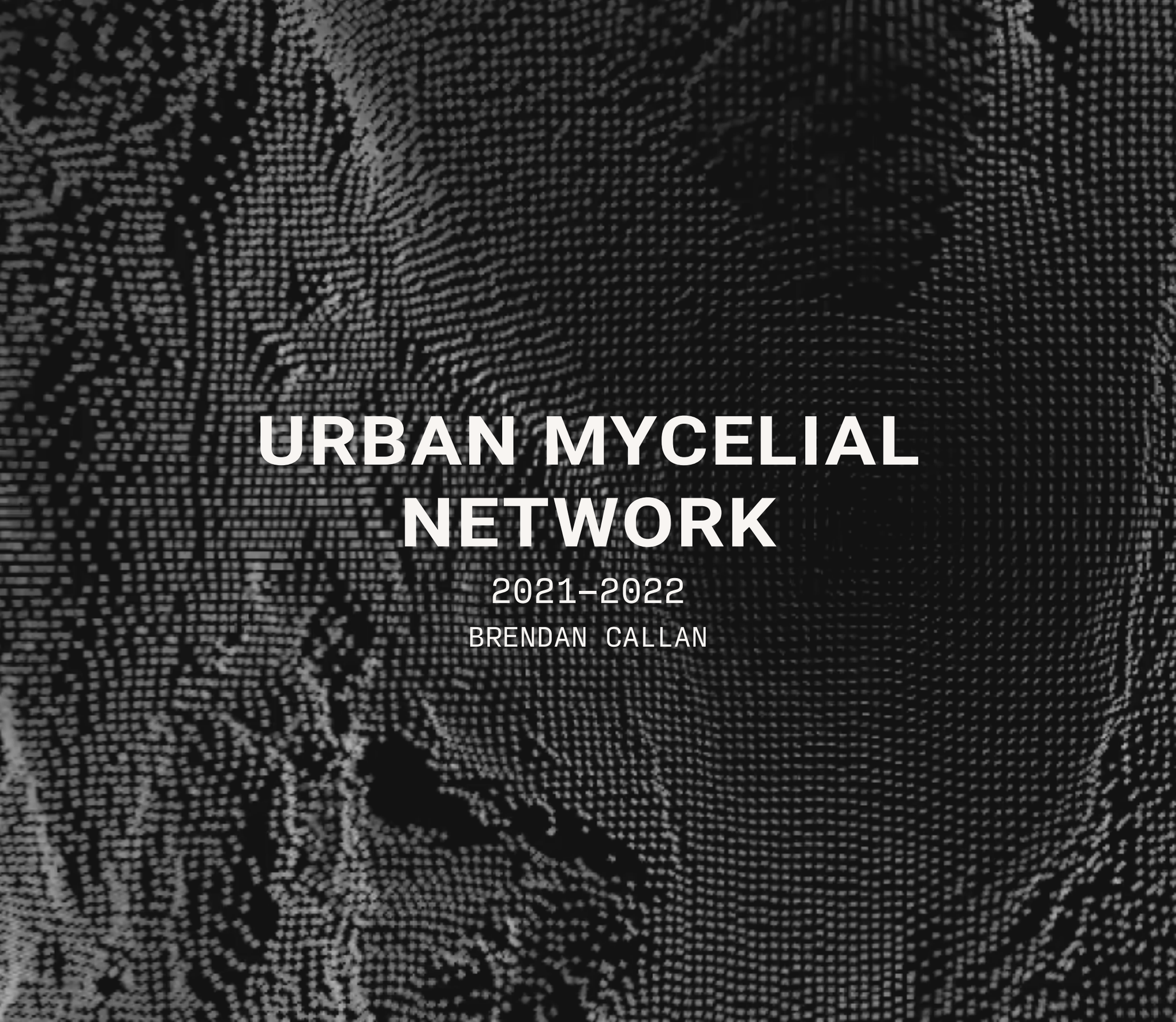
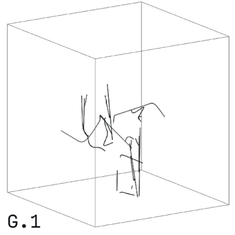
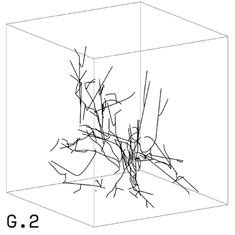


