Sculpting with Data

Generative Design Workshop | Markets of One · Zach Pino · 08/22/18

design + data + behavior

customization

EGP

hyper-customization

markets-of-one

Audience/Designer Relationship

Audience Spectrum

Audience/Designer Relationship

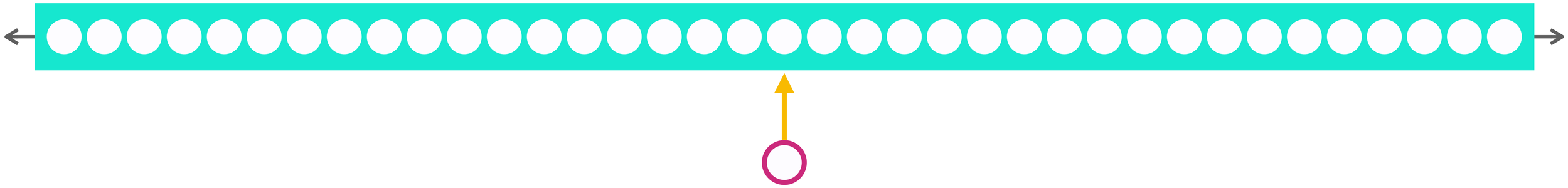
Audience Spectra

Audience/Designer Relationship

Potential Users

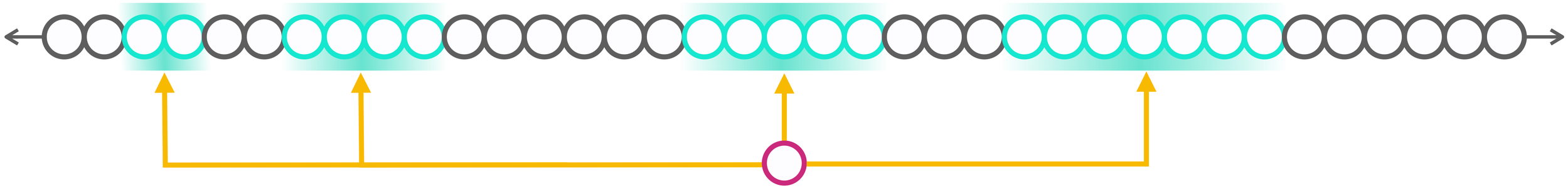
Audience/Designer Relationship

Craft Approach · Designer, Design, User



Audience/Designer Relationship

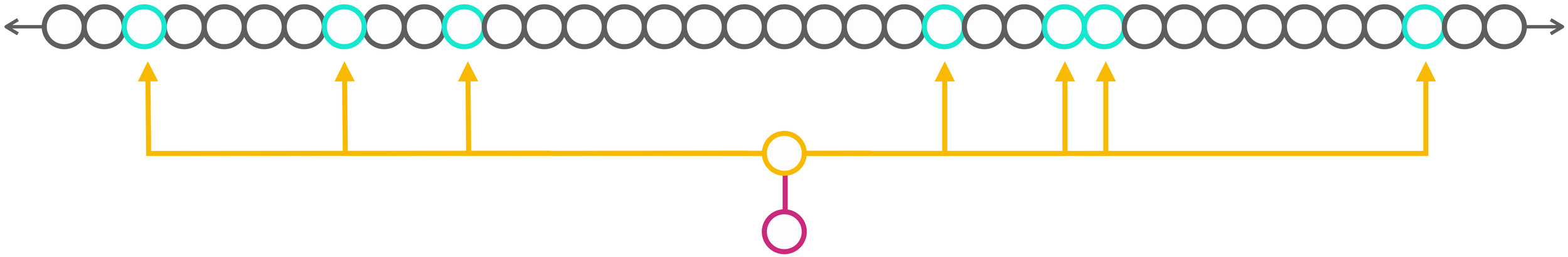
Modernist Approach · Designer, Design, User



Audience/Designer Relationship

Post-Modernist / User-Centered / Universal Approach · Designer, Design, User

OXO



Audience/Designer Relationship

Hyper-Customization Approach · Designer, Design, User

audience segmentation

personas

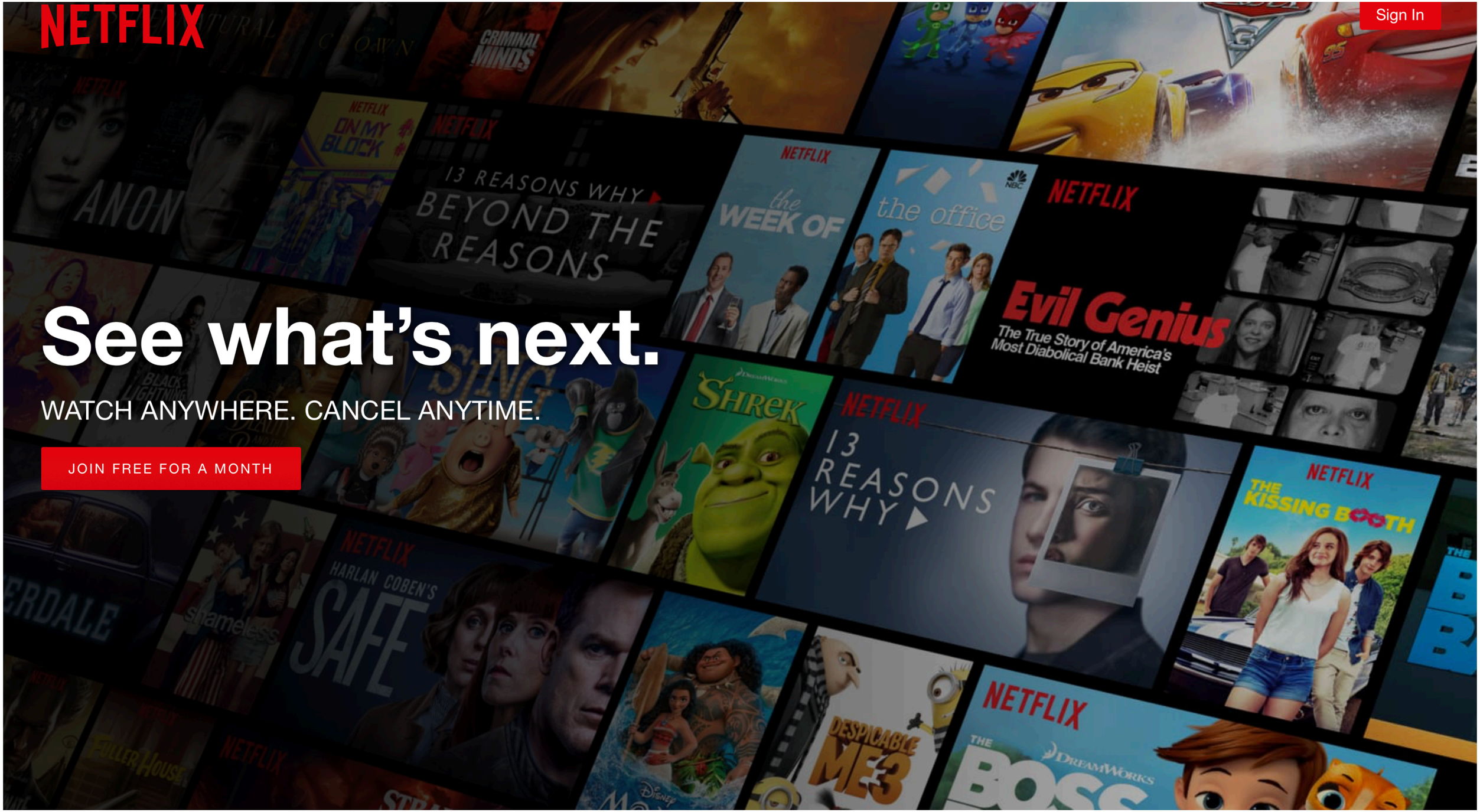
'heavy' vs 'light' users

~~audience segmentation~~

~~personas~~

~~'heavy' vs 'light' users~~

1 user : 1 design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the office
Evil Genius
The True Story of America's Most Diabolical Bank Heist
SHREK
13 REASONS WHY
THE KISSING BOOTH
SAFE
DESPICABLE ME3
THE BOSS

