BEZAHLBARES WOHNEN IN STÄDTEN

GRAFT Gründungspartner Lars Krückeberg

Jahrestagung der Europäischen Bausparkassenvereinigung

07. Oktober 2021

OFFICES & PROJECTS


LOS ANGELES

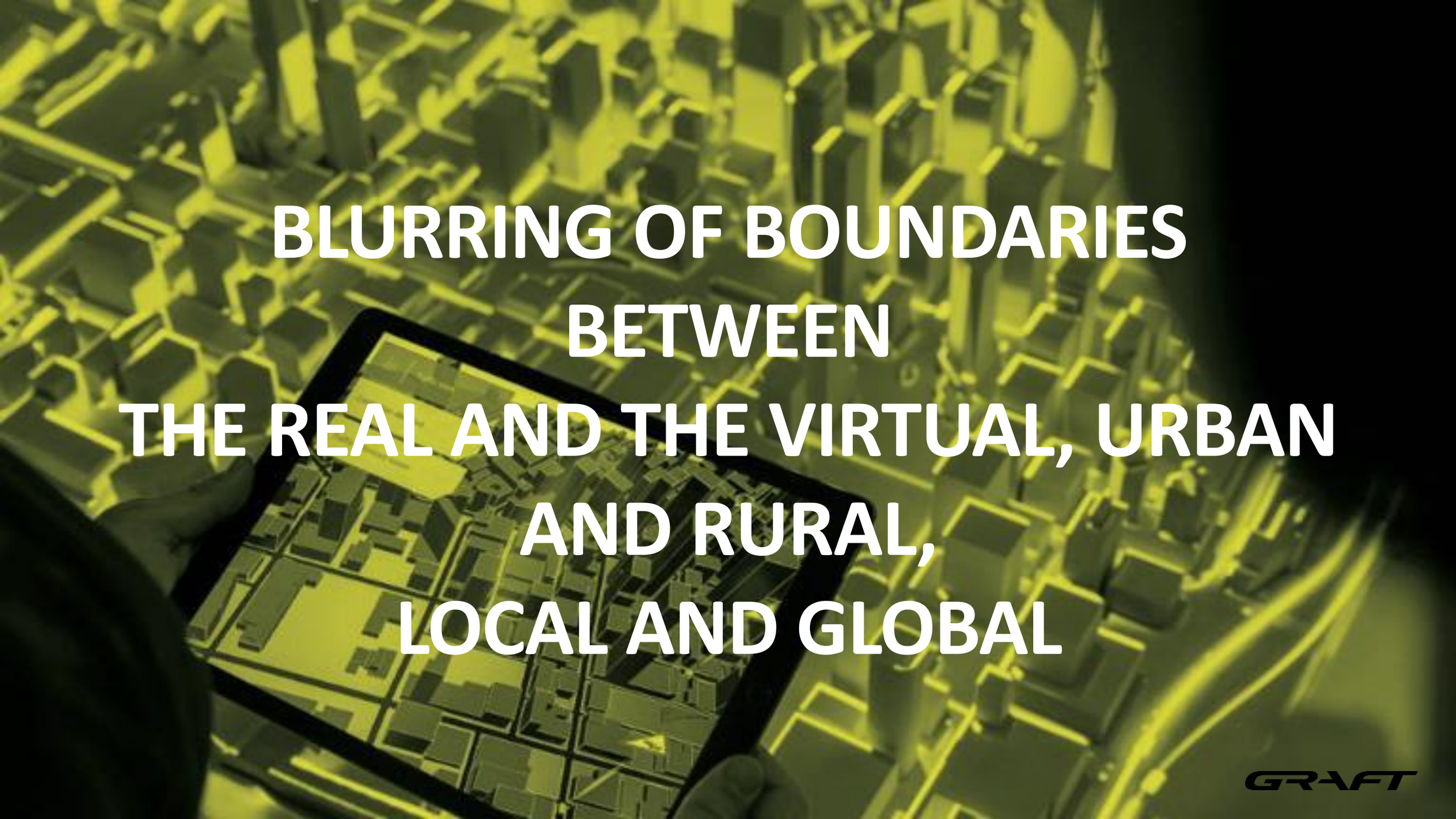

California
GRAFT 1


PEKING


BERLIN


OF THE PE

ARCHITECTURE IS ALWAYS A REPRESENTATION OF SOCIETY RATHER THAN AN AUTONOMOUS DISCIPLINE.

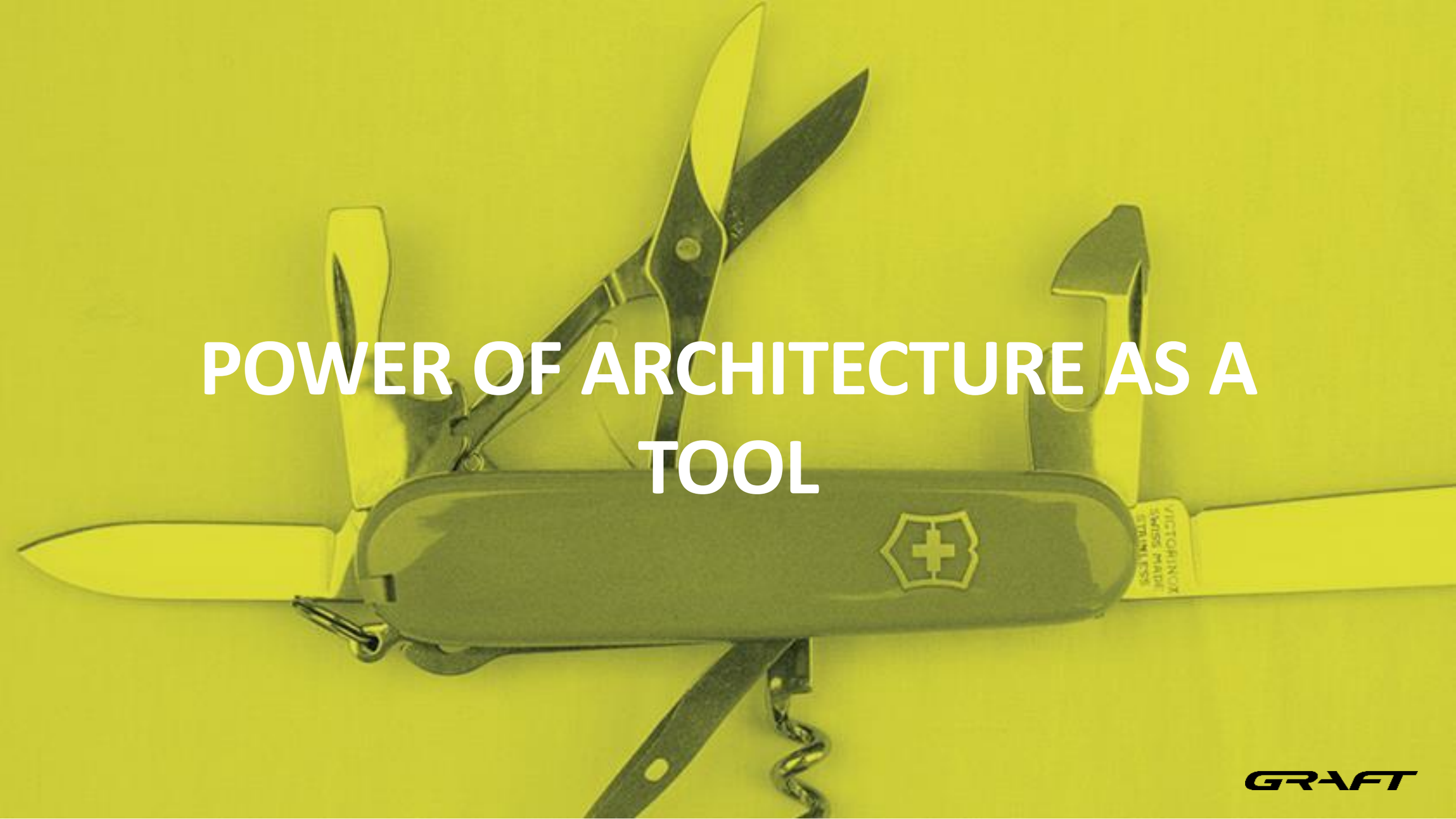

BLURRING OF BOUNDARIES
BETWEEN
THE REAL AND THE VIRTUAL, URBAN
AND RURAL,
LOCAL AND GLOBAL


POLARIZATION ROBS US OF THE RESILIENCE AND JOYFULNESS OF HYBRID DESIGNS

HYBRIDIZATION ENHANCES THE QUALITIES OF ITS CONSTITUENT CHARACTERISTICS

I. Root & Scion
II. GRAFTING

GRAFT



POWER OF ARCHITECTURE AS A TOOL

GRAFT

GRAFTING IDENTITIES

HURRICANE IDA
AUGUST 29, 2021

CREDIT: EUROPEAN SPACE AGENCY

HOCHWASSER ALTENAHR
JULY 14, 2021


HURRICANE KATRINA
AUGUST 23, 2005
MAKE
IT
RIGHT

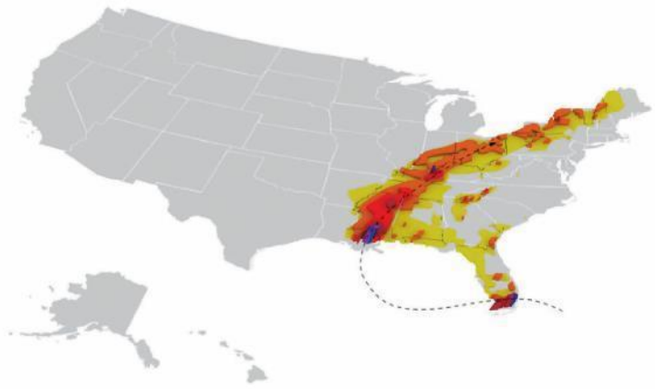

THERE WERE 53
DIFFERENT LEVEE BREACHES
IN GREATER NEW ORLEANS…
IT IS INACCURATE
TO CALL IT AN ACT OF GOD.
KATRINA WAS A MAN MADE DISASTER,
AND IT COULD HAVE BEEN AVOIDED.


THERE WERE
NO BIRDS,
NO DOGS,
NO NOISE,
EVERYTHING
COVERED IN GRAY MUDE
IT TOOK
MY BREATH AWAY
BAPTIST PASTOR CHARLES DUPLESSIS

KATRINA'S PATH AND RAINFALL DIAGRAM

Areas affected by the storm: Bahamas, South Florida, Cuba, Louisiana (especially Greater New Orleans), Mississippi, Alabama, Florida Panhandle, most of North America

1" 3" 5" 7" 10" 15"

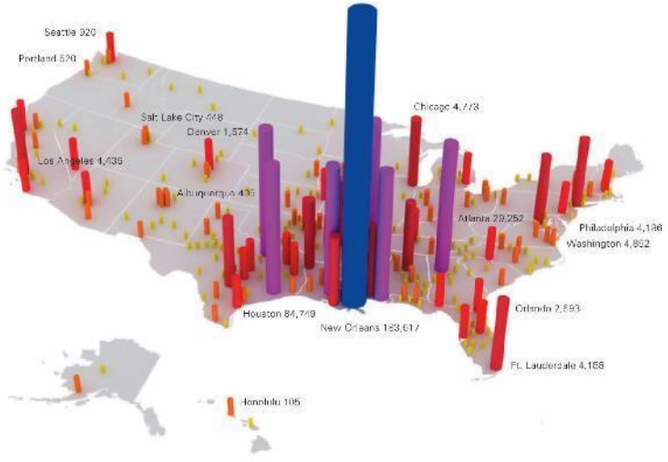


DIASPORA

Victims of Hurricane Katrina have addressed themselves for assistance to the Federal Emergency Management Agency (FEMA) from all over the country and from every state. FEMA has counted the astonishing number of
1.36 million individual filings. Some came from far-away states like Alaska or Hawaii, others arrived from Puerto Rico.

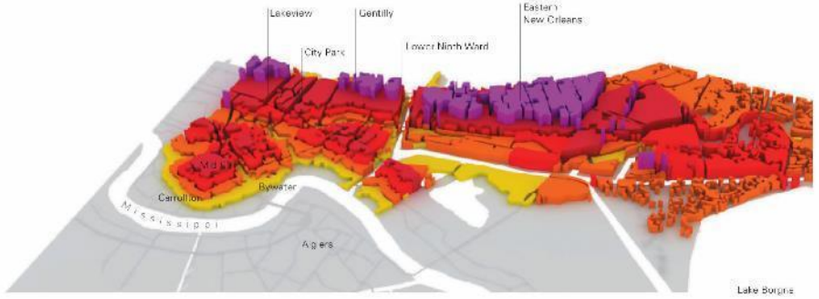
Number of refugees Katrina spread across the USA

10,000 5,000 1,000 100 10



DEPTH OF FLOODING

0–2' 2–4' 4–6' 6–10' over 10'



