selected works 2022-2023,
Columbia GSAPP

Ziqi (Tony) Feng
1 TERRESTRIS EMANCIPATUM
   adv arch design studio
   SUMMER 2022

7 GRAPHIC ARCHITECTURE PROJECT III
   FALL 2022

11 THE VIADUCT(s)
   adv studio V
   FALL 2022

21 X INFORMATION MODELING
   SPRING 2023

25 MITTE 15 DISABLED
   adv studio VI
   SPRING 2023

33 GENERATIVE DESIGN
   SPRING 2023
This project starts with inspecting the expansion of both visible and invisible private thresholds in lower Manhattan, and aims for a more equitable urban landscape by reimagining the figure / ground typology.

The evolution of buried, invisible sensors could allow the omnipresent, three-dimensional evaluation of both individual and crowd movements. Together with physical boundaries and barriers, the sensed field opens up possibilities to define and control the population in addition to privacy violations. The physical connection of the buildings, the ground, and the heavily engineered geological layers as a homogeneous, volumetric entity serves as the very foundation of control, spatially in the form of property lines and sensorially as the sensed field.

Rather than providing a technocratic solution, this project targets the issue in the architectonic manner by proposing the physical detachment between the building, the ground plane and the engineered geology. Seeing the instability of the periodic stormwater flooding in downtown Manhattan as an opportunity, the project imagines the demolition of ground and underground floors of existing buildings, which eventually leads to a new building typology with minimal footprint on the ground. The project further proposes a modular, unstable ground plane, detached from the geologic layers composed of demolition debris. Various material and architectonic strategies embrace instability and deny the perpetual, stable control of the ground, effectively emancipating the ground plane so that everyone owns the ground, while no one owns the ground.
Map showing high-valued buildings (100M - 3.3B USD) with 82’ stand-off distances and 50’ minimum distances from key site features (SMW 430 2021), as speculated expansion of sensor implantation. Note the overlapping of the security thresholds and their adjacency to public spaces and POPs.

Map showing projected footprints of high-valued buildings with basements, their adjacencies with subway stations and tunnels, as well as soil types. High moisture contents, low homogeneity, and large particles shown in brighter greys reduce electromagnetic signal transmission efficiency and are less feasible for buried electromagnetic sensors.

Map showing ground level topography, bathymetry, bedrock depth and areas with high risks of flooding, overlaid with building basement and subway footprints. Deeper bedrock allows deeper basements and hence the vertical expansion of the sensed field. Yet stormwater flooding may be seen as an opportunity for a new figure-ground relationship that denies the privatization of the ground.

Maps, Downtown Manhattan

high-valued buildings and the speculated expansion of the sensed field

Maps, WTC complex case study

diagrams, WTC complex case study

diagram, Downtown Manhattan

degree of security threshold overlapping along pedestrian path

gsapp portfolio

Ziqi (Tony) Feng

plate 1: ground level

plate 2: one story underground

plate 3: deep underground
overdependence on
EXTRACTIVE INDUSTRIES
harsh environment and
LACK OF INFRASTRUCTURE
vicious cycle of
ECONOMIC INEQUALITY

case study, selected small communities
movable infrastructure w/
interchangeable programs that
addresses urgent needs
permanent facility that promotes
what the communities are good at,
drawing people and profit through
phase I infrastructure

two-fold
approach:
SOLVE PROBLEMS
PROMOTE STRENGTH

PHASE I
CONNECTING AND
EMPOWERING
ARCTIC SMALL COMMUNITIES

maps, arctic research / resources / water environment / economy

rendering, phase I

photography, physical models, phase I + II

phase I
solving problems

phase II
promoting strength
phase I
solving problems

phase II
promoting strength
Our tool generates design options for residential developments with affordable housing that is adjacent to public green spaces. Each option is associated with various scores regarding the quality of life for non-affordable and affordable housing residents alike. The tool aims to provide a wide range of design options in which developers/local authorities may use to balance profit with fairness for low-income residents.
final optimal design options
Disabling Modernity

MITTE 15
DISABLED

group members (pre-midterm works): Zhuofei Tang, Zhikang Liu, Ziqi Feng

prof. David Gissen

collage, group project concept credit: Zhuofei Tang

adv studio VI
SPRING 2023
Step 1: circle packing and shortest path optimization, programs

Through circle packing, shortest path algorithm, and orientation optimization, our tool aims to derive the optimal stall layout for various occasions at the central lawn of Bryant Park. We have broken down the design process into three parts — program layouts, stall layouts and stall orientations, and used generative process in each step for the optimized design. We hope that the tool would provide useful references for the park administration on organizing events and festivities.

prof. Danil Nagy

group members: Steven Fei, Ziqi Feng, Jie Lai, Yufei Huang, Wei Yu Xu
step 2: circle packing and shortest path optimization, stalls

Step 3: stall exposure and orientation optimization

rendering, final optimized stall layout
credit: Weiyu Xu