NETFLIX Home **TV Shows** Movies Originals Recently Added My List

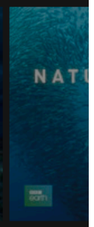
DVD 9+

TV Shows

GENRES

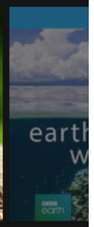
SUGGESTIONS FOR YOU

Top Picks for Zachary



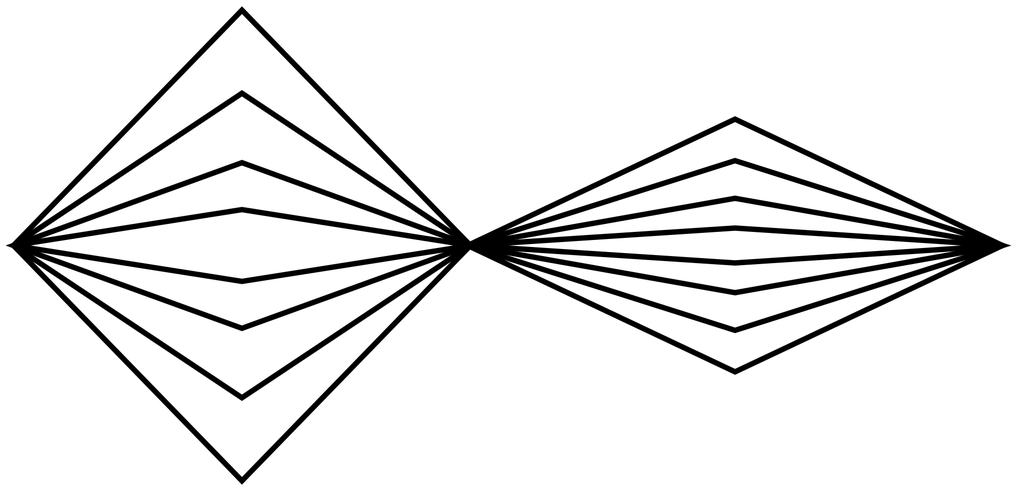
Casual Viewing

Because you liked The Blue Planet: A Natural History of the Oceans



Science & Nature TV

where does data belong in the design process?



data + design : relational understanding

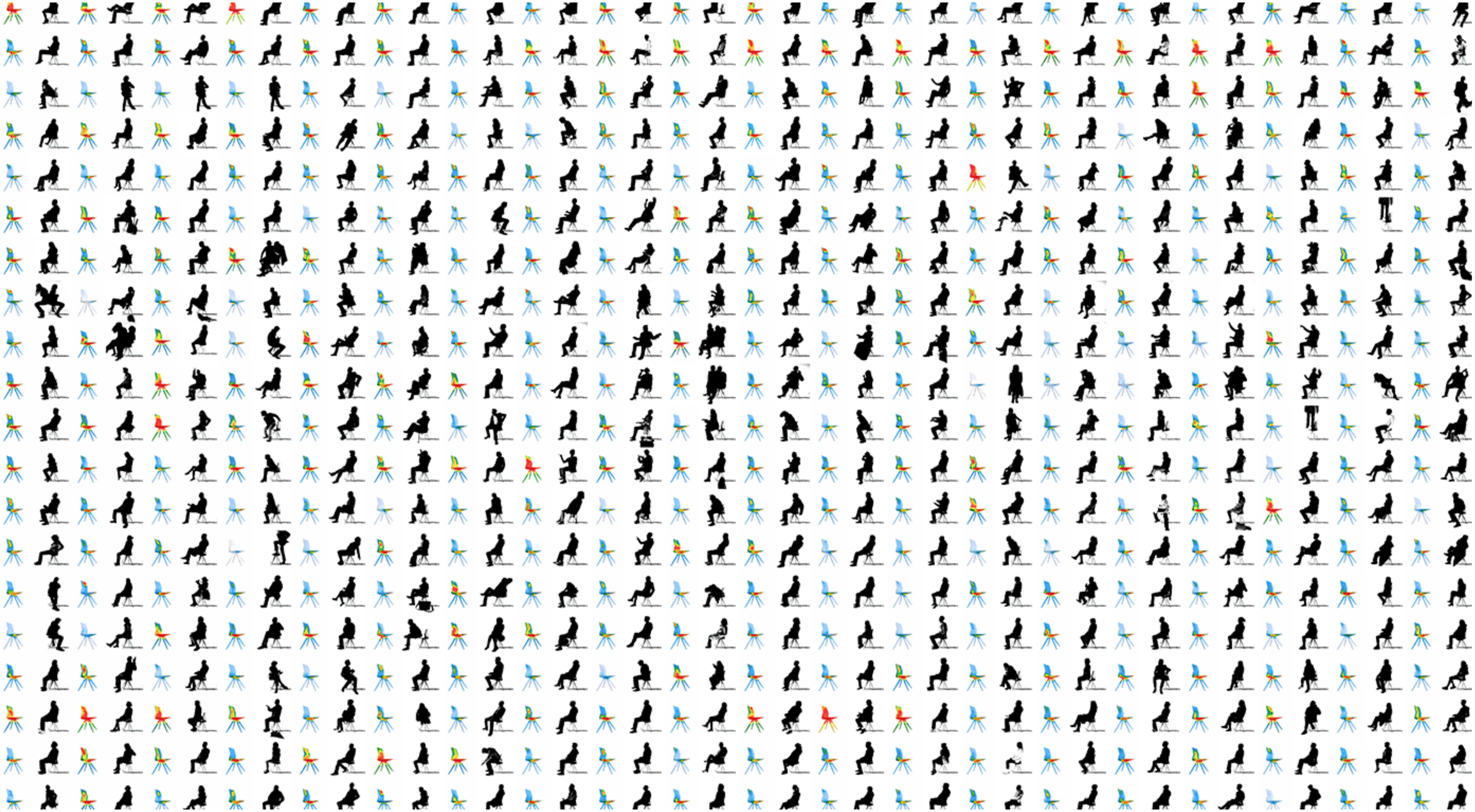
~~data + design : relational understanding~~