DURATION OF FLOODING

23–29 days 7–22 days 1–6 days

HOMES WITH PERMISSION

<10% 10–25% 25–100%

POPULATION
IN NEW ORLEANS

2005
484,674

2015
384,320

DEATHS
DUE TO HURRICANE KATRINA

Overall
1,833

In New Orleans
1,400

MISSING
705

people are missing
due to Hurricane Katrina

DESTRUCTION
134,000+
homes were destroyed in New Orleans

30,000
structures were rebuilt in New Orleans

FEMA
FEDERAL EMERGENCY MANAGEMENT AGENCY

114,000 FEMA

trailers in New Orleans at the height
of the aftermath

85%

of Lower 9th Ward households in poverty
do not receive cash assistance

Total numbers of workers living in the neighborhood Lower 9th Ward

2004
4,663

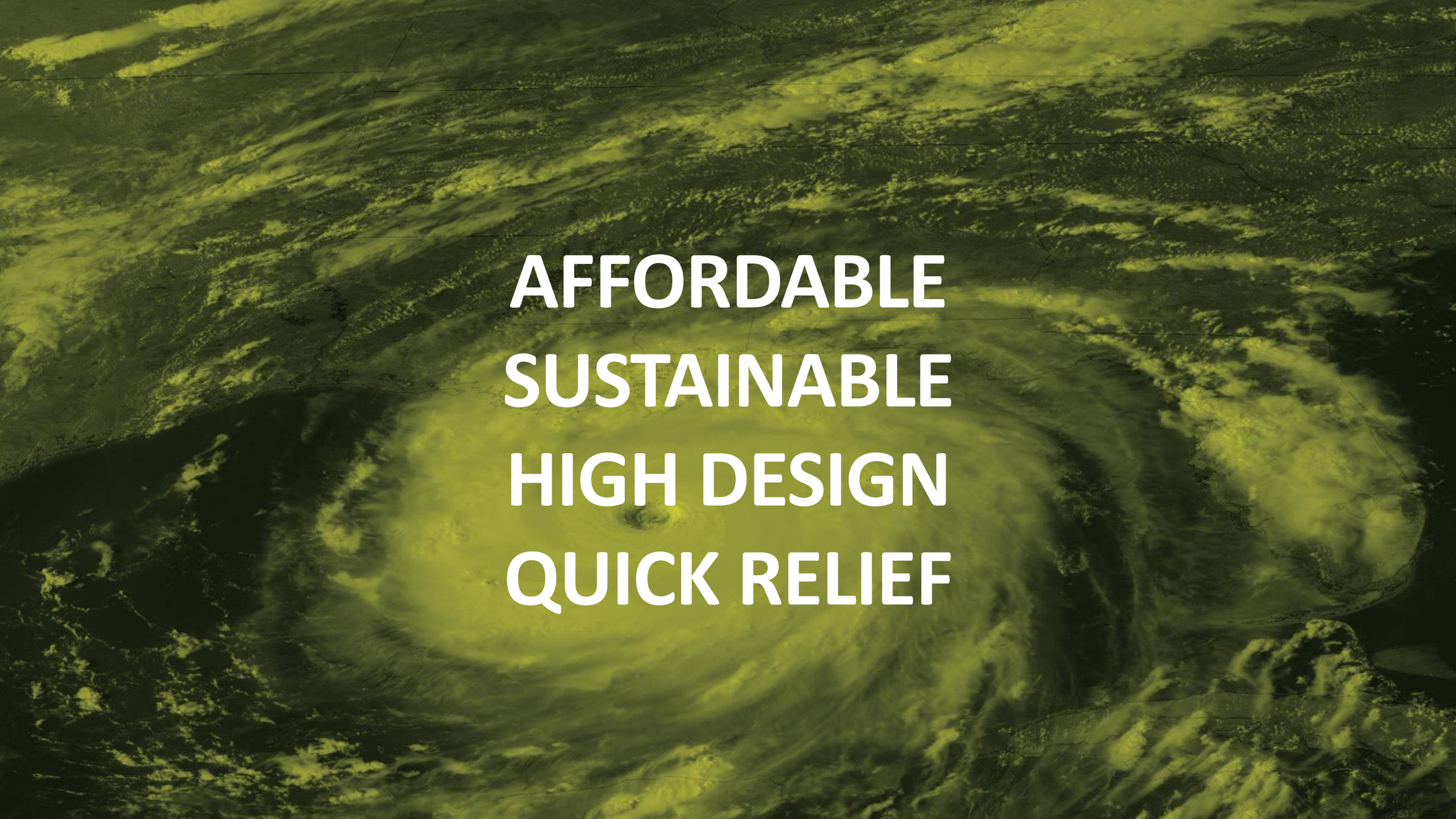
2013
1,570

OCCUPANCY STATUS
IN LOWER 9TH WARD

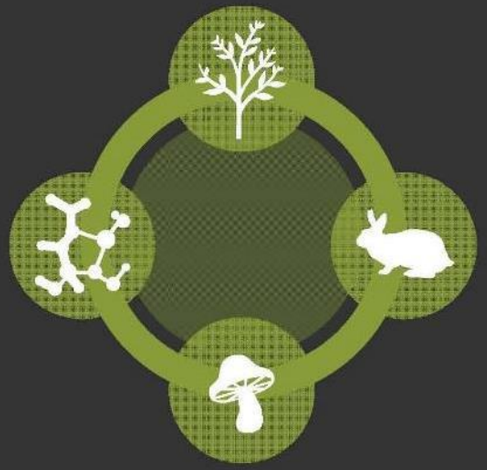
2000	2010
5,601	2,039

MORTGAGE STATUS
IN LOWER 9TH WARD

	2000	2010
Owned with mortgage or loan	44.5%	34.5%
Owned free and clear	55.5%	65.4%
Owned with mortgage or loan	67.4%	69.7%
	32.6%	30.3%

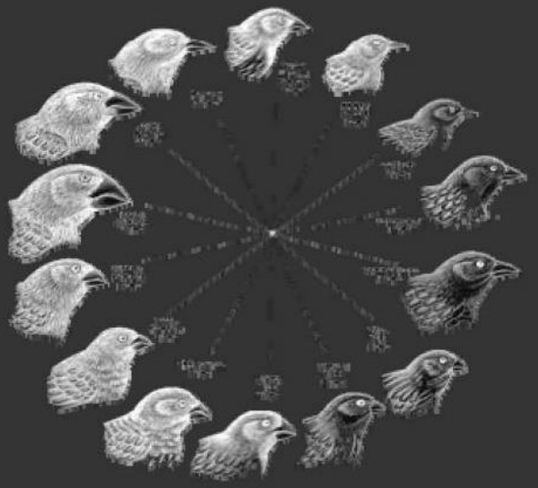

AFFORDABLE
SUSTAINABLE
HIGH DESIGN
QUICK RELIEF

NATURE’S DESIGN PRINCIPLES

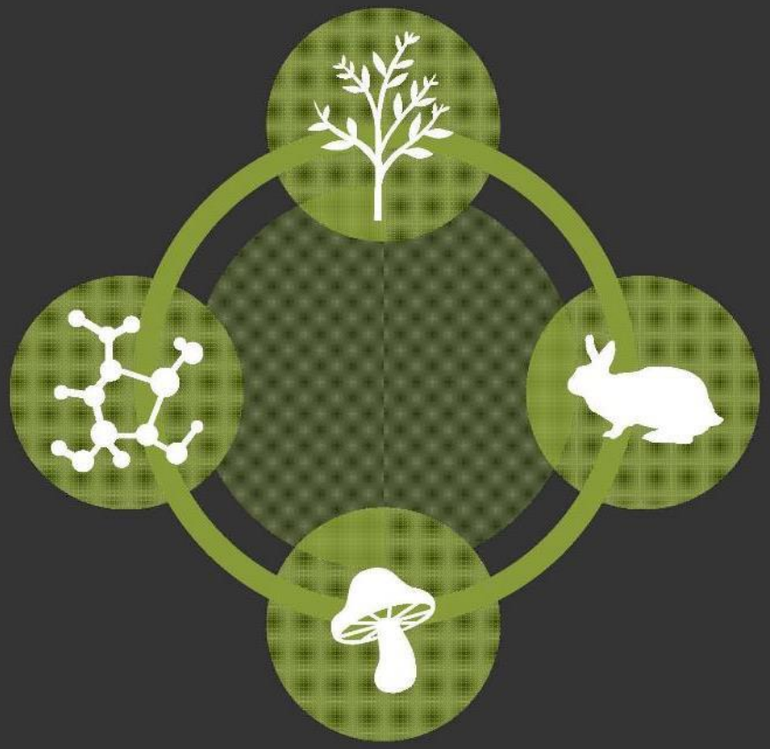


Waste equals food

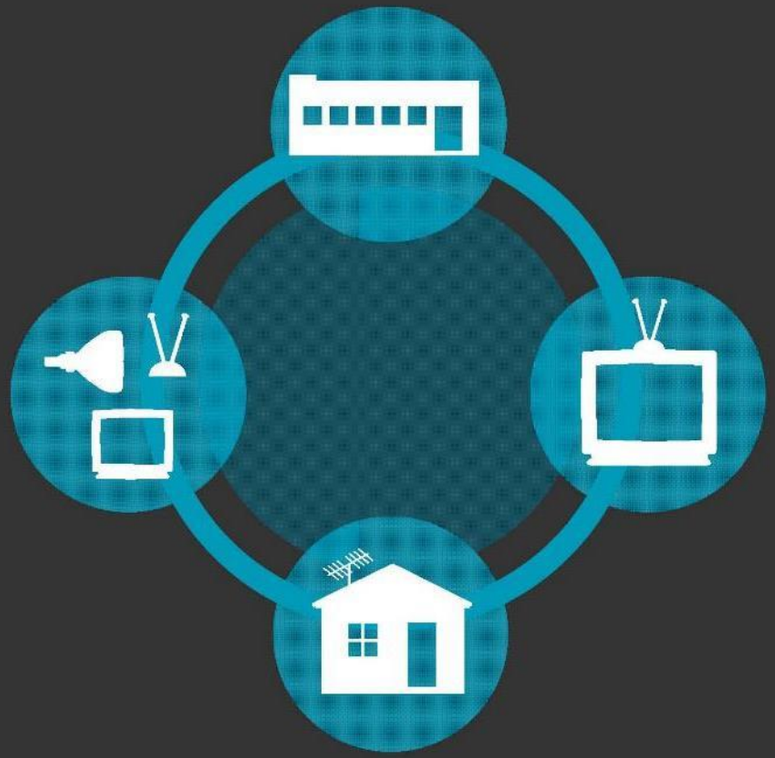
Use current solar income



Celebrate diversity



Biological
Metabolism



Technical
Metabolism

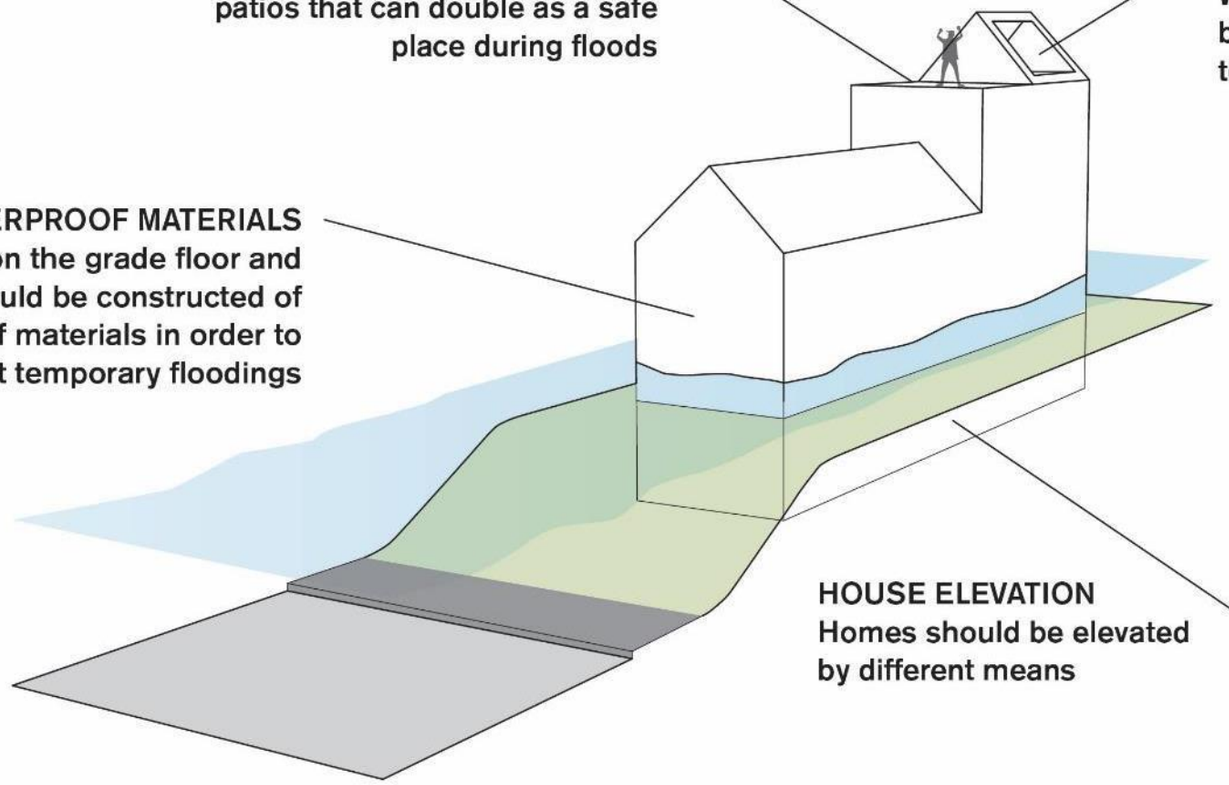
GRAFT


CORN
AMES

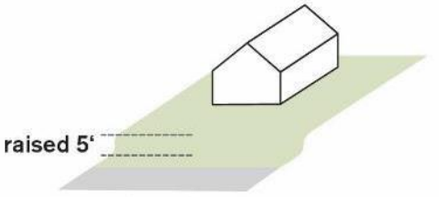
SAFE HAVEN
The rooftops will consist of raised patios that can double as a safe place during floods

EMERGENCY STORAGE
Within the safe haven there should be emergency equipment storage to acces during a major flood

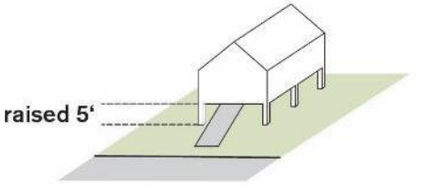
WATERPROOF MATERIALS
Materials on the grade floor and below should be constructed of waterproof materials in order to resist temporary floodings



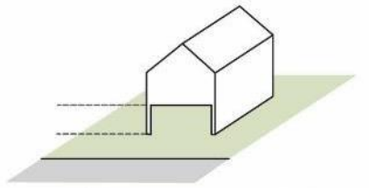
HOUSE ELEVATION
Homes should be elevated by different means



Raised grade
(probably not feasable)