URBAN MYCELIAL NETWORK

2021–2022

BRENDAN CALLAN


G.1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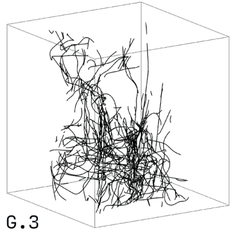
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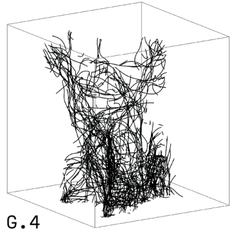
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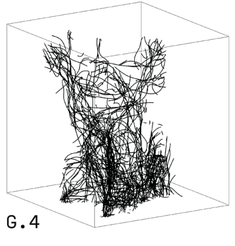
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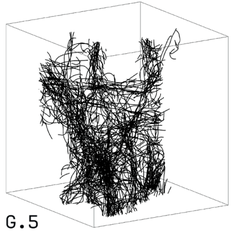

G.5

ABSTRACT

Mycelium is the essential vegetative network that supports fungal life. With the only objective of reproduction, the fungal colony will overcome and consume all dead matter. Although inimical to its substrate, the parasitic nature of Mycelium directly benefits its surrounding environment.

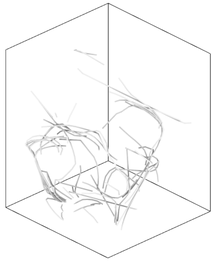
By using mycelium as a regenerative material, we can address the turning point of the changing landscape in our built environment. With no plan for the afterlife of architecture, mycelium could regenerate and recycle our failing architecture, while supporting emerging technology and further connection.

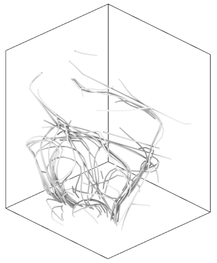


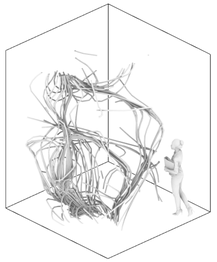


Capture from Video Material. Generated with AI

FULL VIDEO HERE







URBAN MYCELIAL NETWORK

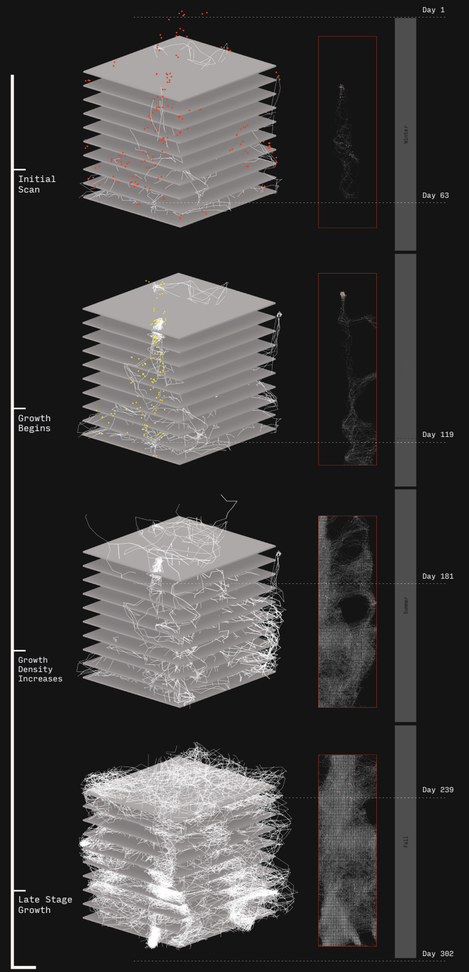
The demanding increase in urban density has influenced our social belief to neglect the long-term effects that come with forming our new built environments. Many international cities, along with their expanding urban areas, are being bombarded with new developments to meet this unrealistic demand for growth.

