nonliving parts. Complex dialogue ensues. An example: ants and humans share different forms of sound perception. My work brings these qualities together through speakers that amplify ant movements to human audibility, and motors that convert human sounds to vibration so ants can 'hear' through the subgenual organs in their legs. The shared sound experience results in an emergent, interspecies intersection.

The events are partially open systems, demarcated by (often permeable) pathways and boundaries that include but are not limited to: walls, museum-stanchions, smells, humidity, bricks, temperature levels, nylon, spices, and various types of light.

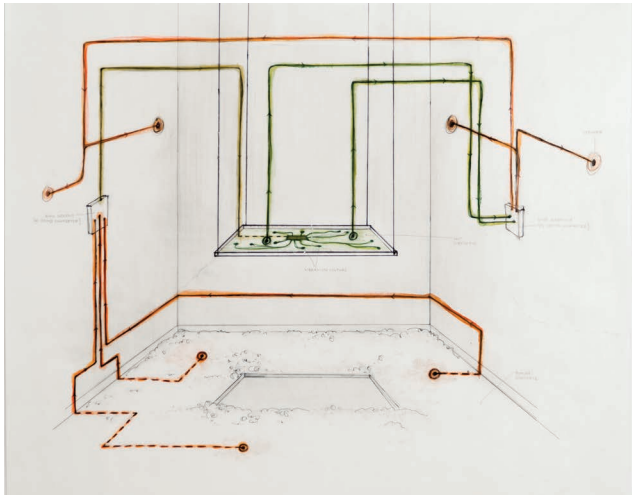
Each system-work evolves as it moves into new locations, changes size, and/or gains and loses components, forms, co-creators. Emergent properties reveal themselves and the process continues.

Pogonomyrnex/Homo 7, Phase 5 *is a work questioning how multiple species can share an experience.*

Again, Harvester Ants and humans are the two species in relation. This work focuses on a particular stimulus that both species are able to perceive: sound. While humans hear sound through their ears via sound waves moving air, ants hear through subgenual organs in their legs. Vibrations travel through material where they are picked up by the feet and then translated to hearing.

Gravel fills the floor of a small, grey room. Microphones are embedded in the gravel, picking up sound from humans walking through the space. The sound is sent to a preamp and then to a simple computer where the level of noise is translated to vibration motors on the underside of a glass panel (the louder the sound, the more vibration motors are activated). Ants are contained on top of the glass panel, moving through a glass microsphere substrate. Condenser microphones pick up minute sounds of the ant movements and amplify them to human audibility. The ants hear our movement via vibration on their floor panel, and humans hear ant sounds through speakers in the airspace. Both species are hearing each other, but in their respective modes of perception. Both are observed and observing. *Pogonomyrmex/Homo 7, Phase 5* is human and ant activated. The piece rests when only one species is present. When humans enter the space the vibration stimulus sets the ants in motion, causing them to make sounds which are amplified. The humans and ants are linked in a process, a direct system, that can only take place when both species are present.

The shared-environment becomes a new space, adapting the sound experience to the needs of both participating species.

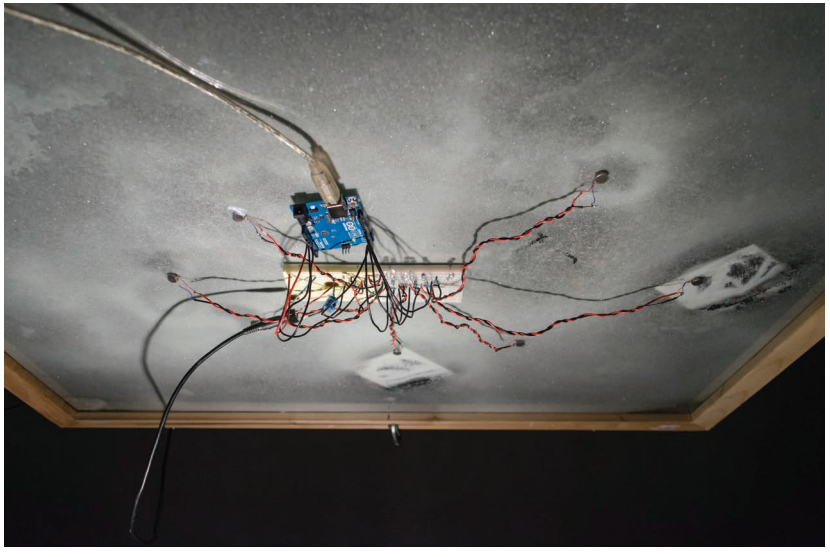


SYSTEM FLOW SKETCH

POGONOMYRMEX/HOMO 7, PHASE 5, 2014. OVERVIEW

DETAIL OF ANTS ON GLASS SUBSTRATE

DETAIL OF ANT ACTVITY NEAR CONDENSER MICROPHONE



DETAIL OF PANEL UNDER SIDE: ARDUINO COMPUTER, BREADBOARD, 6 VIBRATION MOTORS

PREAMP TO SPEAKERS, AMPLIFYING ANT SOUNDS TO HUMAN AUDIBILITY

Bacterium/Homo 2-18, Phase 2 *is a process work that was created during a five-week residency at the Whitecliffe College of Art and Design in Auckland, New Zealand.*

Upon my arrival in New Zealand, after stating on my customs card that I had recently been in a forest, my shoes were taken from my suitcase and cleaned by airport personnel. This direct connection—shoes as a receptacle for the transfer of potentially harmful matter—along with my personal state of temporary displacement set the concept and the duration of the piece.