Raised on columns



House raised above carport / storage area

ALL 25 MAKE IT RIGHT DESIGNS FOR NEW ORLEANS

Trahan Architects
New Orleans

Adjaye Associates
London

Hitoshi Abe
Los Angeles, Sendai

Bild Design LLC
New Orleans

BNIM
Kansas City, LA, San Diego

Waggonner and Ball
New Orleans

Billes Partners
New Orleans

Gehry and Partners
Los Angeles

Billes Partners
New Orleans

KieranTimberlake
Philadephia

Concordia LLC
New Orleans

Eskew+Dumez+Ripple
New Orleans

GRAFT
Los Angeles, Berlin, Beijing

Shigeru Ban
Tokyo, Paris, New York

GRAFT
Los Angeles, Berlin, Beijing

Elemental
Santiago

Constructs LLC
Accra

Constructs LLC
Accra

Brooks + Scarpa
Santa Monica

Brooks + Scarpa
Santa Monica

MVRDV
Rotterdam, Shanghai

Ray Kappe
Los Angeles

Morphosis
Culver City, New York

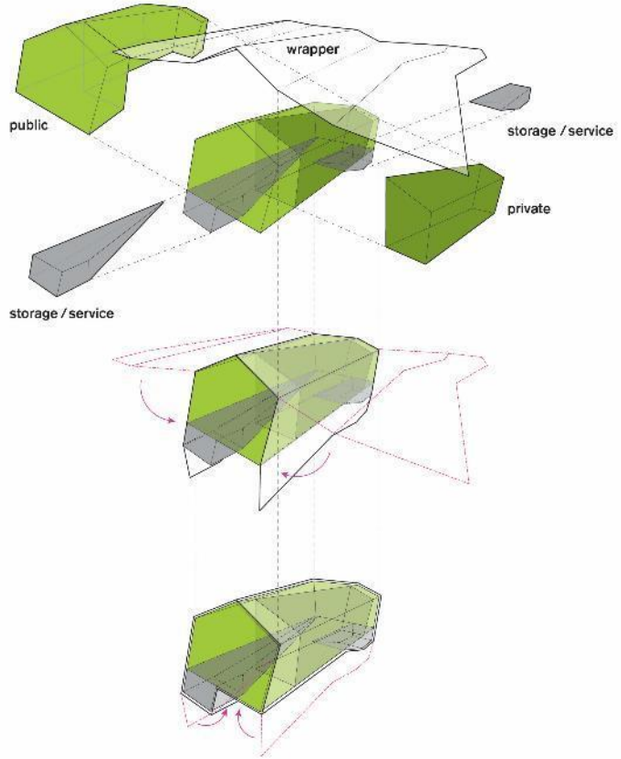
William McDonough + Partners San
Francisco, Charlottesville

buildingstudio
Memphis, New Orleans

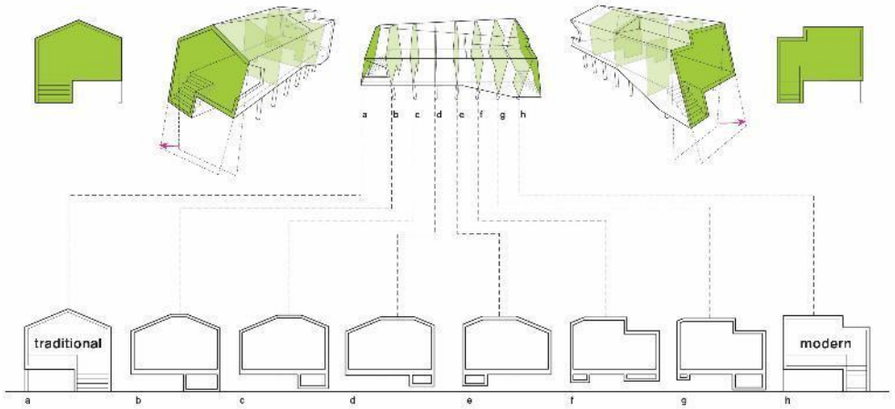
Lower Ninth Ward,
New Orleans

SHOTGUN

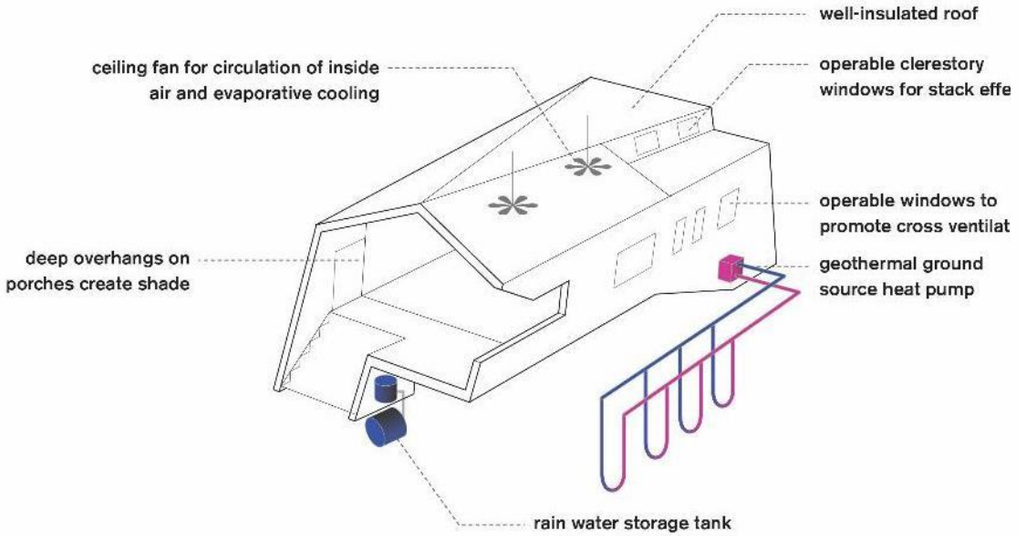
GRAFT



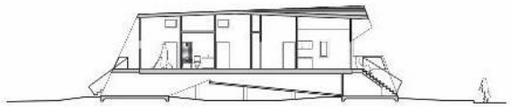
Semantic coding: Morphing of a traditional pitched roof street front to modern cubic format in cross section intervals



Grafting of traditional and modern vernacular architecture into a new *Shotgun House*

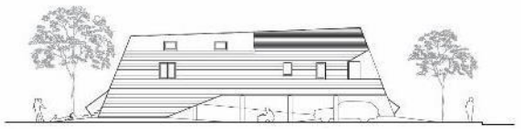


Sustainability concept



Section A-A

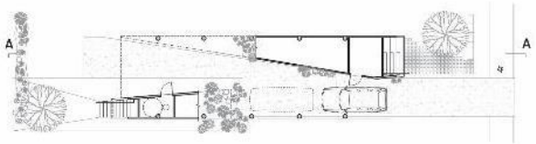
North elevation



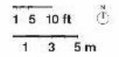
South elevation

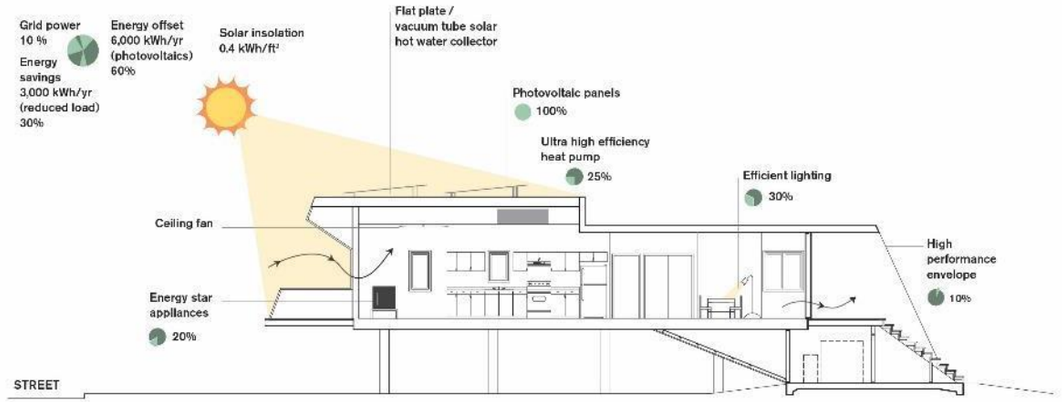
Roof

First floor

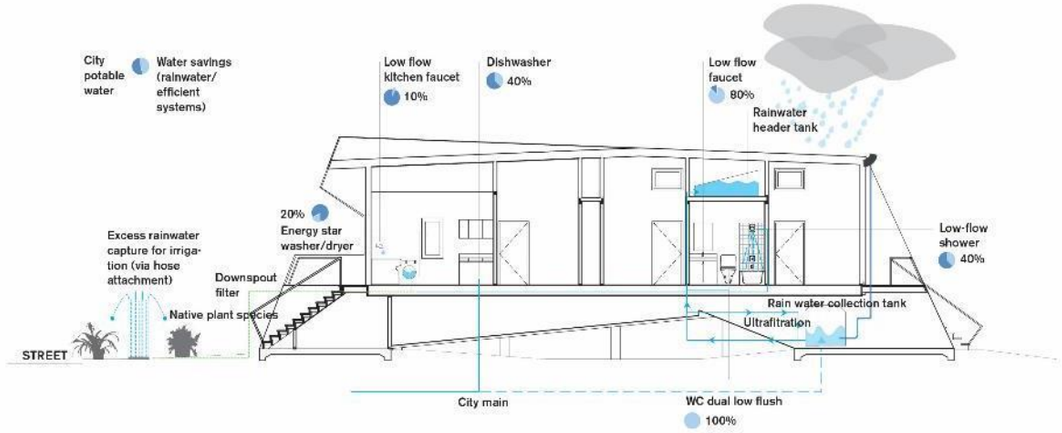


Ground level

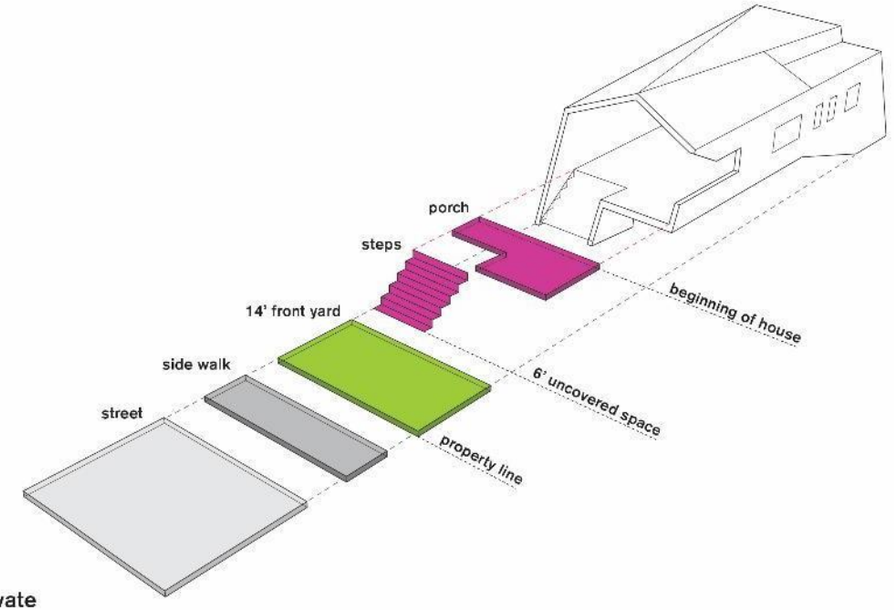




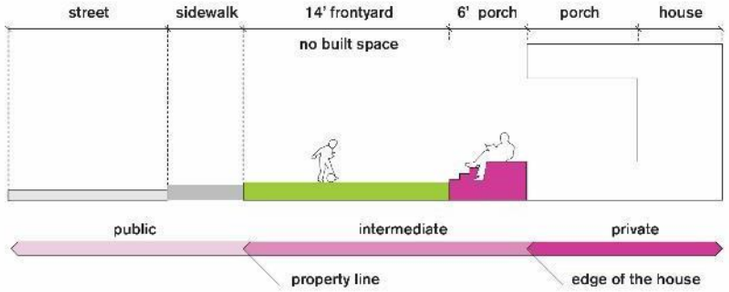
Energy analysis



Water analysis



outdoor public/private



outdoor public/private

Street-front diagram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GRAFT


GRAFT


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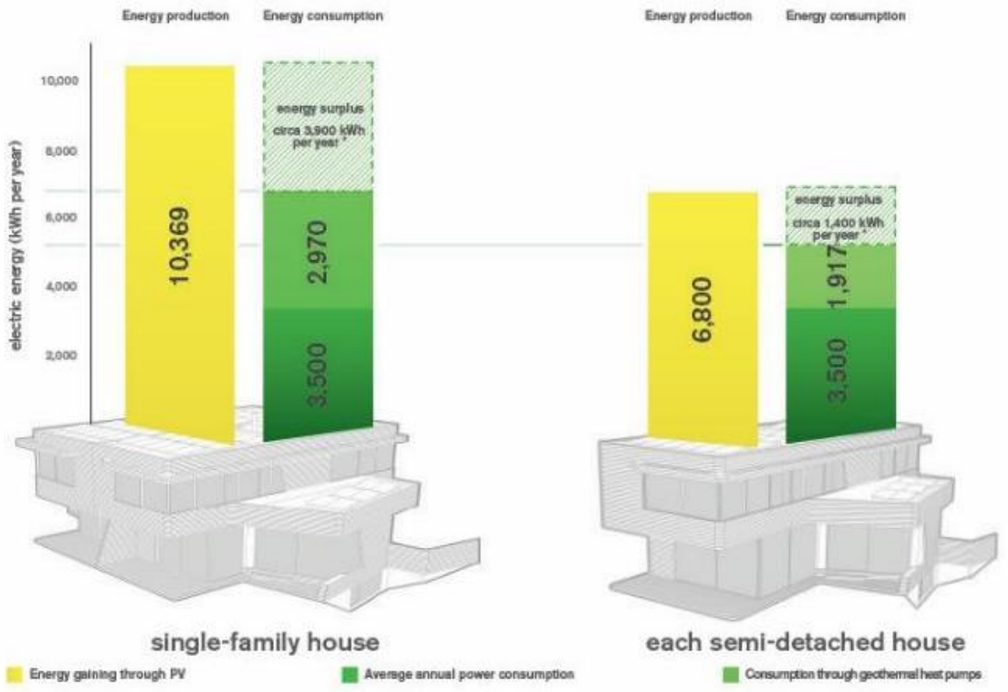
HOLISTIC LIVING
BERLIN - GERMANY