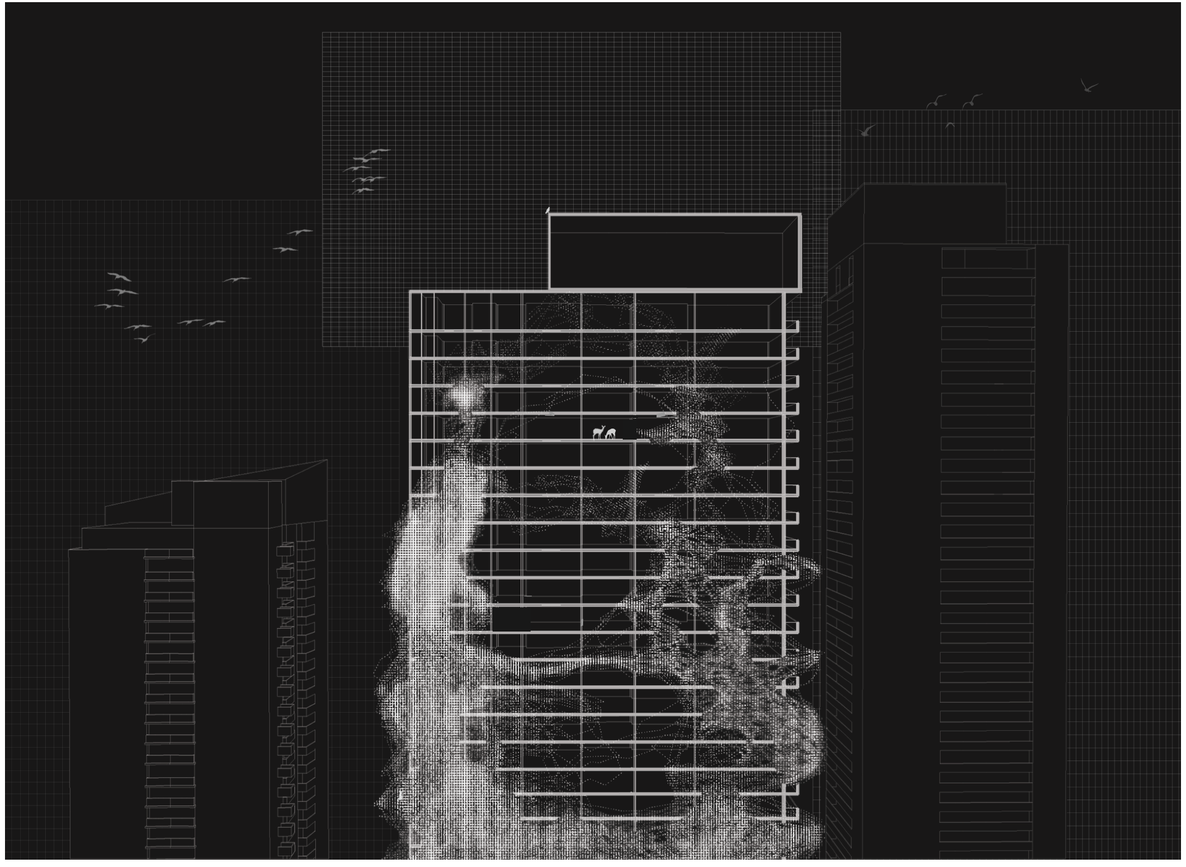
Instead of planning for the afterlife of architecture, the general consensus points towards demolition and rebuilding, or at the very best, reconstruction. Economical, political, and ideological factors now seem to have more effect on building lifetimes than the expected life predictions of construction and materials, as viable buildings are being demolished for new construction.