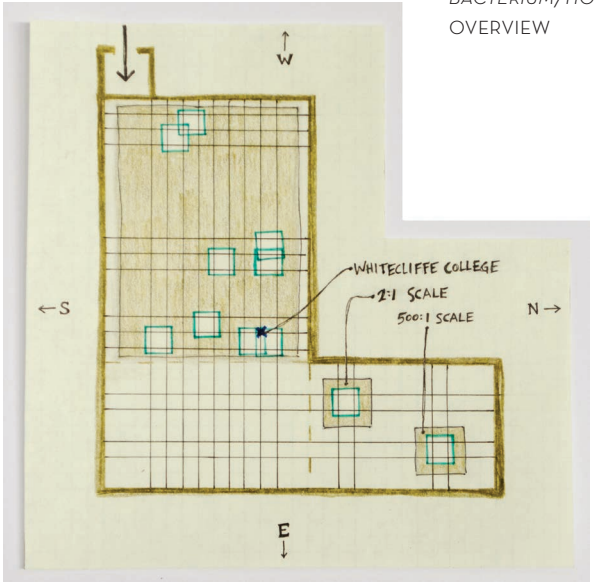
Each day I mapped where in the country I had traveled, and I swabbed a bacterial sample from of the soles of my shoes. These samples were brought back to the studio and cultured on square sheets of clear acrylic, coated with a nutrient agar medium. The microscopic bacteria began to colonize, becoming visible to the unaided eye. Within days the panels were covered with patterns and colors of different types of bacteria.

The living panels were installed at Whitecliffe College, hung overhead on a suspended grid. I placed the panels on the grid in relation to their distance and orientation from the school (the site of the installation) marked in the room as an "X" on the floor. The amount of growth on each panel determined the chronology of my time in New Zealand: the denser the growth, the earlier the visit, where as little amounts of growth marked a very recent destination. Spotlights above each panel cast shadows of the bacterial growth down onto the floor and onto the audience. The shadows touched the viewers but in a nontangible way—similar to the way in which microorganisms exist on our bodies.

As the amount of panels increased, a pattern or shape began to emerge. Some areas of the wire grid became dense while others remained bare—this emergent patterning developed from my own tourist interests, locations of where I collected supplies for the installation and also from where my hosts chose to take me.

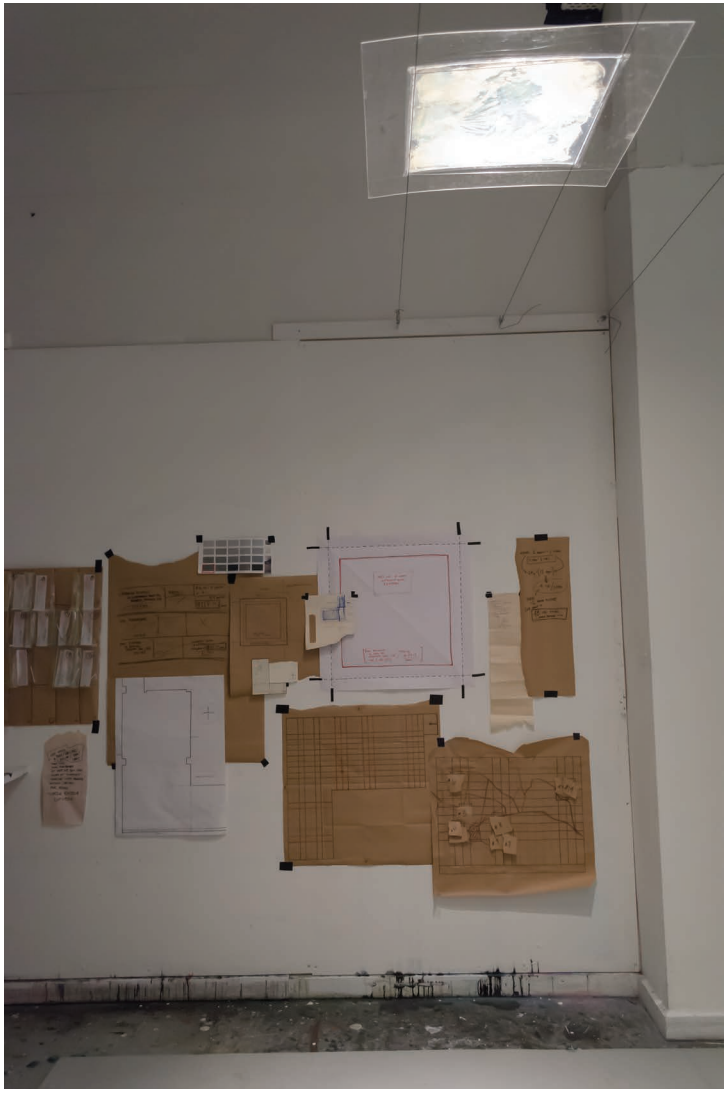
By conspiring with these ideas and forces, the work becomes unstable; it is in a state of motion and can take many forms. In this case the nutrients in the agar were transferred to iridescent colors of the bacterial growth. The light casts shadows, filling the room with patterns. The gases in the air were pungent and a combination of human and bacterial.