IMMOBILIE = **E-MOBILITY**

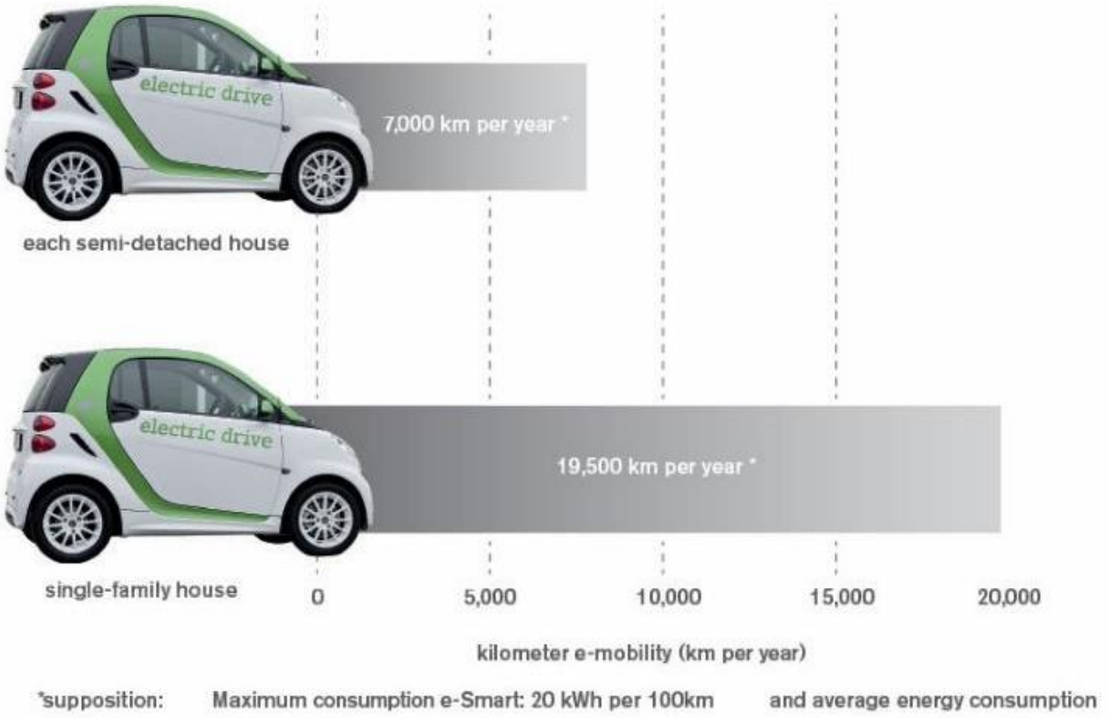

GRAFT

MOBILITY PLUS HOUSE

Energy required and energy gain (kWh per year)



A plethora of energy allows for concepts beyond serving need including e-mobility



*supposition: Maximum consumption e-Smart: 20 kWh per 100km and average energy consumption


PLANT-BASED BIOREGENERATION
Active: VOC (volatile organic compound) and fine particle,
oxygen production humidification
ROUTINE EXCHANGE OF ROOM AIR
Adaptive: adequate supply
of fresh air
HEALTHY LIVING
Natural materials ensure a healthy living environment and guarantee a high
quality of life and level of sustainability
REDUCTION OF CHEMICAL EMISSION
Passive: Conscientious choice of building materials and products
CONSISTANT HUMIDITY
Passive: 35–50% through use of hygroscopic materials/ adobe materials/clay construction


RECYCLABILITY
Building materials can be separated and reused of at the end of their life cycle
CO2
Neutral energy generation
through installation
of photovoltaics
CONSERVATION OF RESOURCES
Efficient equipment and natural materials ensure a resource-friendly construction
REGIONAL AVAILABILITY
of ecological building materials
ECOLOGICAL THERMAL INSULATION
High thermal capacity
of natural materials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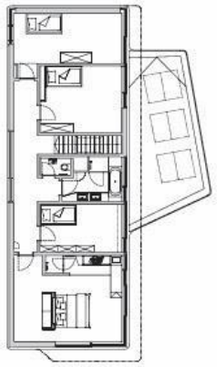
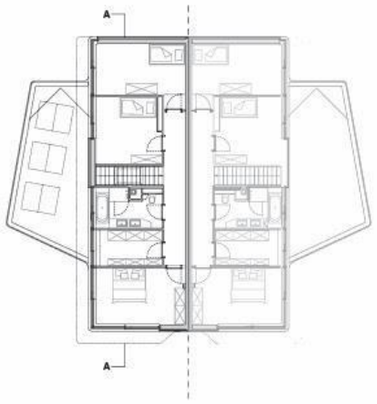
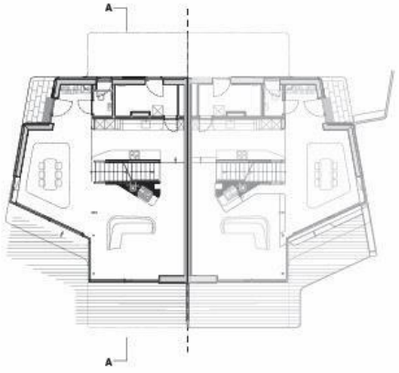


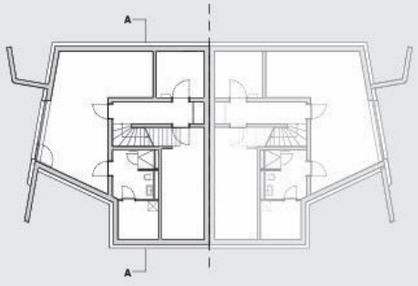
First floor

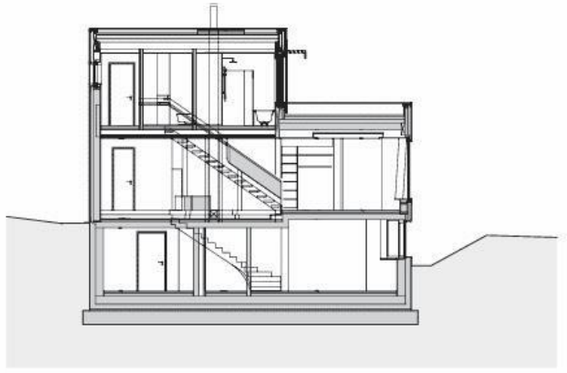


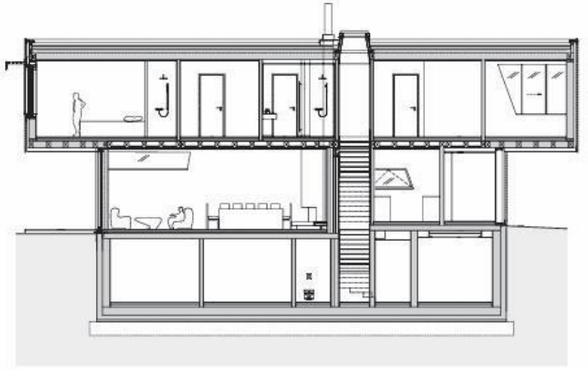
Ground floor



Basement floor





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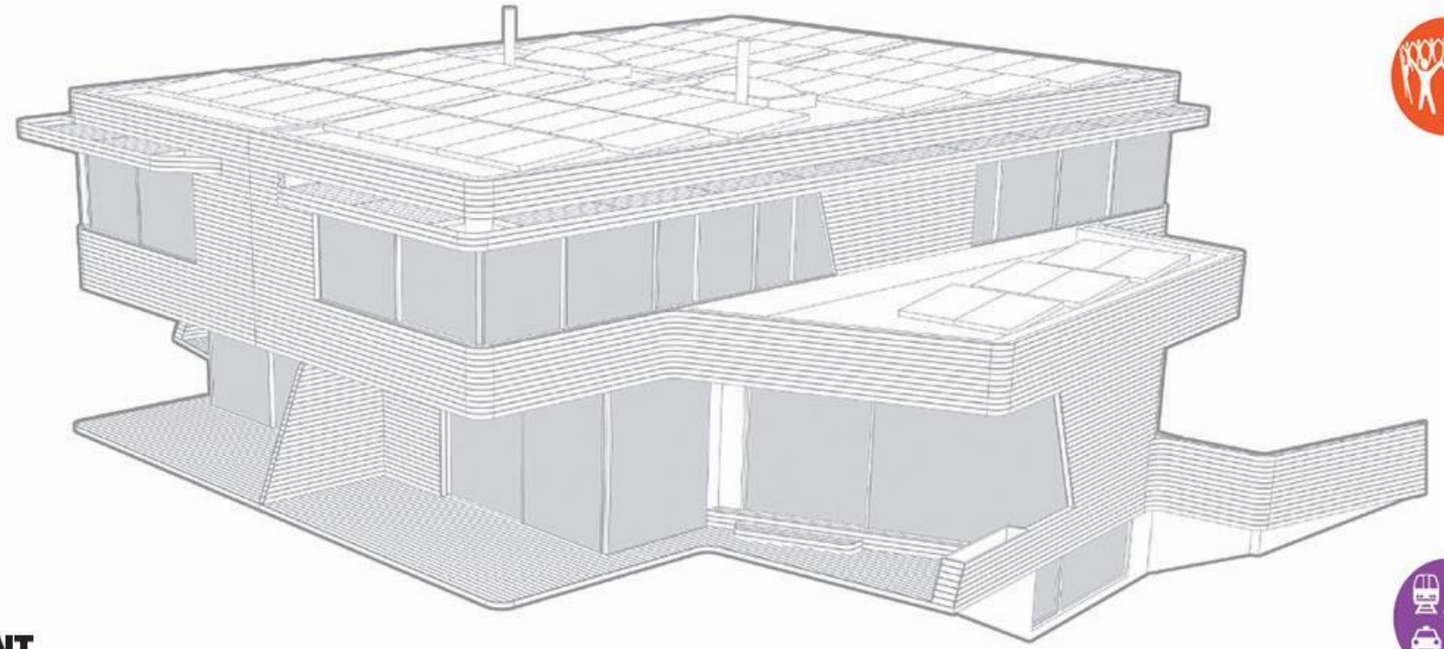
CONNECTIVITY OF
INSIDE AND OUTSIDE

PLUS-ENERGY
HOUSE

HEALTHY
MATERIALS



COMFORT AND
WELL BEING

WATER
MANAGEMENT

MOBILITY WITHOUT
CARBONDIOXIDE

PARAGON APARTMENTS
BERLIN - GERMANY


Google
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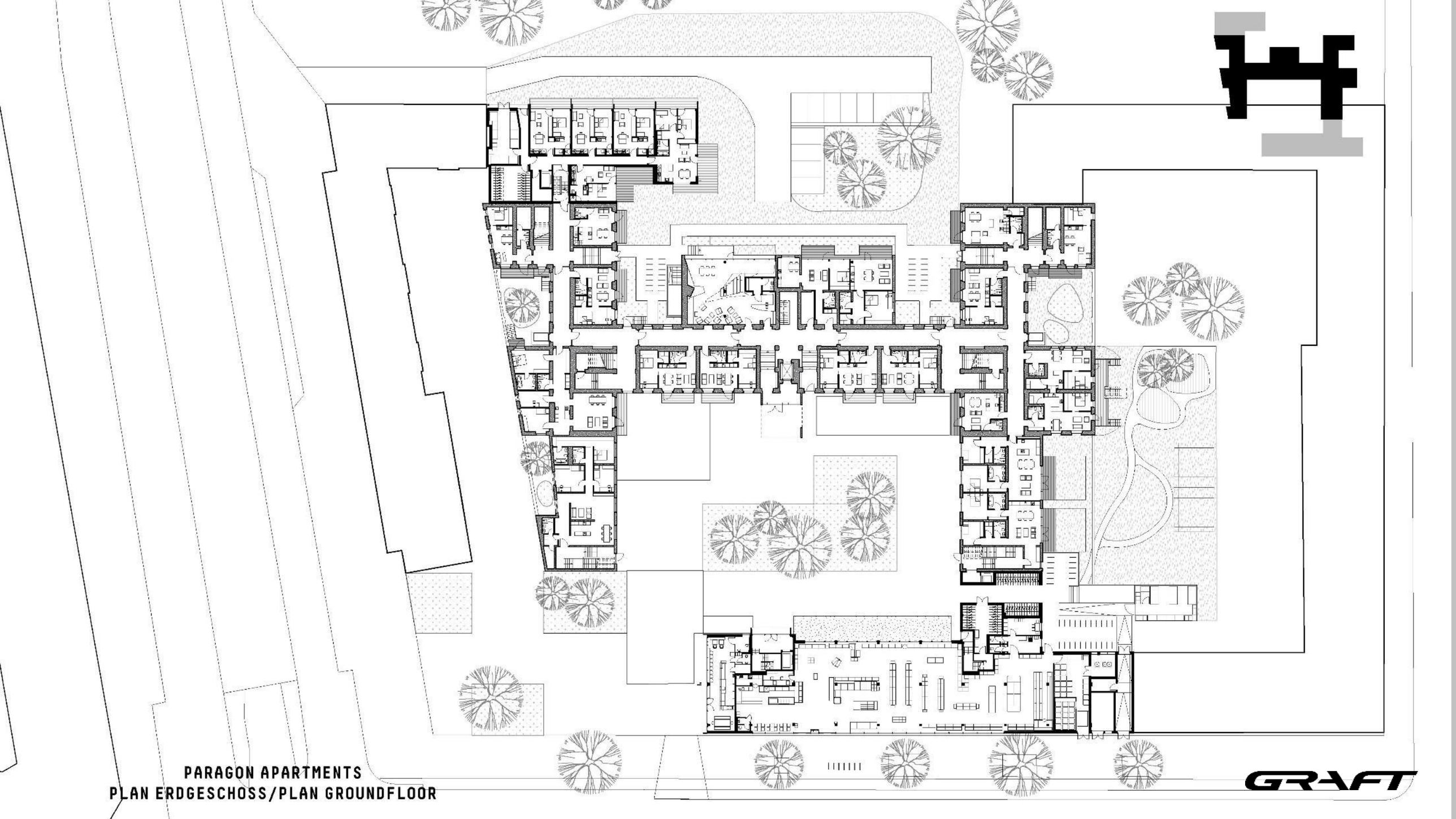
Bilder © 2018 Google,Kartendaten © 2018 GeoBasis-DE/BK