data + design : fingerprinting individuals

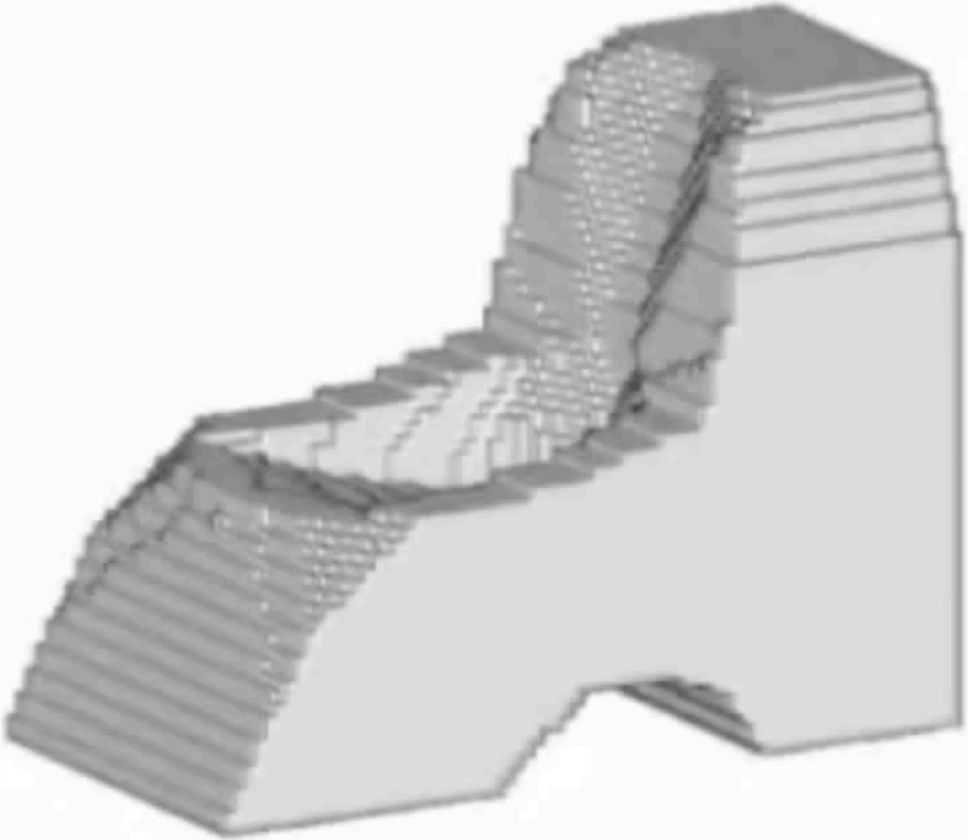
{sensor-enabled} data collection

R18 Ultra Chair

Kram/Weisshaar · 2012-2016



Bone Chairs
Joris Laarman · 2006-2008

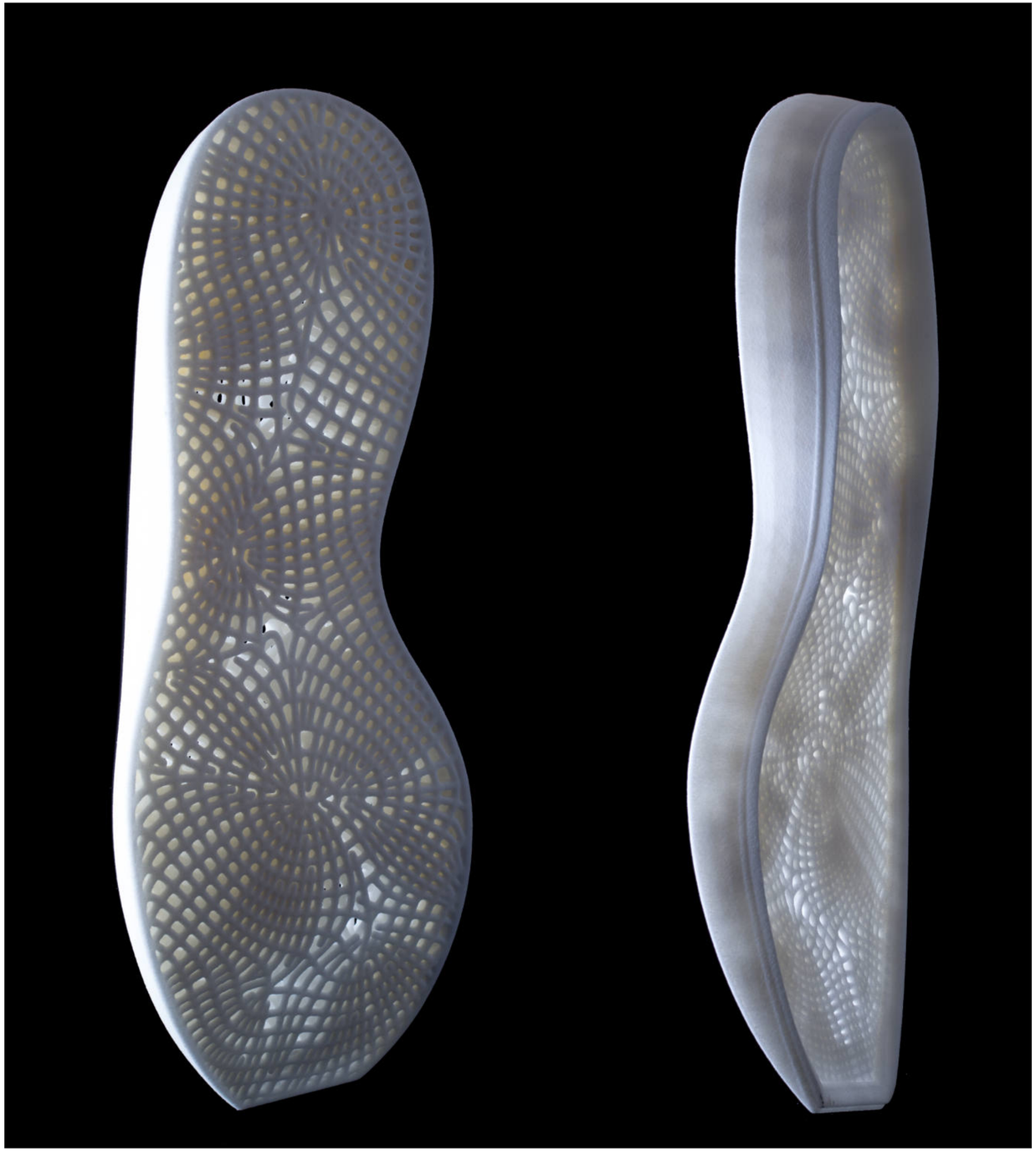


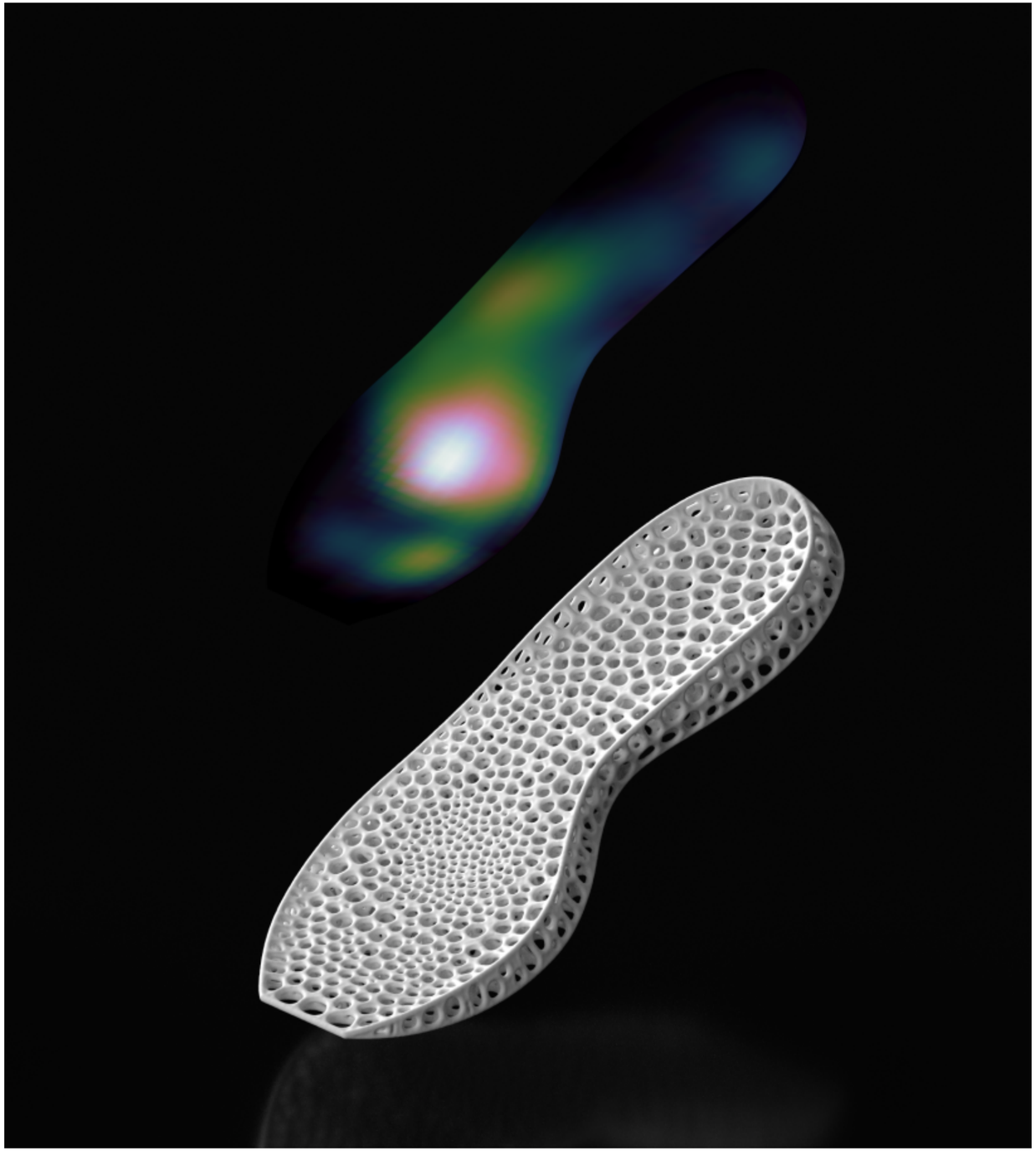
Micoach Smart Ball

Adidas · 2016

Data Midsoles

Nervous System for New Balance · 2016





E-Traces Ballet Slippers

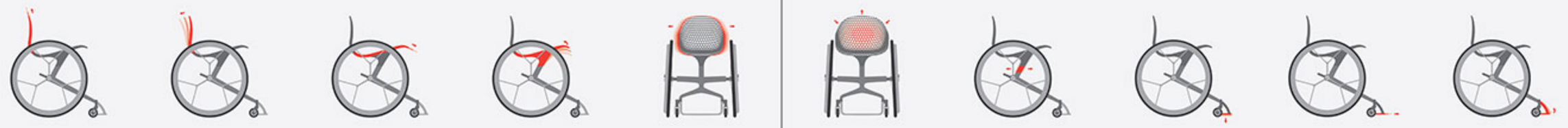
Lesia Trubat · 2014

Go · Data-Driven Wheelchair

Layer Design · 2016

Aspire

YOUR SHAPE



1. BACKREST HEIGHT
2. BACKREST ANGLE
3. SEAT LENGTH
4. SEAT ANGLE
5. SEAT WIDTH
6. SEAT CURVATURE
7. CENTRE OF MASS
8. FOOTREST HEIGHT
9. FOOTREST LENGTH
10. FOOTREST ANGLE