BACTERIUM/HOMO 2-18, PHASE 2, 2013.
OVERVIEW



WHITECLIFFE COLLEGE INSTALLATION FLOORPLAN

BACTERIAL PANEL DETAILS



MAPPING AND SWAB SAMPLES

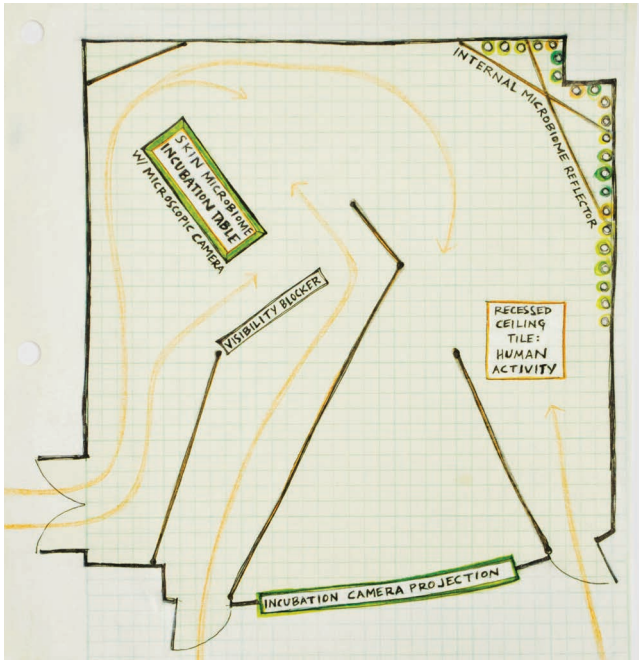
VIEW OF SOUTHERN WALL WITH CAST SHADOWS ON FLOOR

Homo[+]/Homo 1, Phase 1 is a gallery-based systems study, focusing on both the systems that humans function within and the systems that function within the human.

There are two main sections to the piece: a skin microbiome growth table with camera observation devices, and an internal microbiome reflector.

The internal microbiome reflector is participatory by choice. Sterile saliva test strips are provided to reveal the internal pH levels of participants (pH levels indicate what types of microbiomes our bodies can sustain). Each result is recorded on a slip of paper and deposited in a collection jar. At the end of each day, the data is collected and converted into a glowing orb lit by three LED lights. Each pH result has a different combination of LEDs. The orbs are then added to the wall and powered by battery—a chemical to electric energy shift, representational of how human body chemical levels affect neurons and brain activity. As new orbs are added to the dim corner, the ambient light shifts: the reflection of the internal conditions of the viewers who enter the space.

The skin microbiome incubation table is a glass, rectangular table (5′5″ length—my height) filled with nutrient agar and wooden separation bars that distinguish body from arms from legs, etc. Samples from my own body are swabbed in corresponding sections of the table. The bacterial and fungal growth is visible to the unaided eye but can be more closely studied with a microscopic camera device. Viewers can move the camera to any location of the table, and the image is projected onto a screen behind a wall. The wall blocks the projection from the person moving the camera—multiple viewers must function together to both move the camera and see the result. Since the bacterial growth and movement is recorded, the movements of humans in the space are also recorded. While participatory elements provide the viewer with the option to partake or not, the continuous recording of the space reminds the viewer that observation is never passive.



GALLERY FLOORPLAN SKETCH

HOMO[+]/HOMO 1, PHASE 1, 2014. OVERVIEW

SKIN MICROBIOME INCUBATION TABLE [SELF PORTRAIT]
WITH MOVEABLE MICROSCOPIC CAMERA

LIVE-FEED VIDEO PROJECTION FROM MOVEABLE MICROSCOPIC CAMERA

EXTERNAL VIEW OF GLASS GALLERY WALL

VIDEO OF HUMAN ACTIVITY AND MOVEMENT THROUGH THE SPACE

HOMO[+]/HOMO 1, PHASE 1, 2013. INTERNAL MICROBIOME REFLECTOR, DATA COLLECTION AREA

DETAIL OF LED, INTERNAL MICROBIOME REFLECTOR ORBS