PARAGON APARTMENTS
PLAN ERDGESCHOSS/PLAN GROUNDFLOOR

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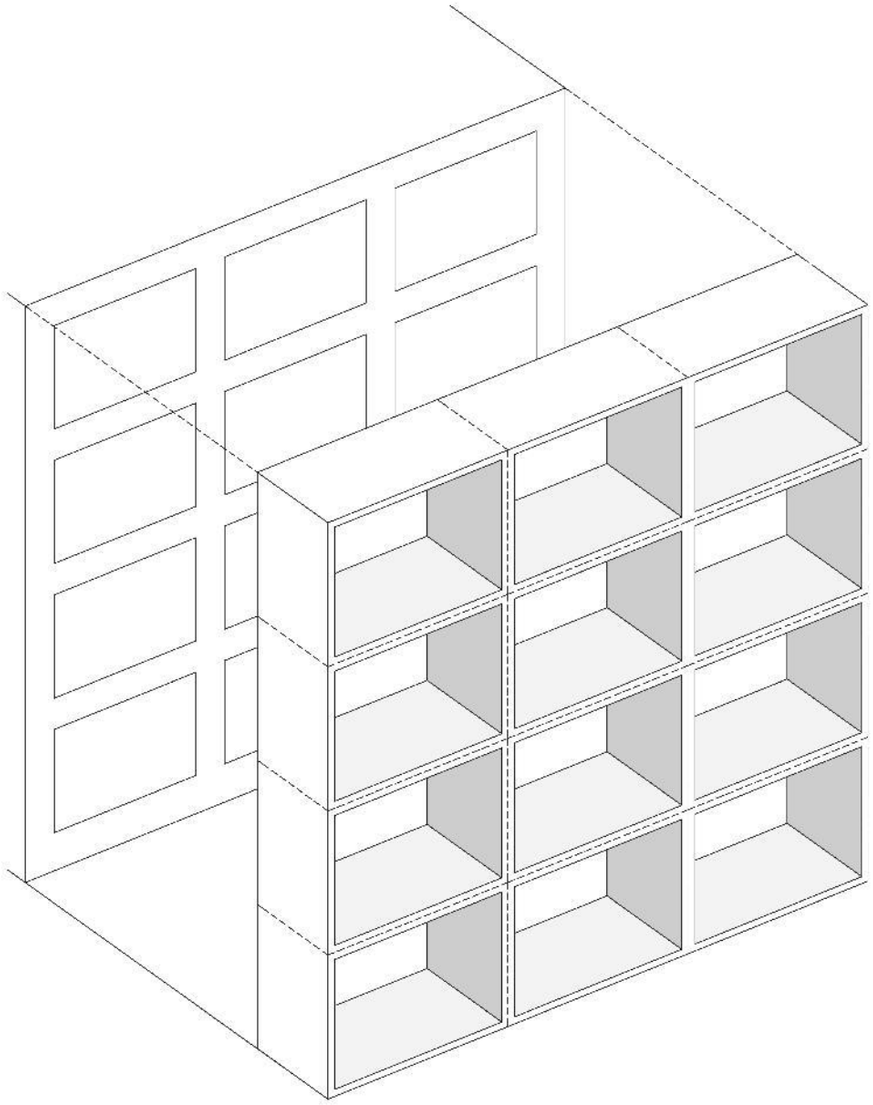
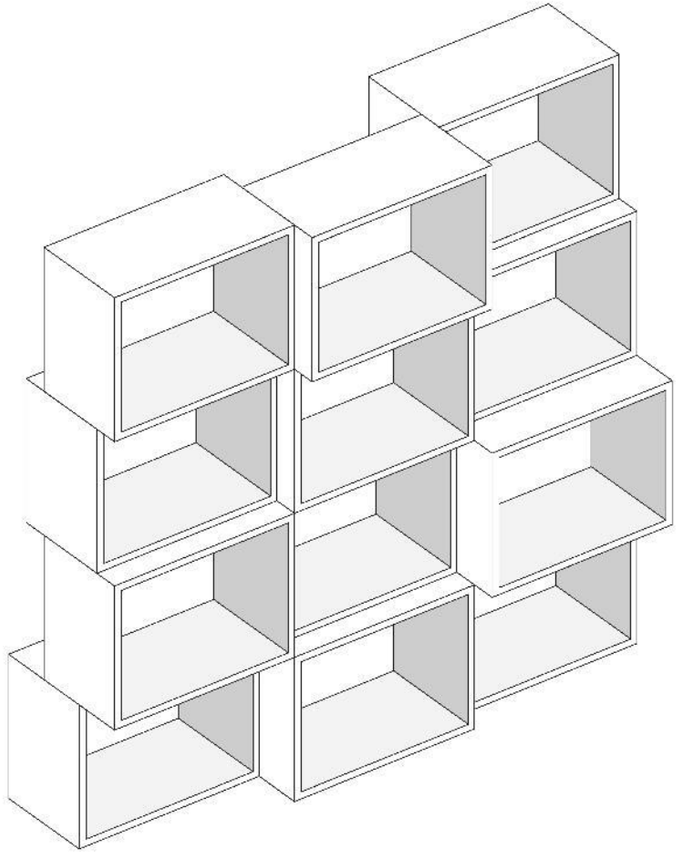
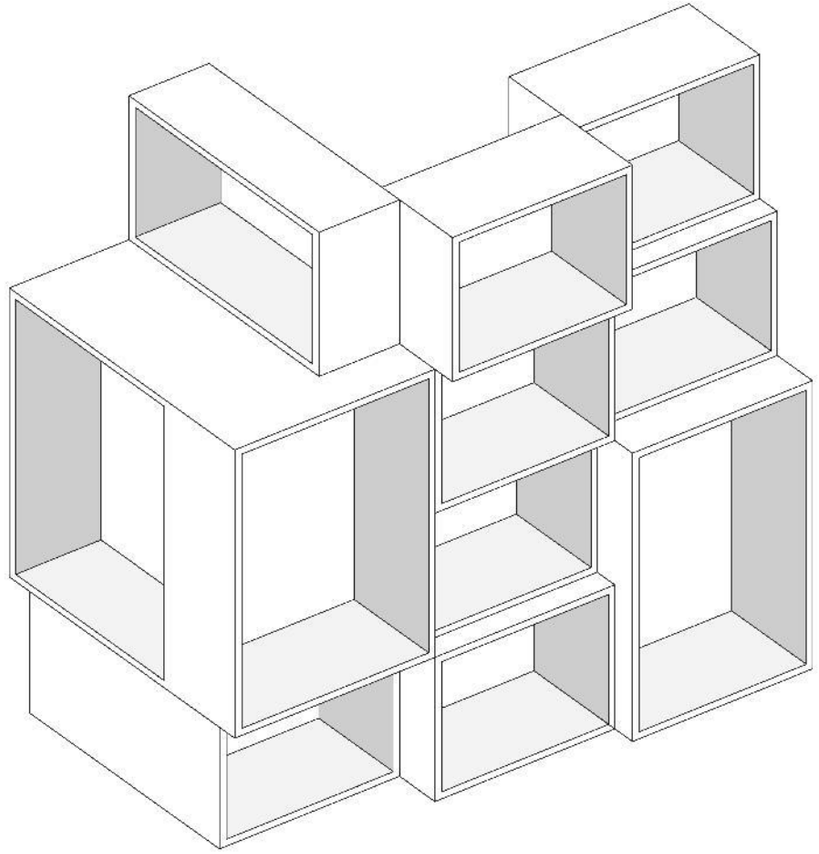
GRAFT


denn's
BIOMARKT


DEIN
FILM
STROM.
GRAFT







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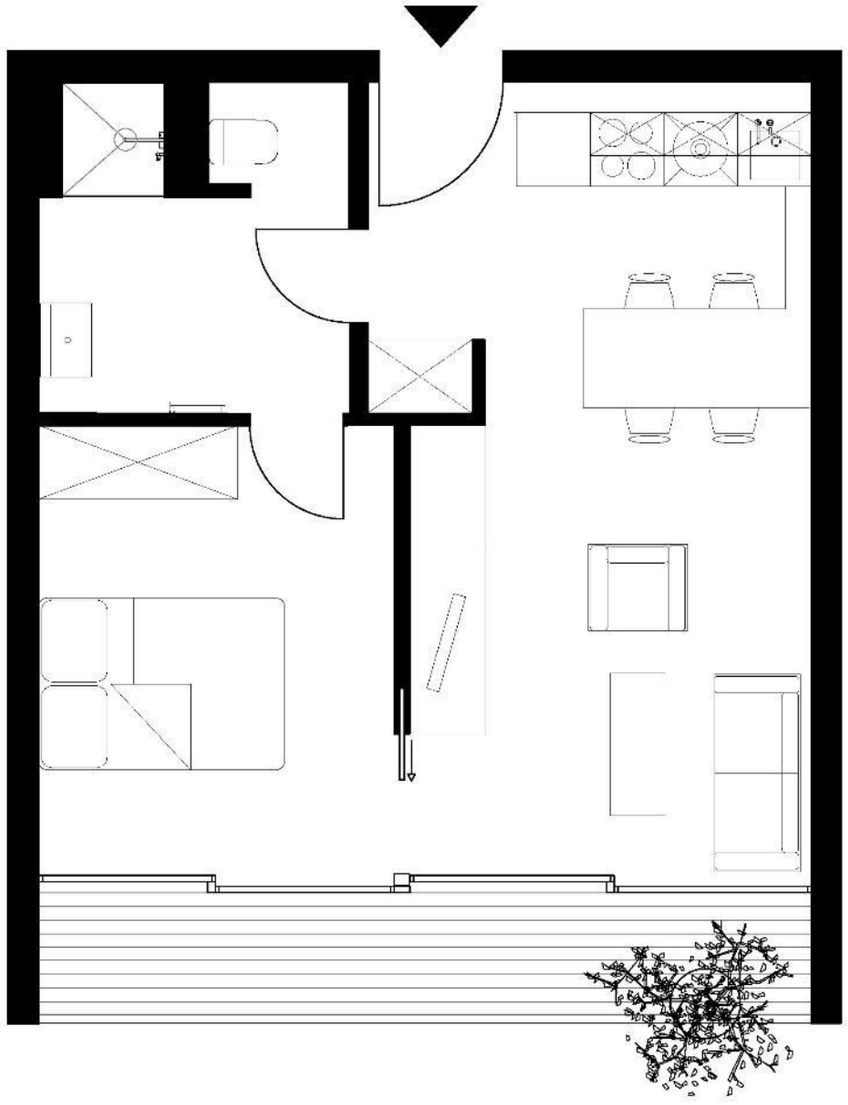
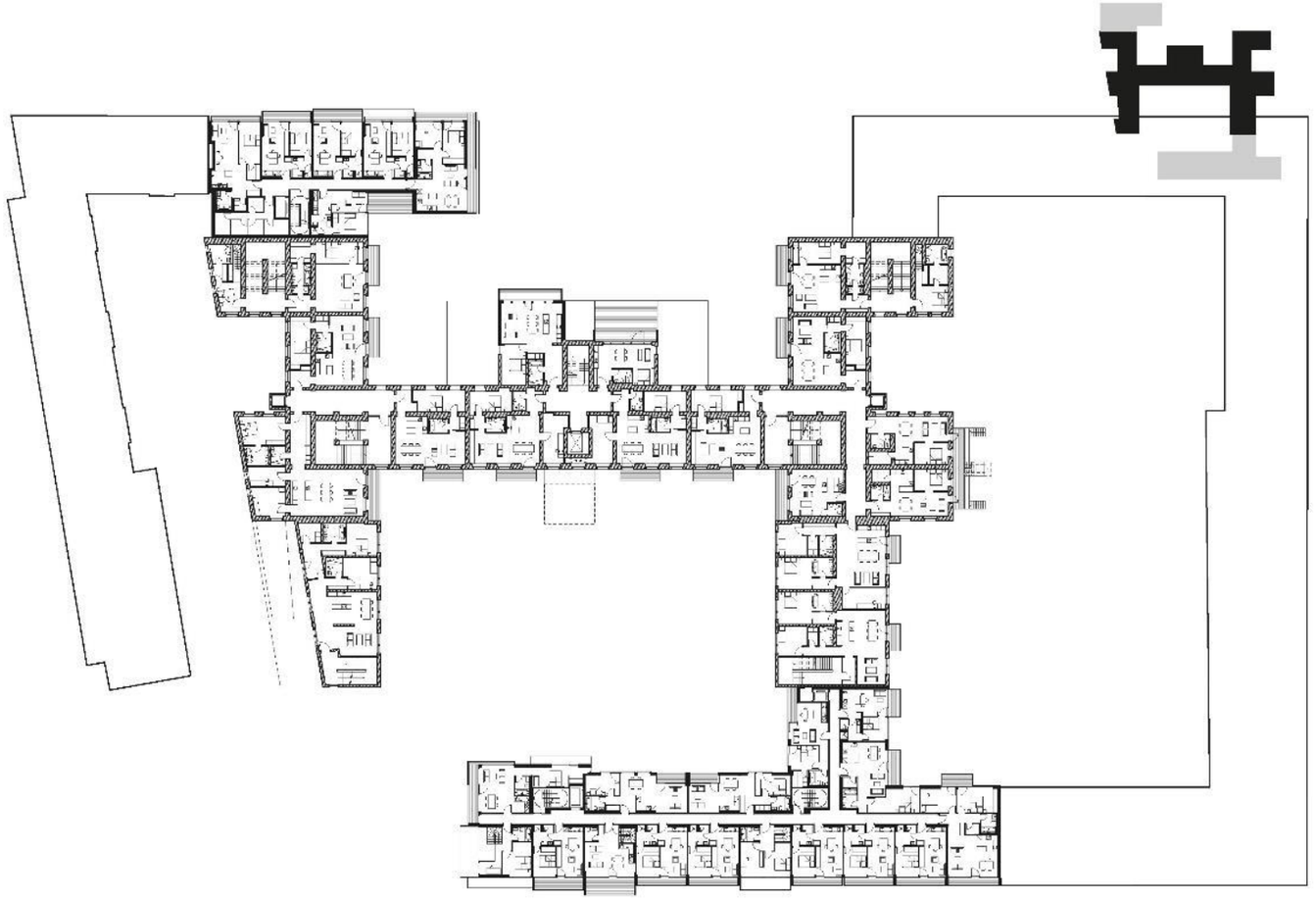