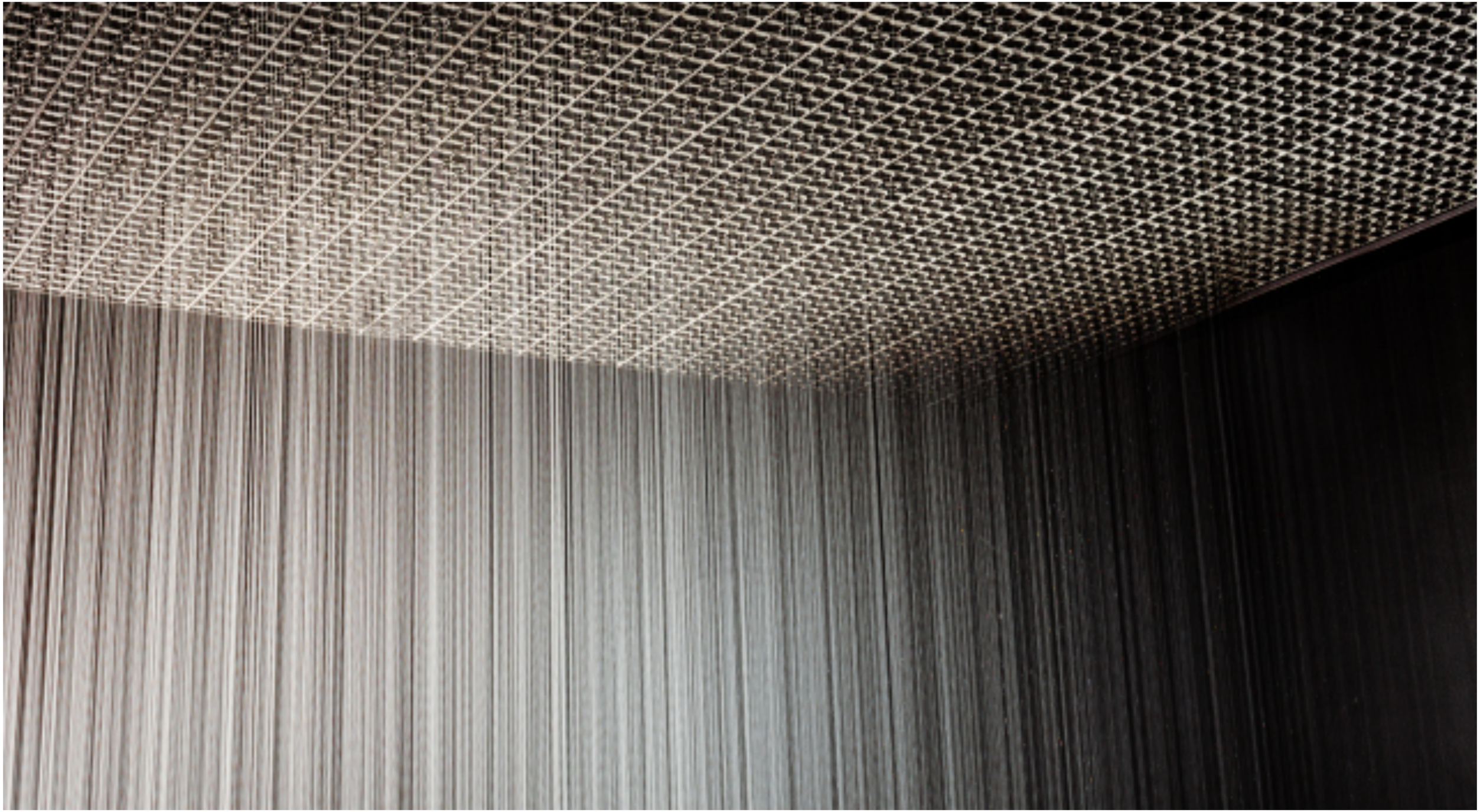
YOUR FEATURES

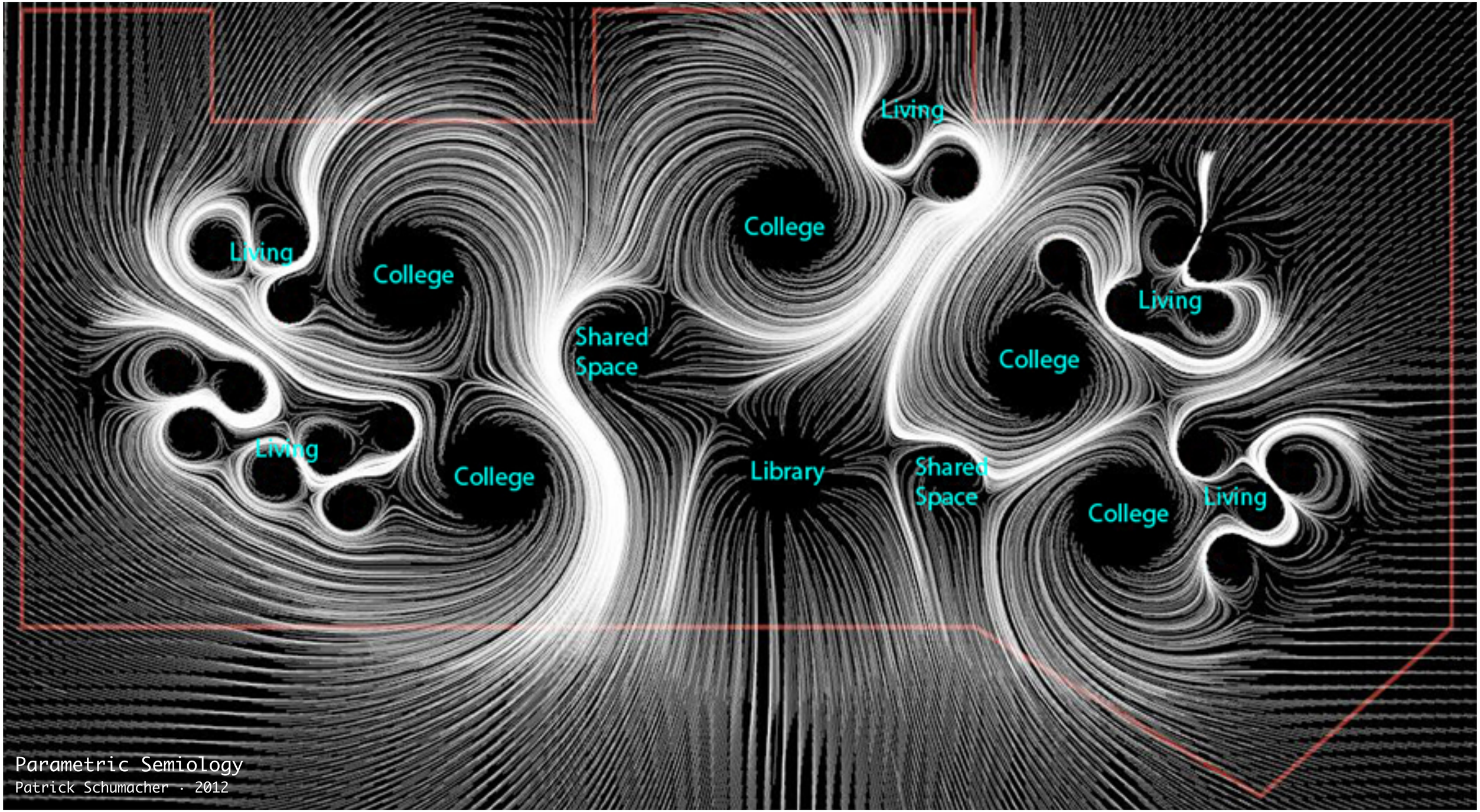
A. PUSH BARS
B. TRANSFER BARS
C. SIDE GUARDS