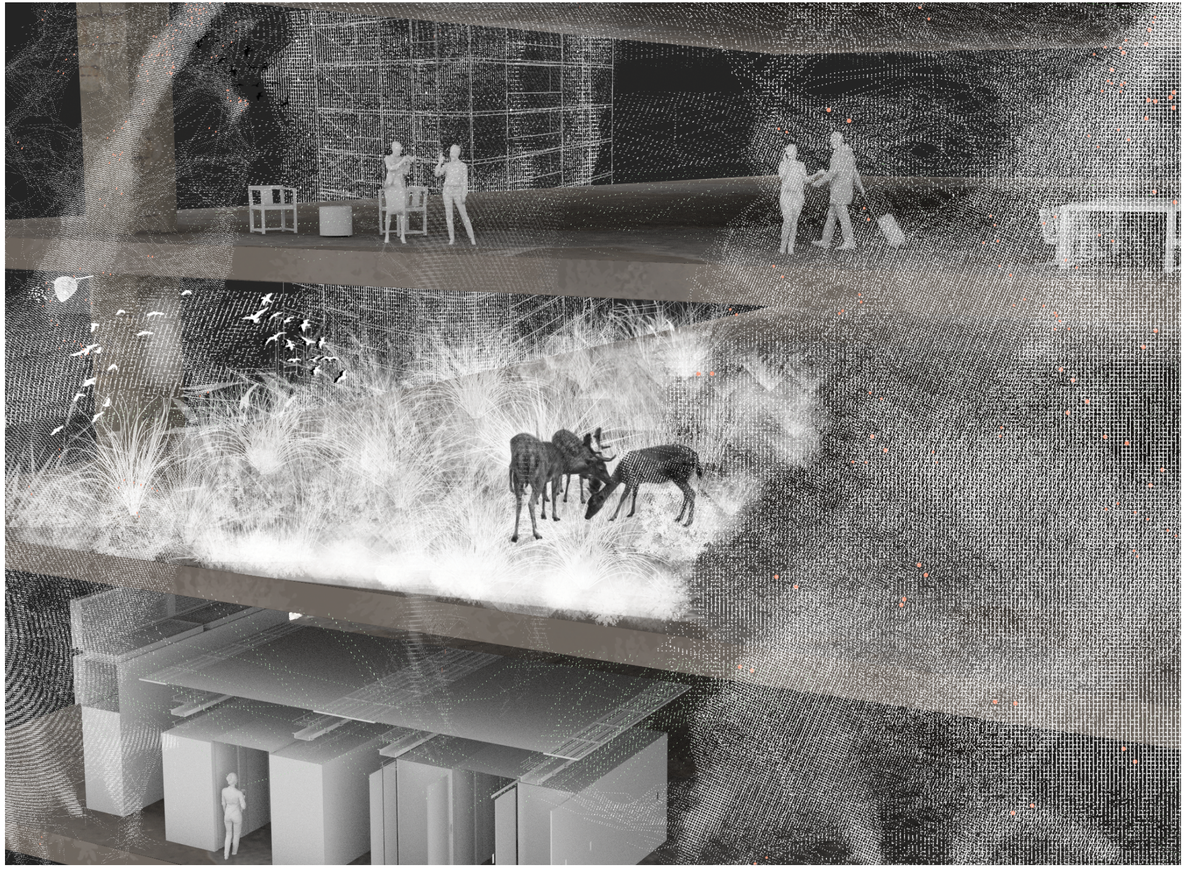
To reduce our recklessly passive approach, this project aims to explore potential future opportunities to utilize mycelium in our fading, built environments through parasitic, regenerative, and connectivity applications.