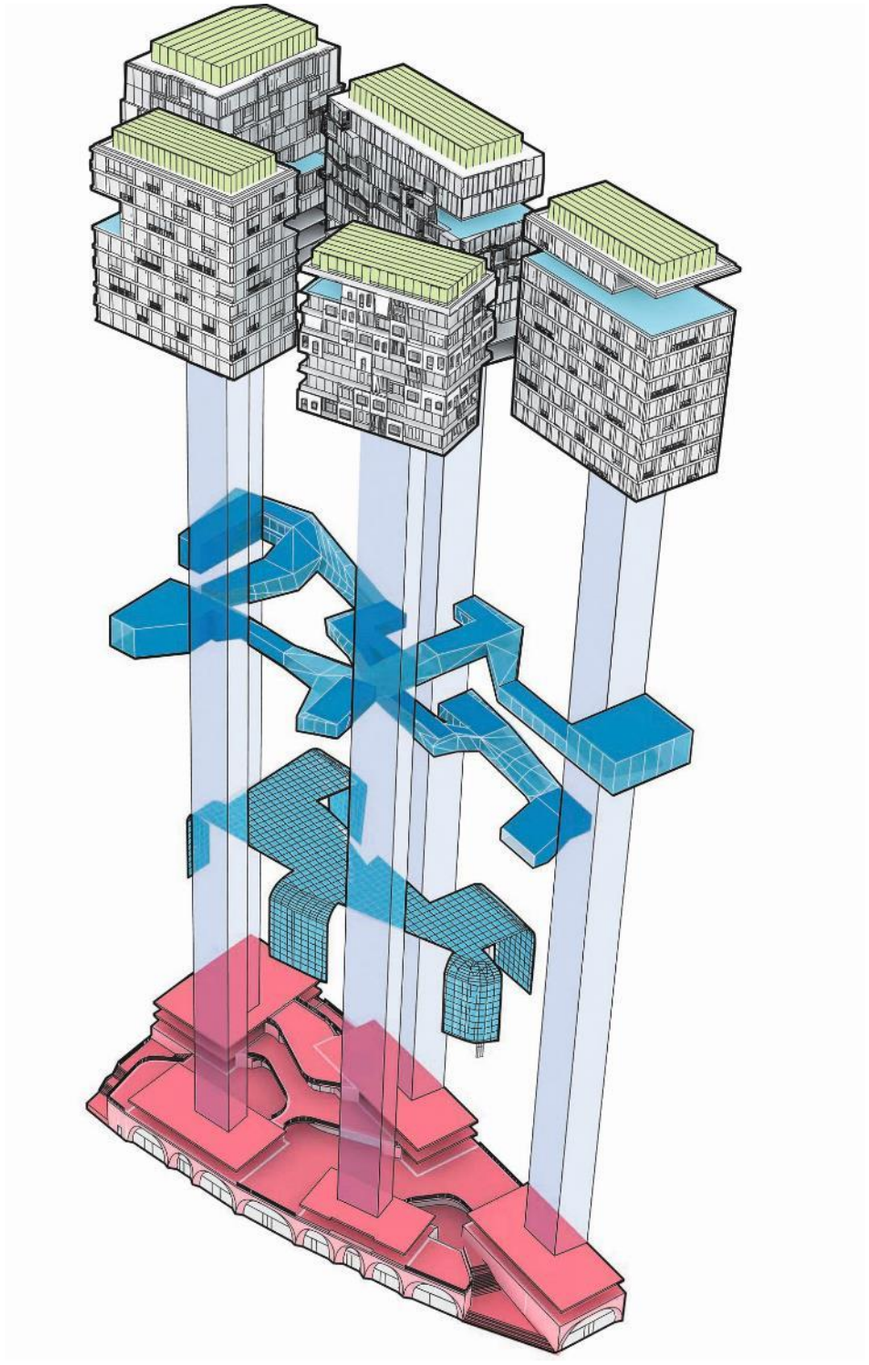
PARAGON MICRO APARTMENT

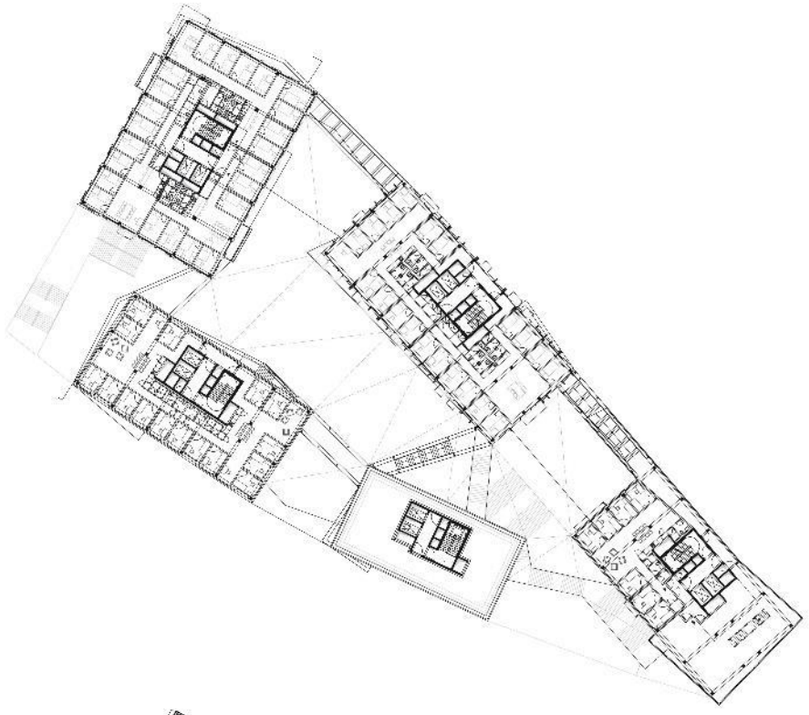
37 sq.m.


GRAFT

ECKWERK
BERLIN - GERMANY


KREUZBERG
GRAFT





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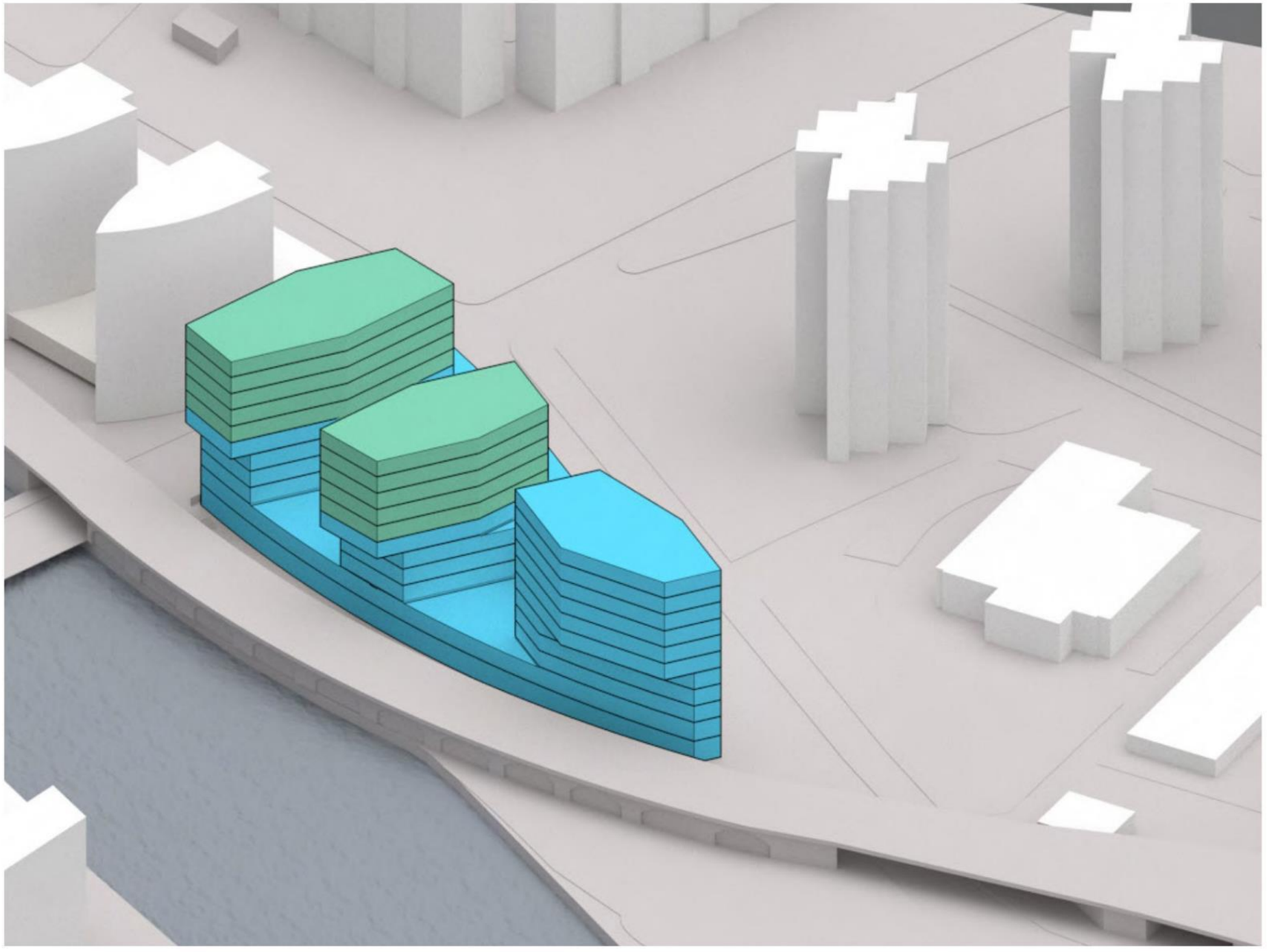
BLICK AUS SÜDEN