YOUR STYLE

Rain Room

Random International · 2012 – 2016



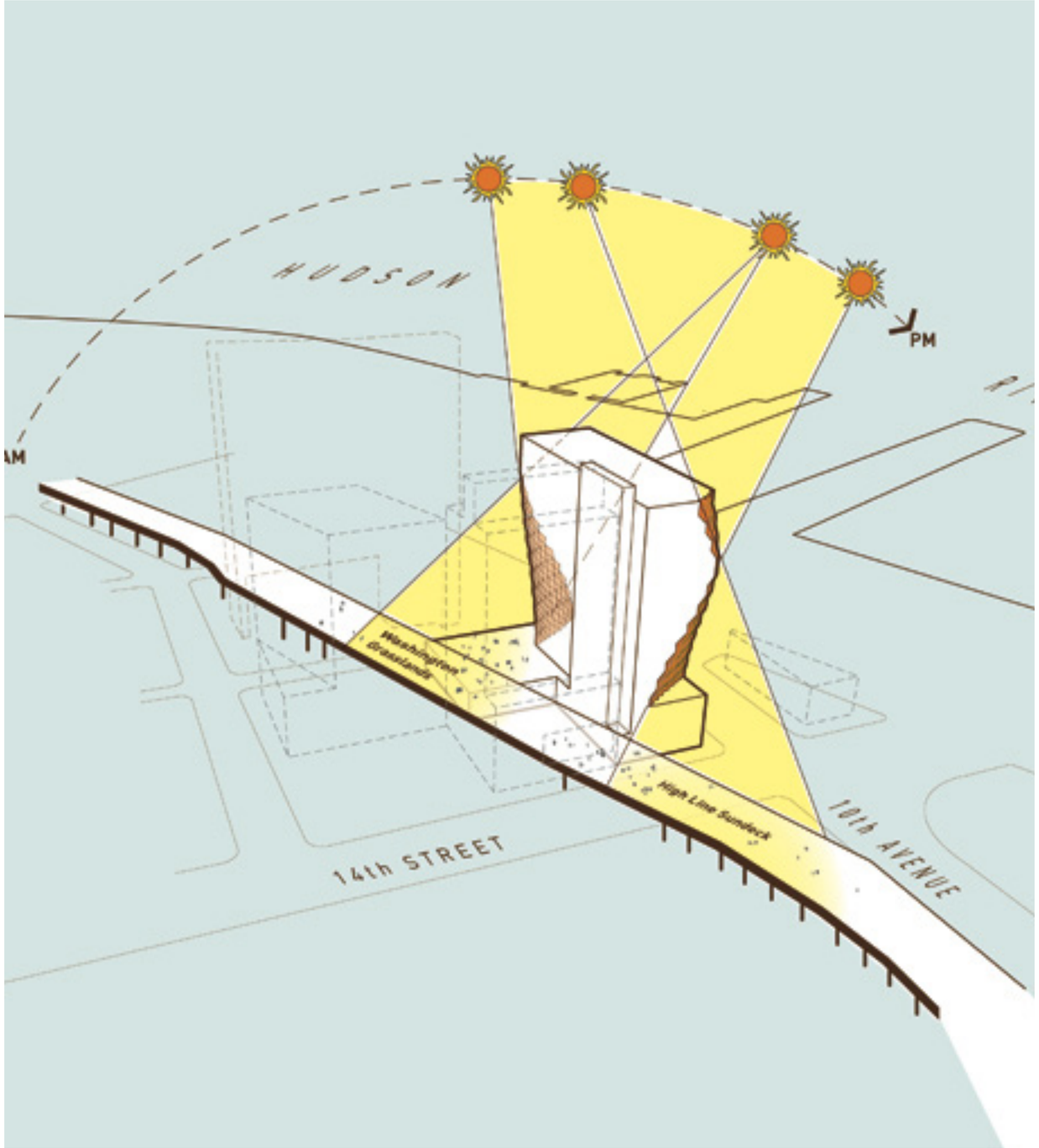


Parametric Semiology

Patrick Schumacher · 2012

Solar Carve Tower

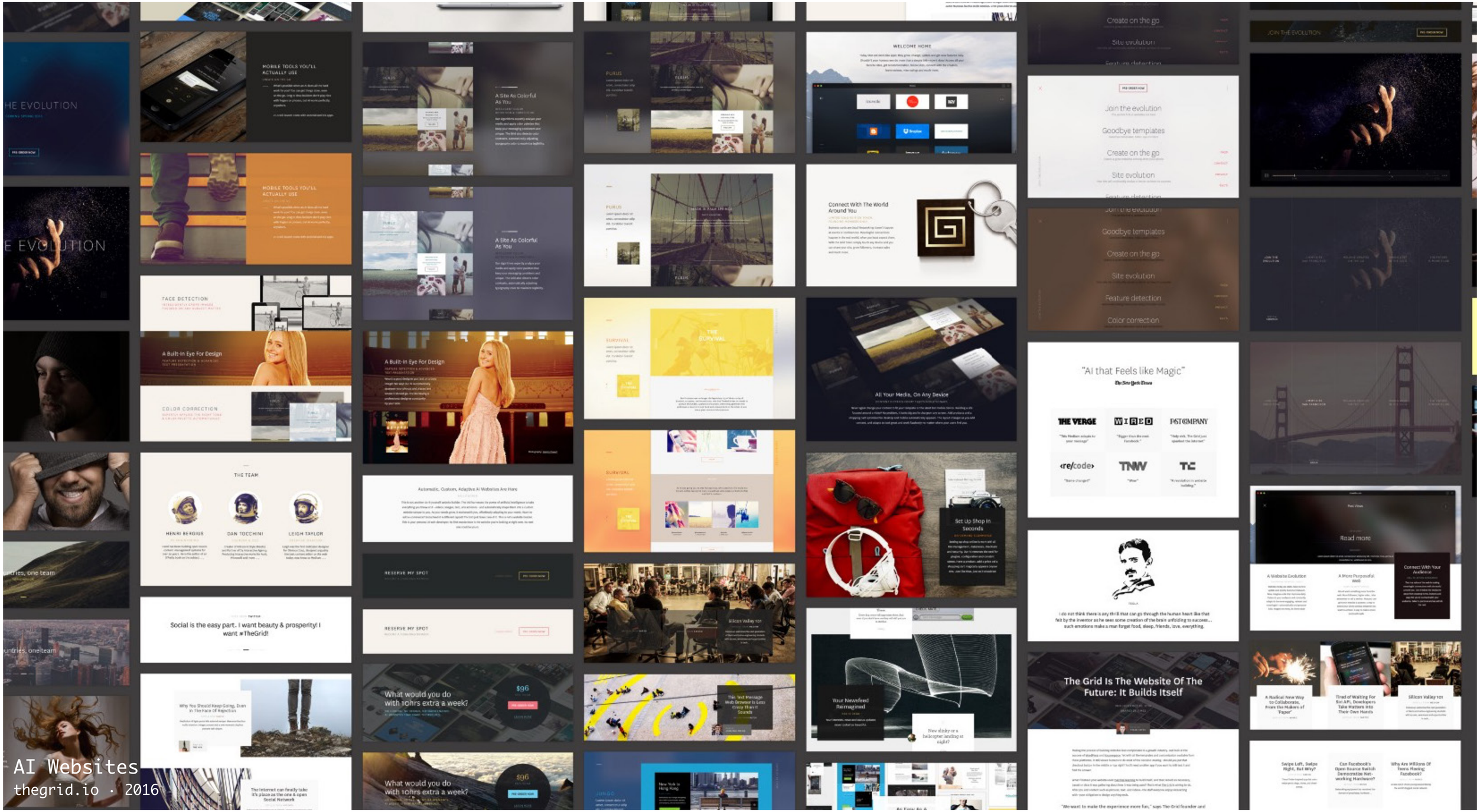
Studio Gang · 2016



Making Visible: Satellite Lamps

Timo Arnall · 2014

{user-submitted} data collection



AI Websites
thegrid.io · 2016

Your address

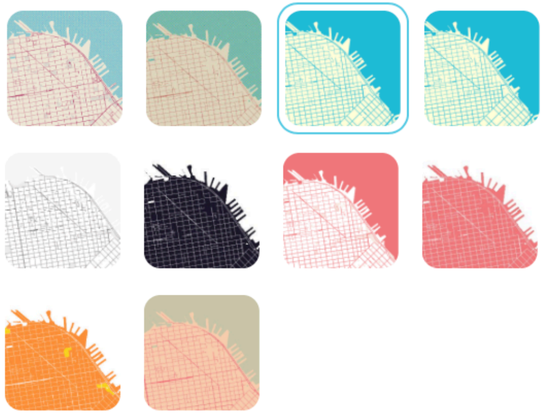
South Loop, Chicago, IL, USA

Your Airbnb listing url (optional)

