Image Deep: /Imagine

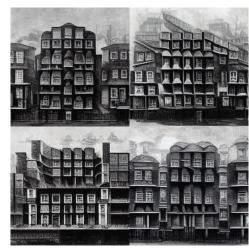## Exploring Design Prompts in AI: Variations on Social Housing and Material Ecologies in the era of Climate Change

Dana Cupkova

QUESTIONS

Advances in Artificial Intelligence (AI) and Deep Learning (DL) provide new frameworks for the future of design discipline, while simultaneously questioning the form of authorship and the use of architectural precedent. Offering almost instant resolution of a seemingly complete architectural proposal - the architectural image / sketch can be generated without any design process, prompted solely through natural language in reference to the vast digital archives.

PROMPTs/ Design sketches generated from natural langue prompts:

/imagine: Social Housing Architecture on gloomy London street, based on Giovanni Battista Piranesi [generated with #midjourney]

/imagine: Social Housing Architecture in plan, made with earthen walls, based on Leonardo Da Vinci [generated with #midjourney]

/imagine: Social Housing Architecture facade based on Leonardo Da Vinci [generated with #midjourney]

/imagine: Social Housing Architecture constructed from recycled plastic, based on Giovanni Michelucci [generated with #midjourney]

/imagine: Social Housing facade, robotically constructed from tree roots and recycled bricks [generated with #midjourney]

/imagine: Ecologically aware Social Housing Architecture with green roofs, robotically constructed from mass timber [generated with #midjourney]

Language of architecture typically considers spatial development of architectural forms based on architectural types, elements, programs and ideologies, while resourcing the historical knowledge of a precedent.

However, here the use of architectural reference - especially in context of its ethical implication - might be obscured. This studio will ask how we can expand the design process using AI. What are the consequences of jumping from a narrative into the generation of an instant image, and how does this way of working change design intent, socio-ecological framework, ideological implications and a spatialization process of an architectural proposal?

Lithopic House Studio (2021): Physical prototype of facade system, model developed from image texture into computational model and 3-d printed from sand (Student: Juhi Dhanesha)

Dana Cupkova

PROGRAM

The ambition of this studio will be to examine architecture that inquires into embodied energy as a primary inspiration for formation of matter. The goal is to re-situate design within a hyper-local framework of material resources and life-cycle that positions architecture as a vehicle for ecological and communal restoration. Promoting a shift away from purely data driven rationales, the desire is to engage in the design framed by environmental ethics and sensory subjectivities as part of our collective aesthetic and ecological experience.

Environmental aesthetics and aesthetics of nature are branches of philosophy that study appreciation of the world at large as it is constituted not simply by particular objects but by environments themselves. Environmental empathy is rooted in the concepts of otherness and difference. Design grounded in environmental empathy leads to more diverse paradigms in the redistribution of resources, new forms of co-shared domesticity, as well as social equity within our collective urban space, while being closely entangled within its ecological functions. In this studio, visualizing and understanding larger set of multidimensional relationships within design process would enable a projective design imagination tightly linked to creation of bio-synthetic and natural, multi-species environments.

/imagine: Chair, discretized organization, robotically fabricated from construction rubble [generated with #midjourney]

/imagine: Chair, material piles, robotically fabricated from recycled balloons [generated with #midjourney]

LEARNING OUTCOMES

On successful completion of this studio you should be able to:
- /imagine: with Machine Learning bots
- Formulate deep learning instruction for design
- Research precedent based on its ideological and ethical framework
- Formulate ecological narratives based on aesthetic associations
- Design sketch with words and researched references
- Transform images into spatial models
- Use advanced modeling workflows and texture modeling to develop architectural models
- Translate digital models into physical prototypes
- Think for yourself and be excited about what's next