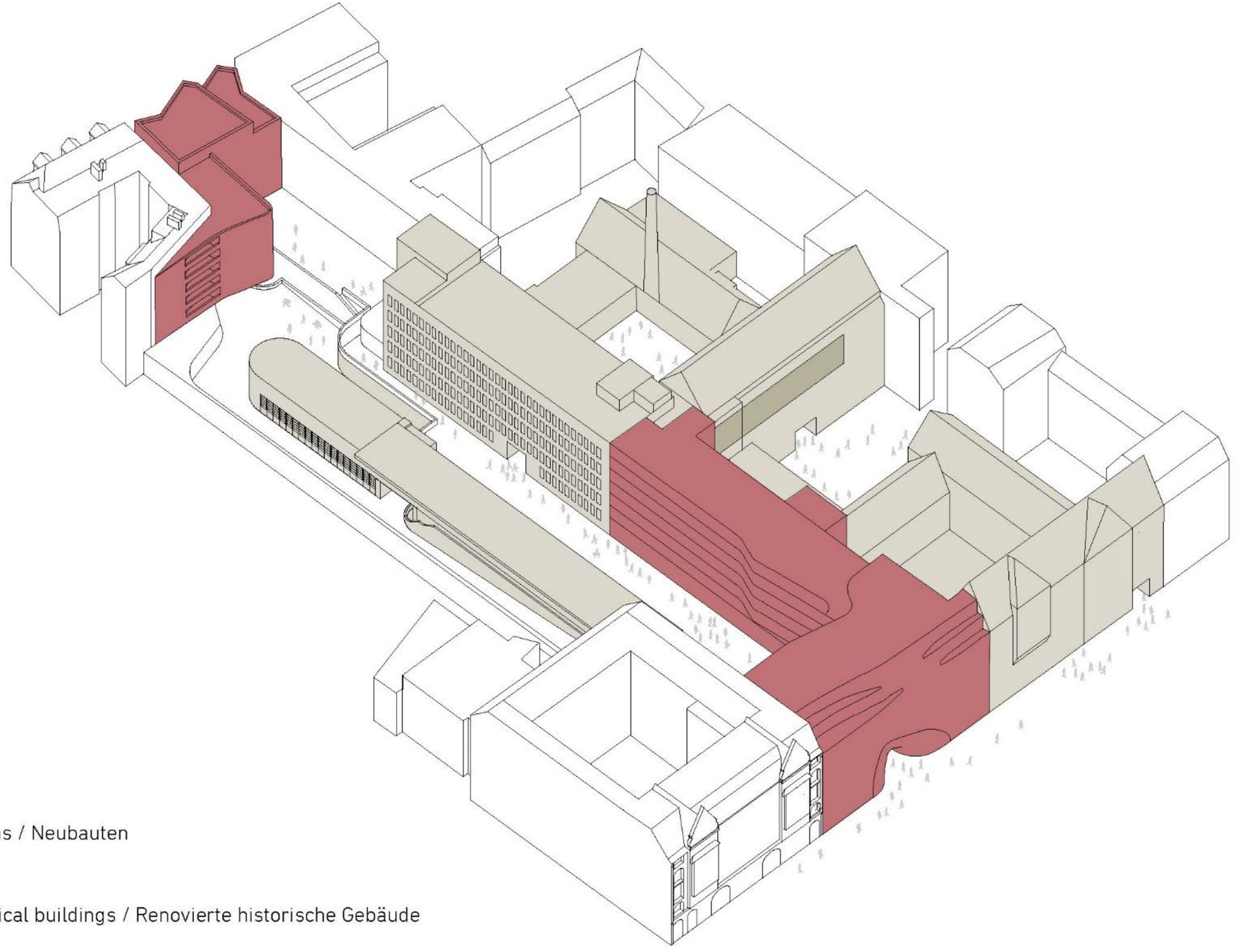
WOHNNUTZUNG

GEWERBLICHE NUTZUNG

WIEWEIL
BERLIN - GERMANY


NIEUWEIL KANTINE

BRICKS
BERLIN - GERMANY



New constructions / Neubauten

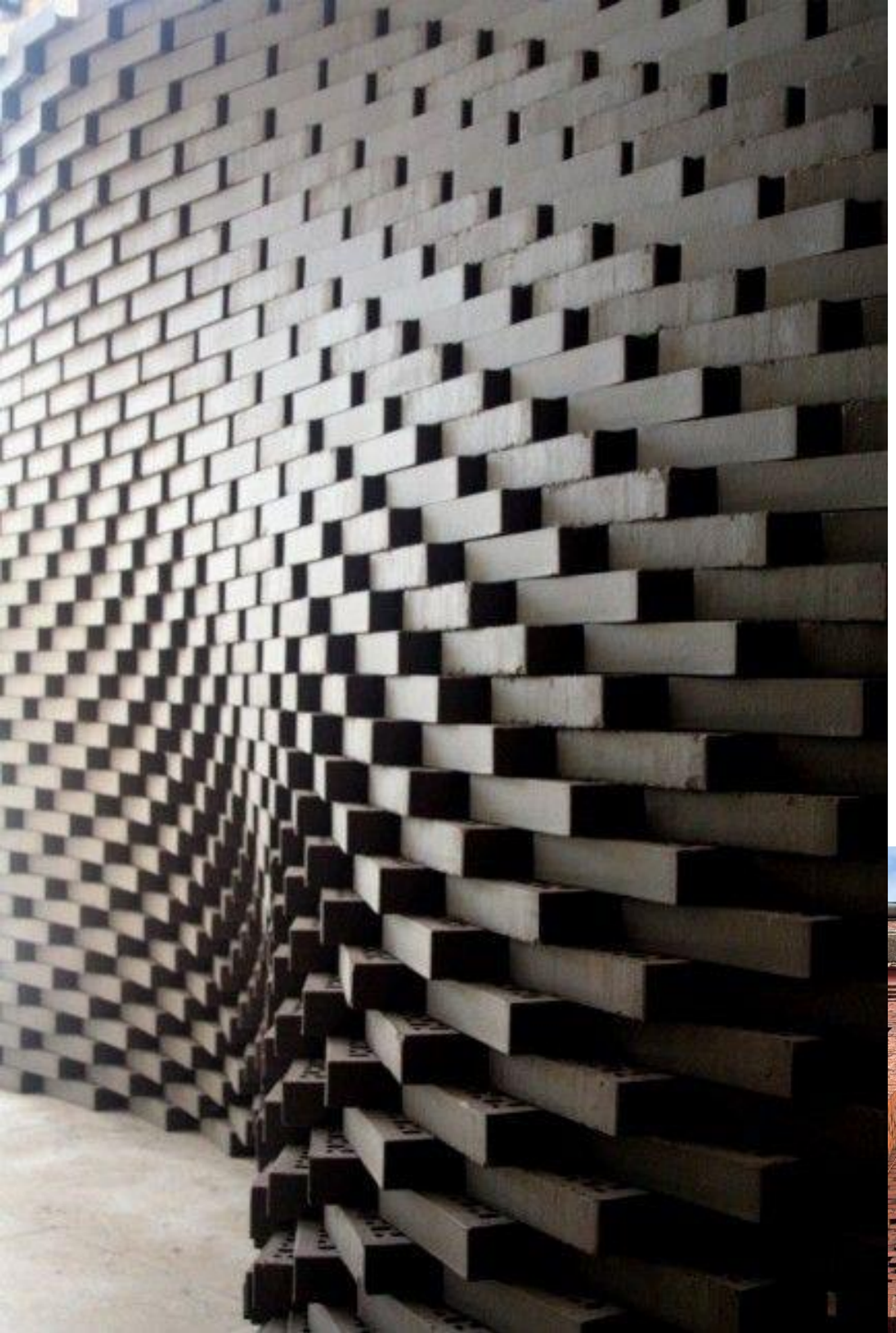
Kaballah Centre

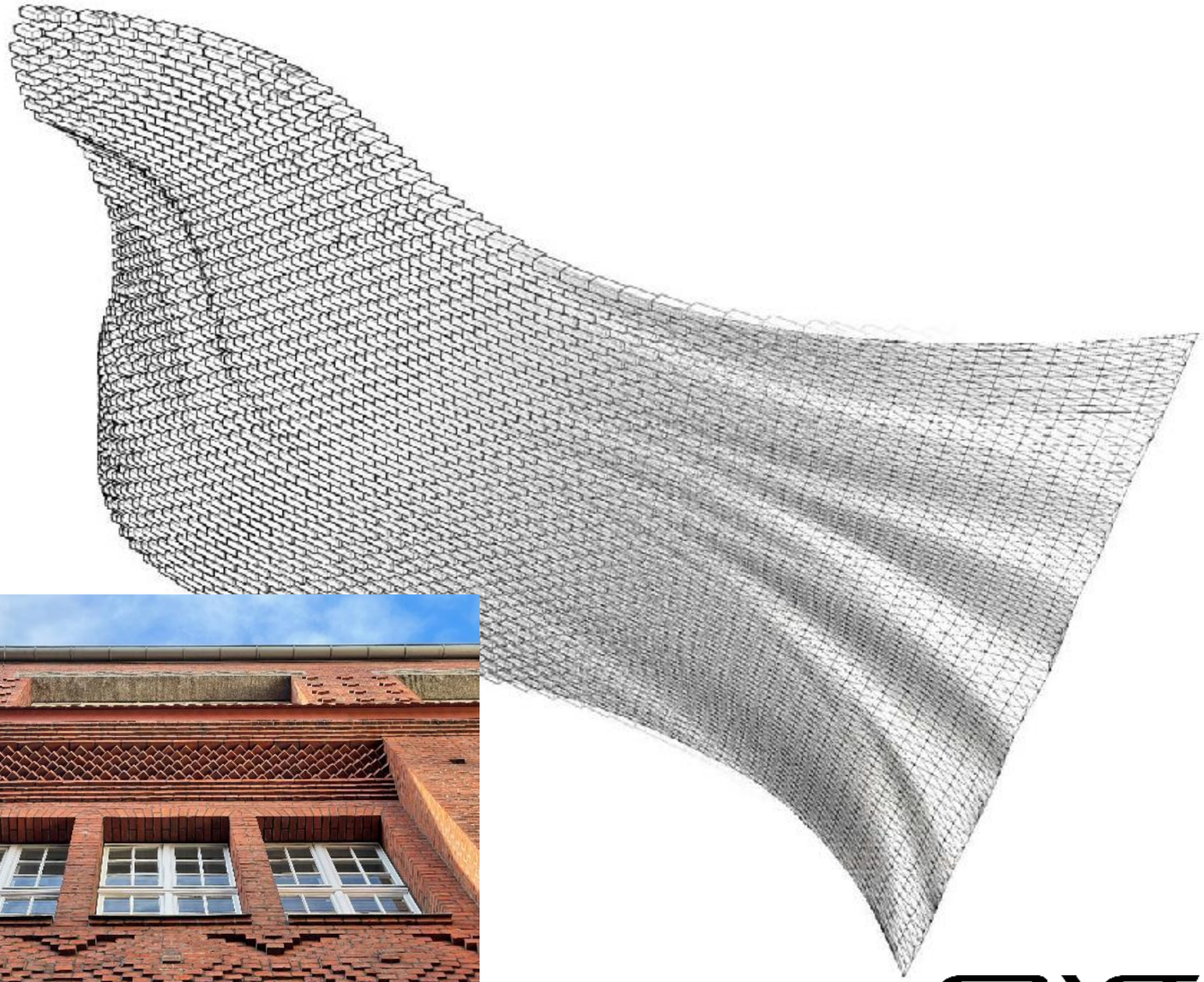
Renovated historical buildings / Renovierte historische Gebäude

