

999 YEARS 13SQM (THE FUTURE BELONGS TO GHOSTS)

The original version of *Living Architecture* could not be exposed directly to the public owing to the presence of genetically modified organisms, an alternative wild-type experience of a prototype wall system entitled *999 years 13sqm (the future belongs to ghosts)*, was developed for the “Is this tomorrow exhibition” at the Whitechapel Gallery, in collaboration with artist Cecile B Evans.



(left) Rachel Armstrong and Cecile B. Evans observing installation detail, (middle) digital screen powered by MFCs from installation, (right) artist symbolic bird projection on wall of mist, Whitechapel Art Gallery, 2019.

An installation was prefigured using the genetically unmodified infrastructure of the *Living Architecture* project to power the system as an array of 15 MFCs, which was housed in a protected volume to the left of the space. The Perspex and steel construction acted as a screen on which a near future scenario was projected, where the minimal housing space legally possible in London (13sqm) with the longest possible lease (999 years) was occupied only by microbes and the digital manifestation of the human past, present and future (ghosts), being conjured out of the wastes that we have left behind. While the space itself was an artistic rendering of a posthuman apartment and was, therefore, unoccupied by human inhabitants, the system still symbiotically depended on ‘us.’ Natural biofilms within the MFC array were routinely fed with human waste that was introduced into the large black box at the top of the MFC array once a week. At the same time, the microbial excrements produced by this process (cleaned water and biomass) were collected in a black container at the bottom of the complex and removed from the apparatus. The products of this ‘remote’ symbiosis provided the bioelectricity to power the ‘inner life’ of the space, which was made visible by a screen-based system and a projection of a bird onto a wall of mist, a symbolic figure from the artist’s films, continually rose in flight, only to fall again, cycling between life and death.



The high level of autonomy demonstrated by BES through sustained metabolic transactions was demonstrated in the first full scale wild type BES installation *999 years 13sqm (the future belongs to ghosts)* which revealed that our near-future microbial homes could eventually become independent from us. The installation’s visible separation between microbes and ‘us’ highlights our interdependencies. The need for human waste to re-enter the system to activate it, emphasises how poorly modern society values and treats this nutrient-rich resource. The need to relate differently to microbes invites us to perform housework differently by living alongside microbes, exchanging our waste with them for a range of different kinds of housework from cleaning wastewater to eliminating pollution. While the bioenergy levels produced by the BES generate in the region of 12V using arrays of units, which is much lower than compared with fossil fuels that are delivered to our homes as 230V power supplies, this is not a disadvantage as from an ecological perspective, fossil fuels encourage wasteful patterns of behaviour by providing unlimited access to power, which accelerates consumption. Moreover, the performative agency of microbes to collectively act to generate electrical power, electronic data and chemical transformation spotlights their overall potency as an agentized, collective body, whose presence we routinely seek to destroy using chemical poisons in the name of ‘hygiene,’ requiring us to adopt an ethical position in relation to how we co-inhabit our shared living spaces.



999 years 13sqm (the future belongs to ghosts, Whitechapel Art Gallery, London, 2019).



Development work for 999 years 13sqm (the future belongs to ghosts), December 2018—February 2019.

Nested within the apocalyptic themes of the installation, was a way forward towards a more liveable future as a designed symbiosis between human and microbes. By making room for microbes in our living spaces, natural regenerative processes can wean ourselves off fossil fuels where we live within the resource and transaction limits of our habitats, with the possibility of new futures.



999 years 13sqm (the future belongs to ghosts, Whitechapel Art Gallery, London, 2019).