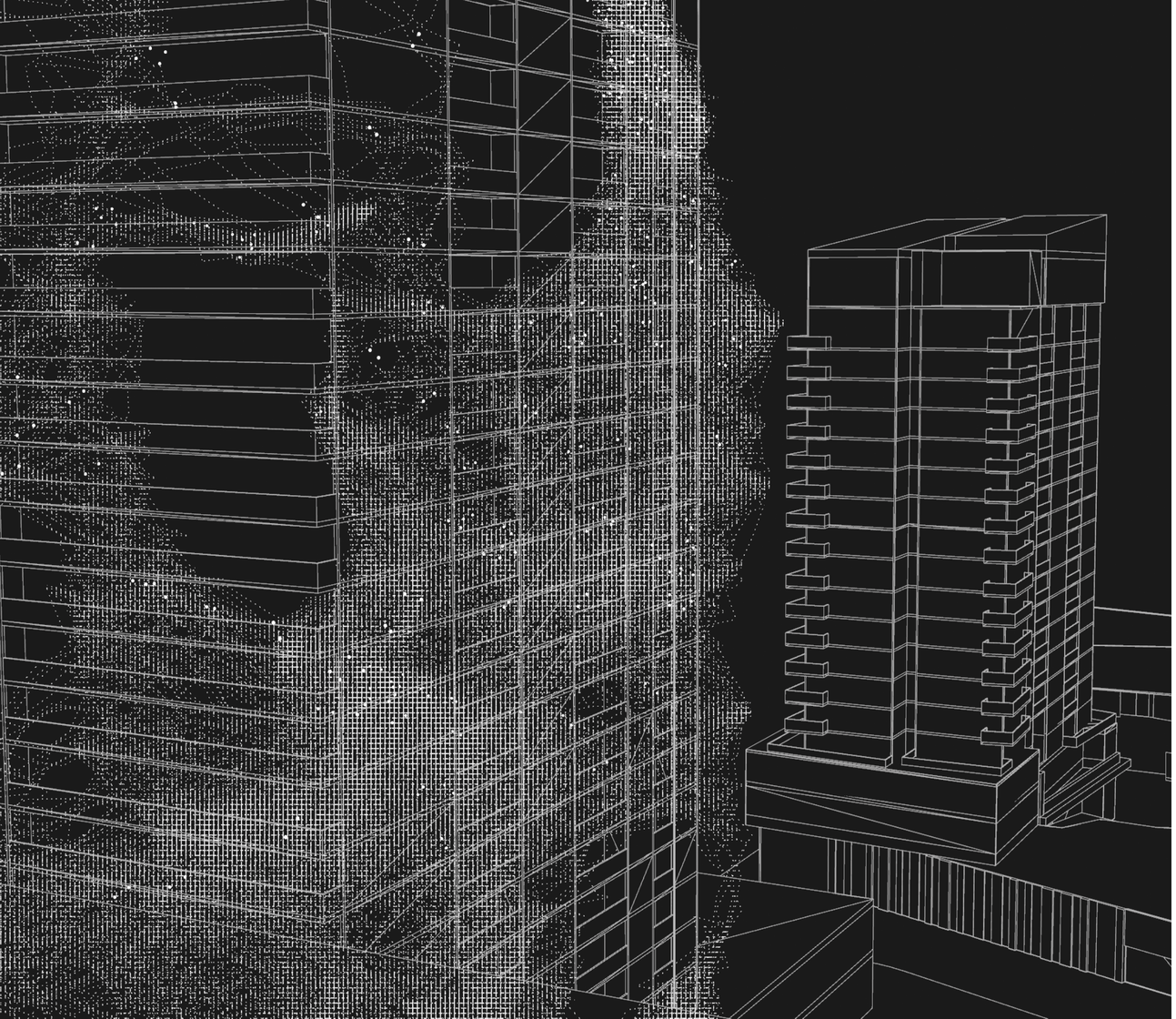
Through emerging technologies, automated systems will scan and assess a building's deficiencies while composing a mesh framework, inoculated with mycelium, to regenerate the building's structure. Once the mycelial scaffolding is in place, autonomous growth will reconstruct and reorganize the structural layout of the building, creating co-habitats and a harmonious ecosystem.

Following the natural properties of mycelium, both the composition of the network and the individual building frameworks will be constantly evolving in a cyclical process.









BIO

Brendan Callan is an inter-disciplinary designer who's work explores speculative concepts in spatial design.

His work is often situated at the intersection between ecology, design, and technology and envisions ways of incorporating conceptual practices through facets like bio-integrated systems, agent-based modeling, and user-focused architectural studies.

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