Airbnb url

Color

Change the color of your map



Style

Change the style of your poster

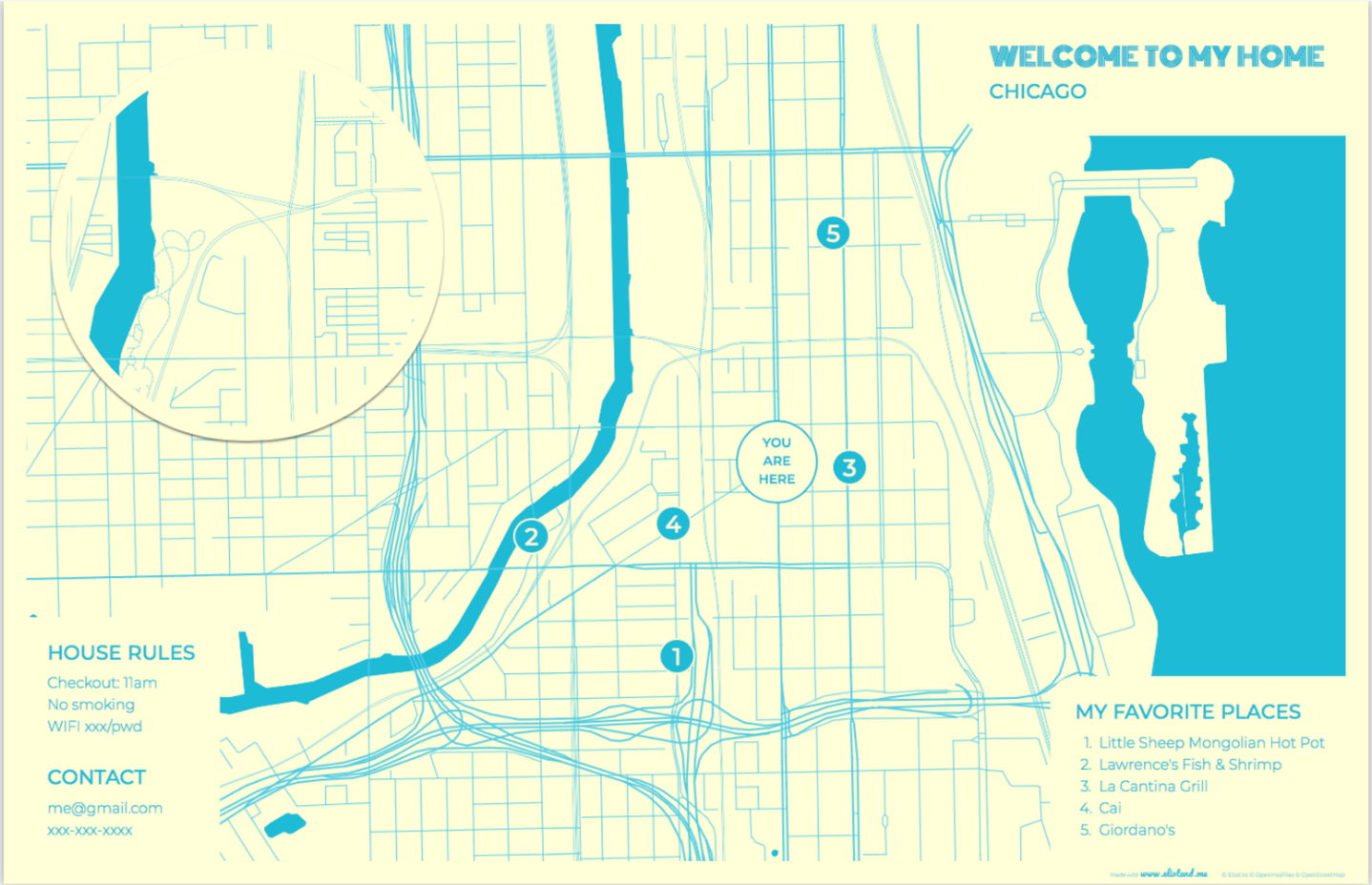
Classic | Disco | Retro | Stars

Size

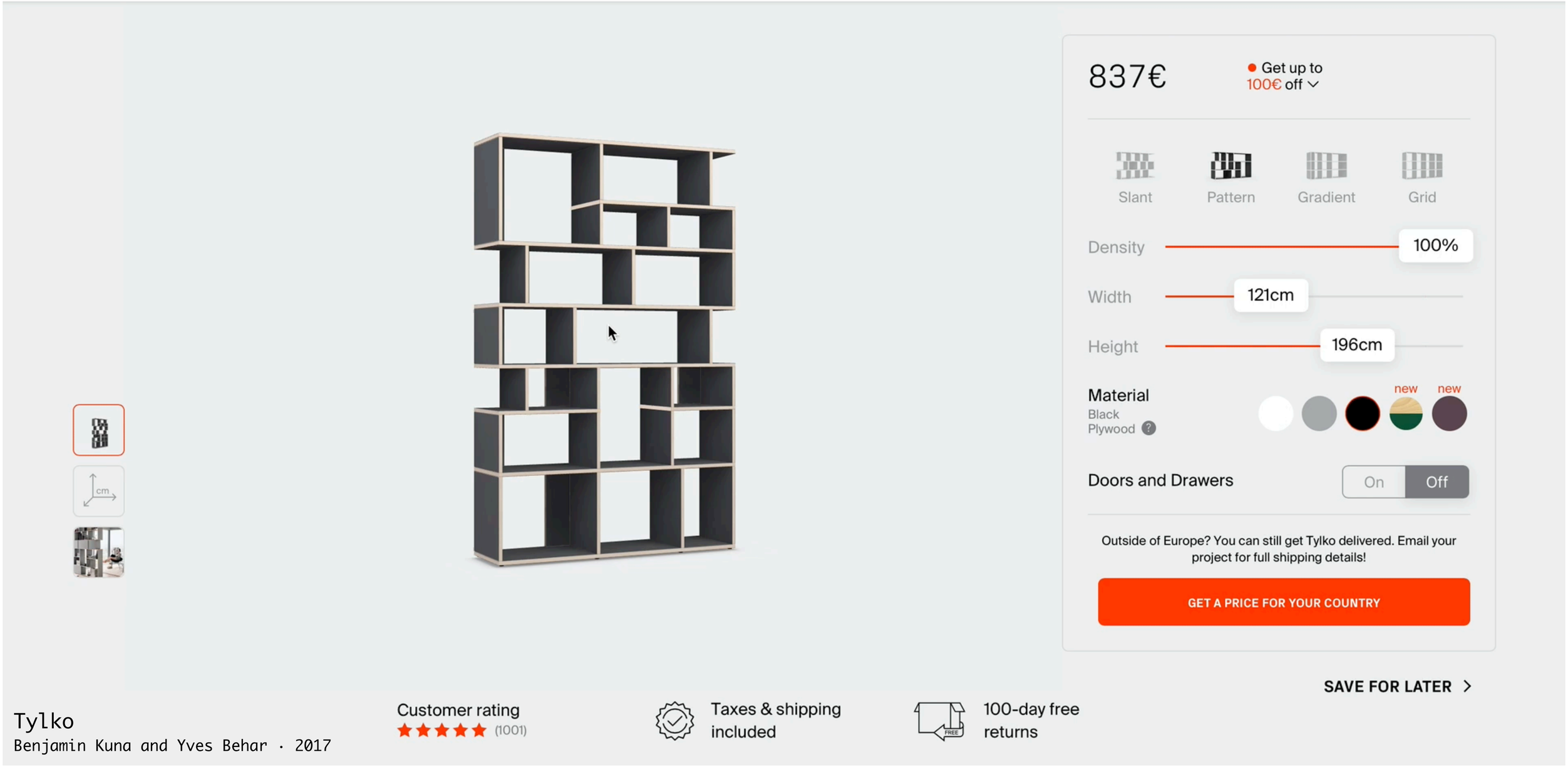
Get a high quality thick poster

8.5"x11" JPEG free | 11"x17" PRINT $35 | 18"x24" PRINT $45

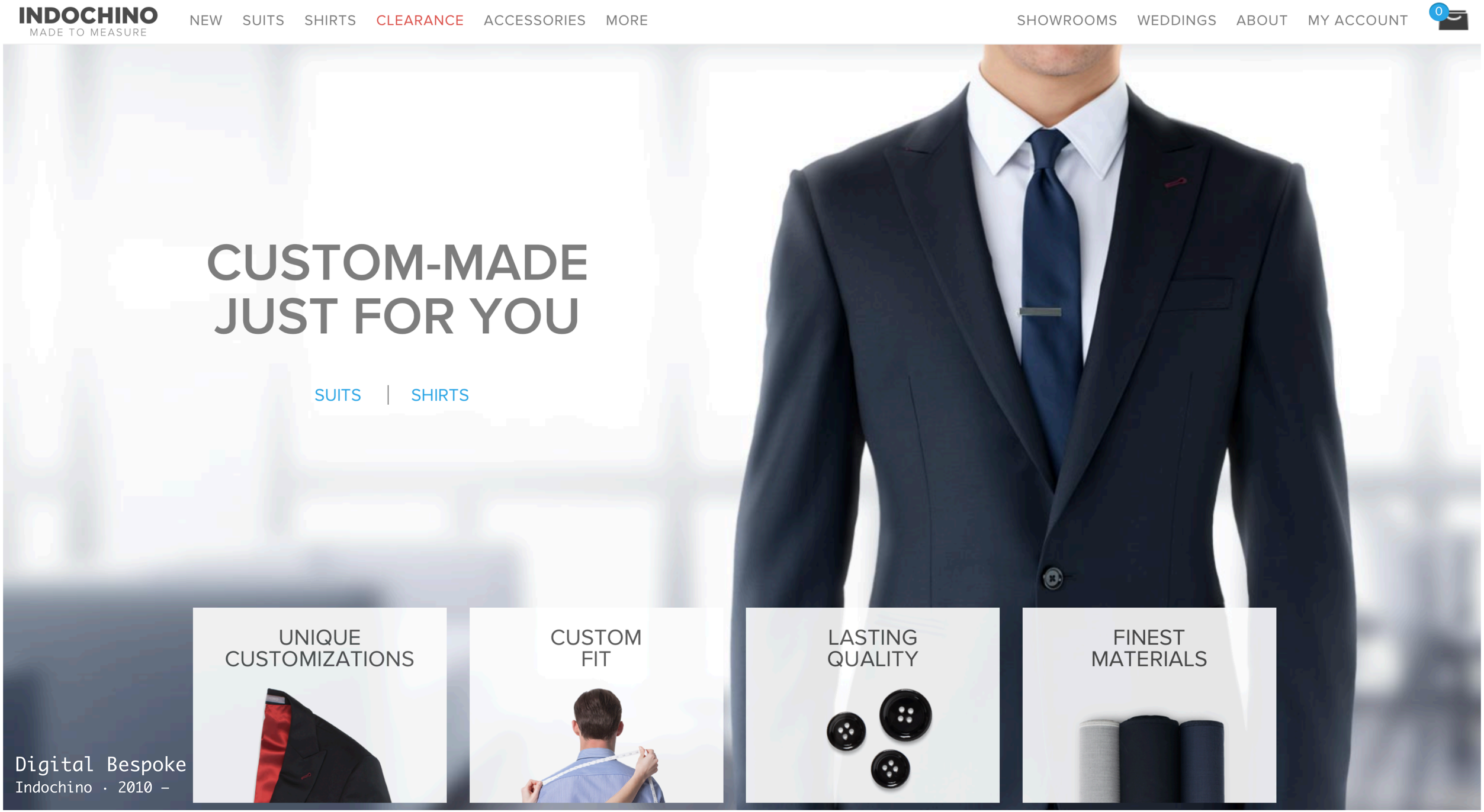
Edit | Preview



Souvenir Art
Eliot&Me · 2017



Tylko
Benjamin Kuna and Yves Behar · 2017