GRAFT


OXFAM
CHARITY SHOP
BRICKS
29
denn's
BIOMARKT
GRAFT

BRICKS
MATERIAL CLINKER BRICK

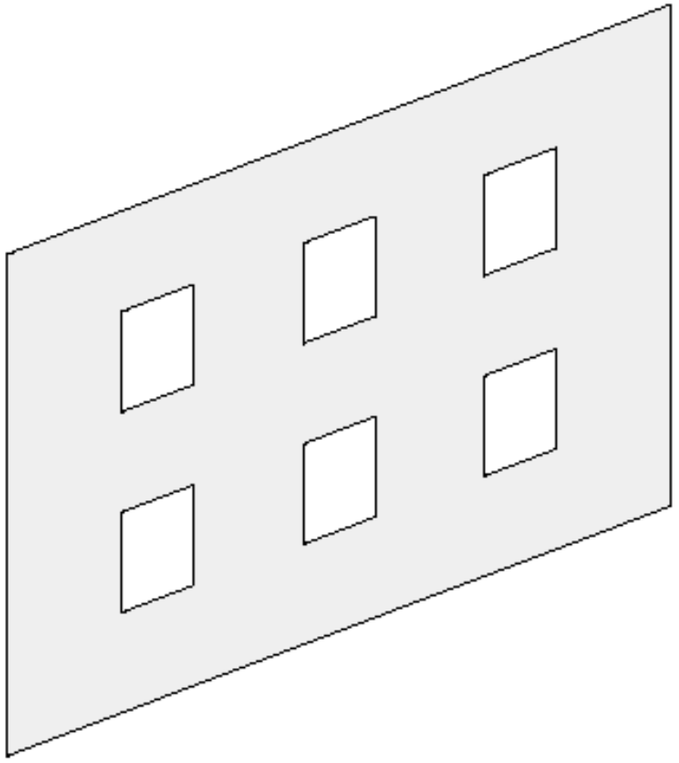




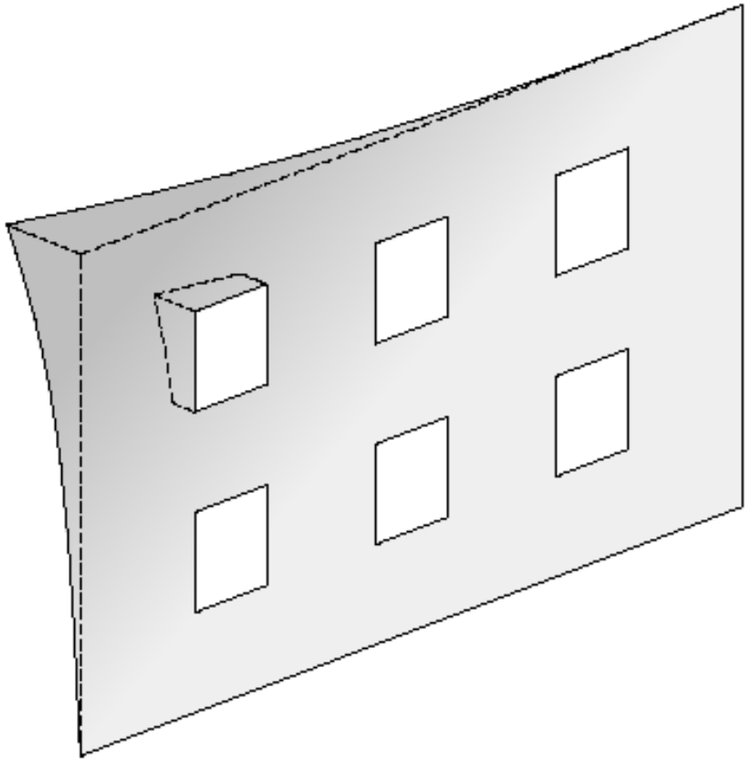
BRICKS
ENTRANCE AREA


OXFAM
denn's
denn's
denn's

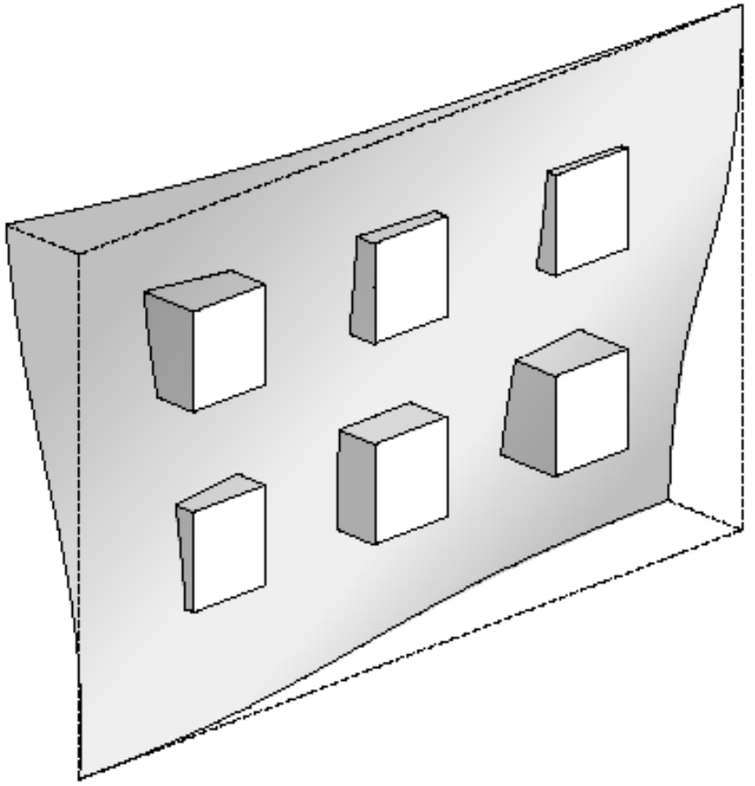
BRICKS
SOFT PLASTICITY



Typical punctuated facade



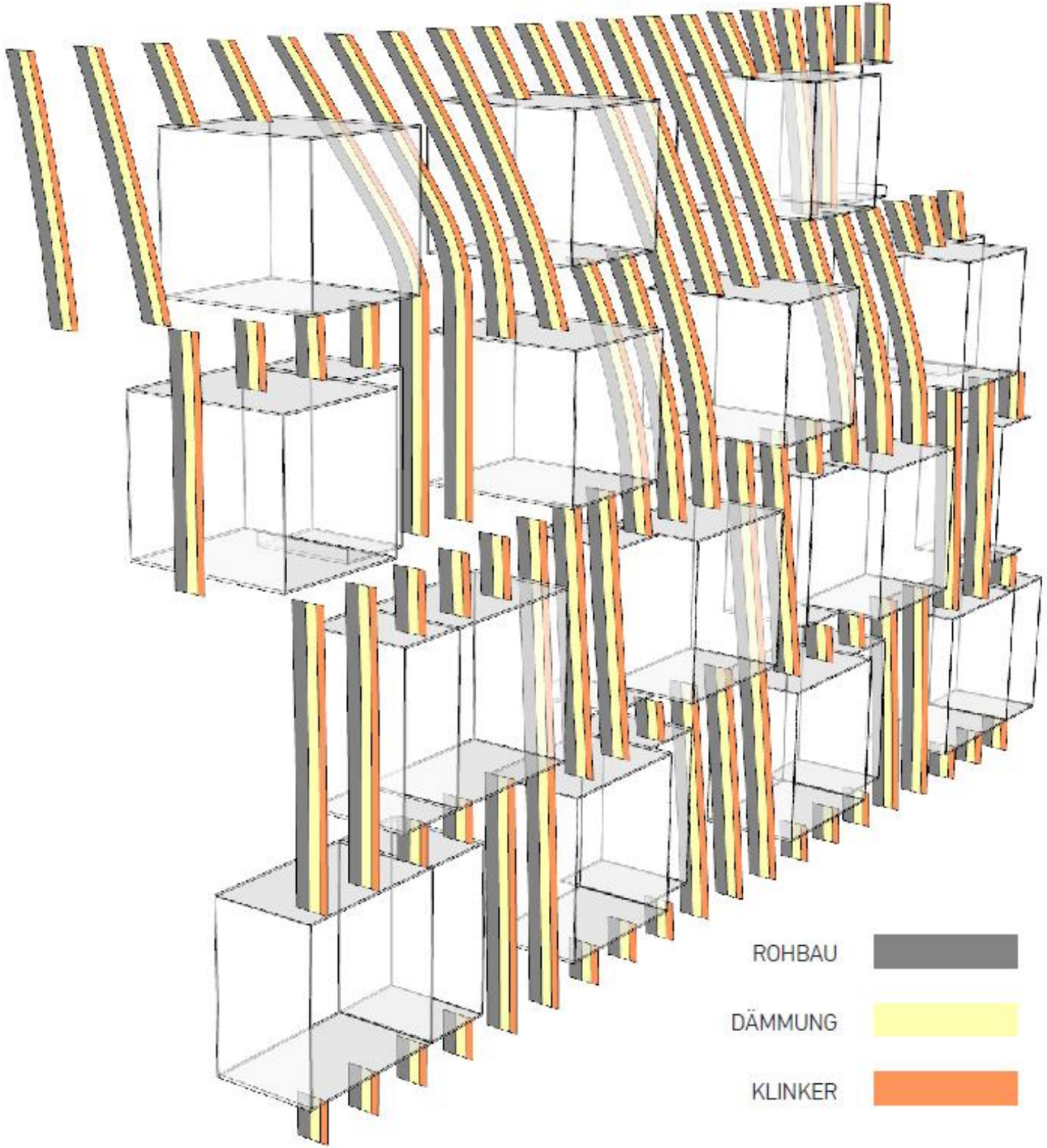
Plastic deformation of the wall, while windows remain in their original position.



By closing the gaps, the windows become spacious bay windows

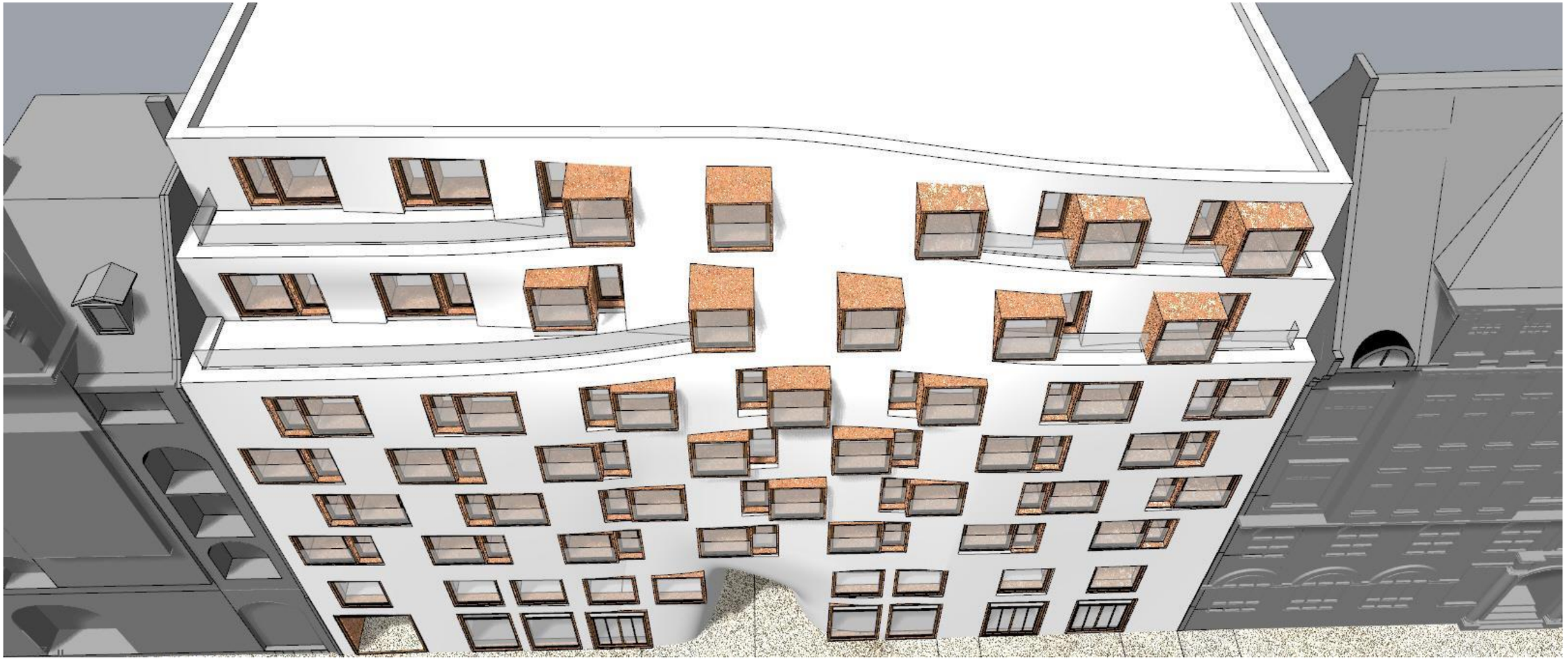
GRAFT

BRICKS
GEOMETRY
CLINKER BRICK



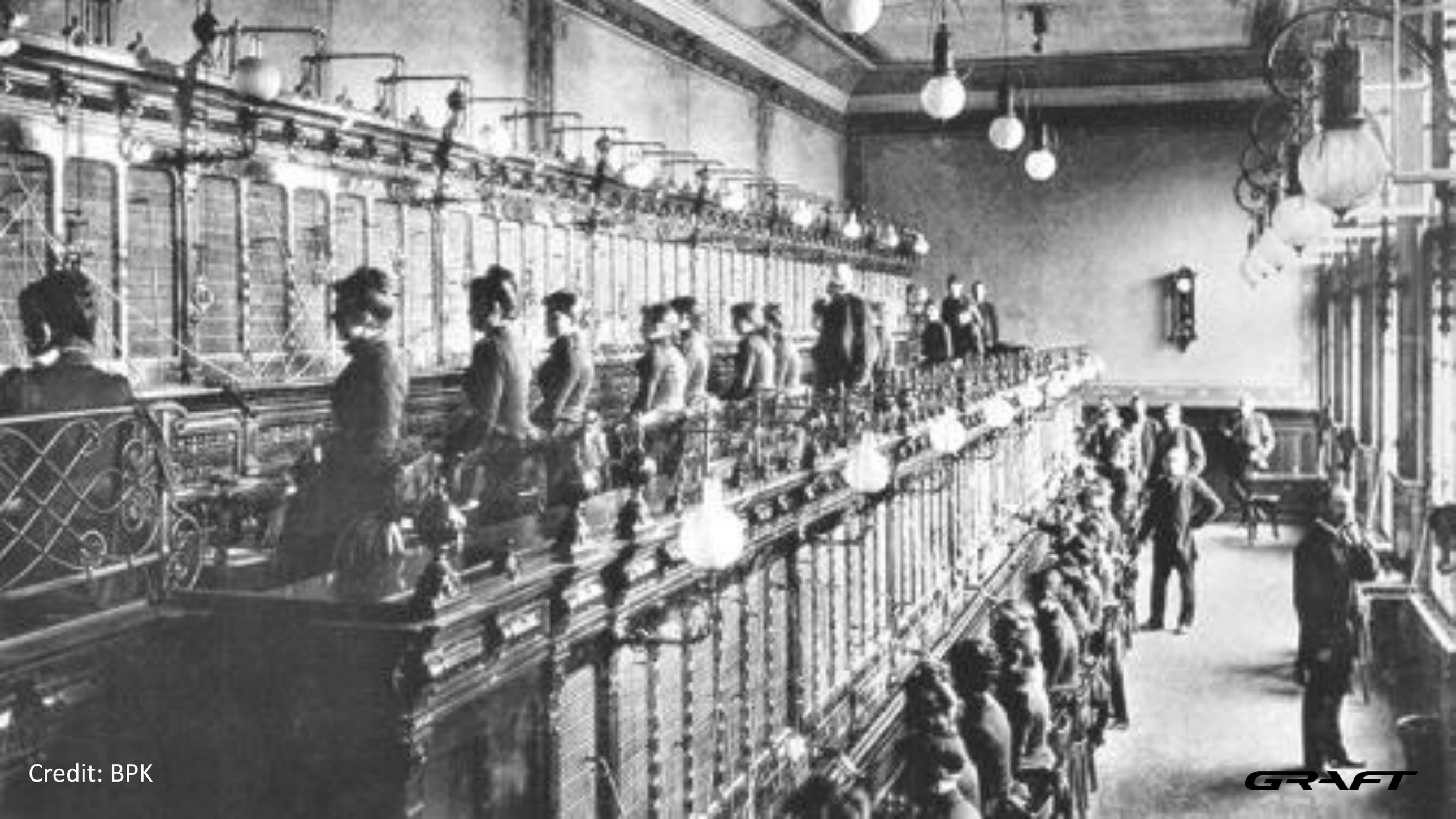
GRAFT

BRICKS
DESIGN PRINCIPLE




BRICKS
denn's BIOMARKT
HAIR & BEAUTY

KABBALAH CENTRE
BERLIN - GERMANY



Credit: BPK

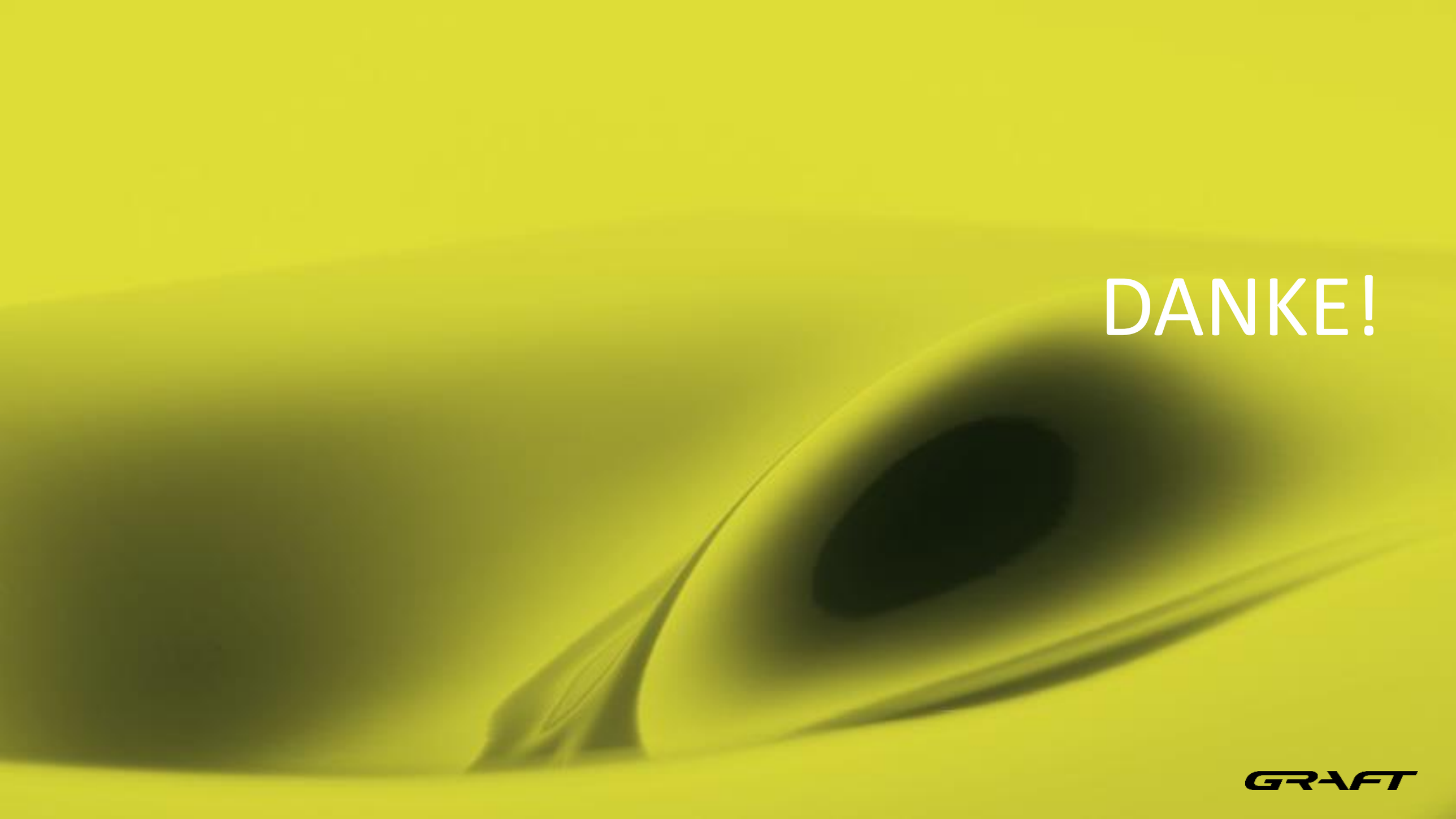

GRAFT


GRAFT


CrossFit
MINS


GRAFT


SURPRISING
SPACES
Merseburger Straße
Belziger Str.


DANKE!