Digital Bespoke
Indochino · 2010 –

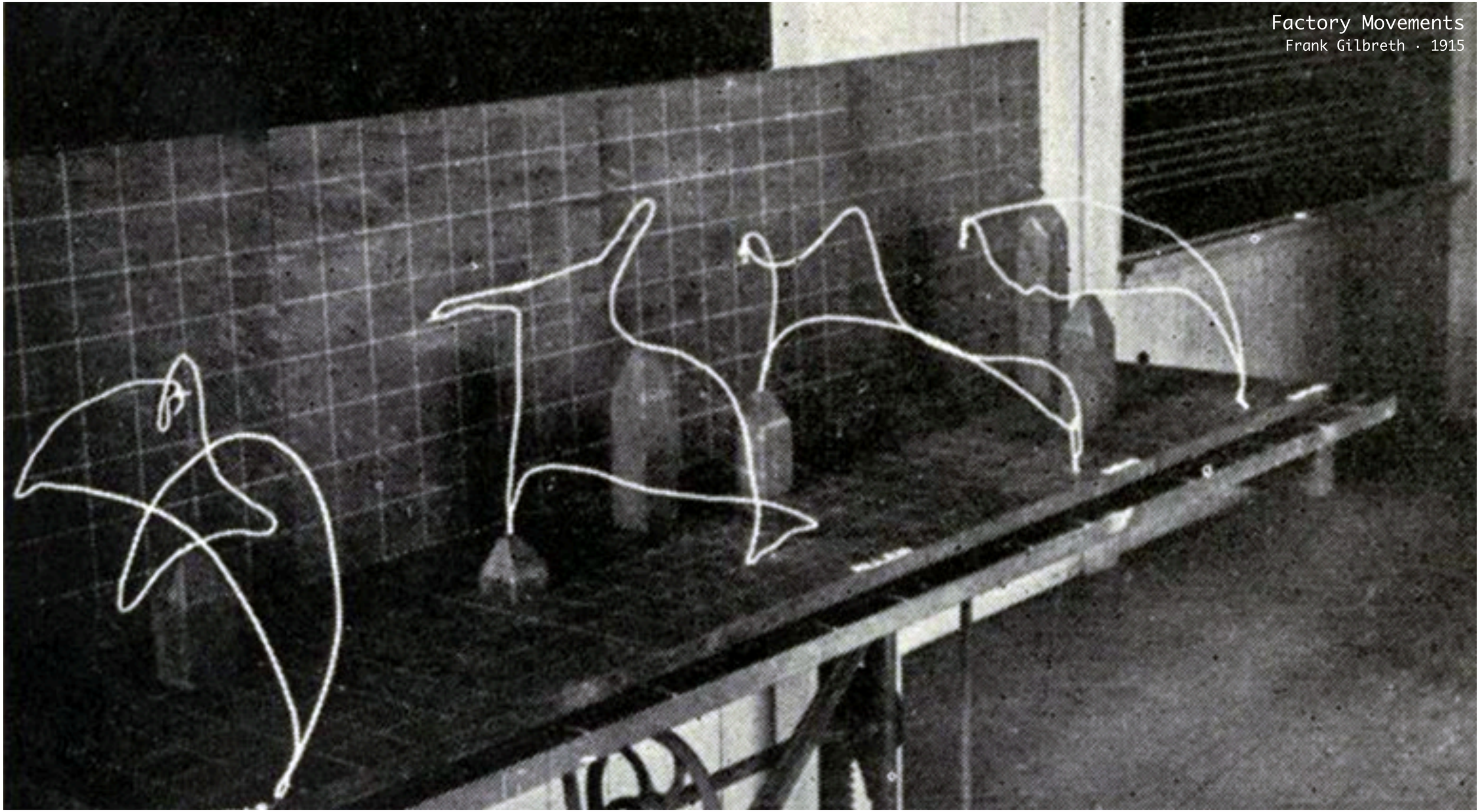
Kinematics

Nervous System · 2013 –

kinematics cloth

{physicalized data}

Inuit Hand Maps
18th Century



Factory Movements
Frank Gilbreth · 1915

Form Follows Data
Iohanna Pani · 2009

Form Follows Data
Iohanna Pani · 2009

Look of Love

Haelo Design + Zach Pino · 2016

Look of Love

Haelo Design + Zach Pino · 2016

Look of Love

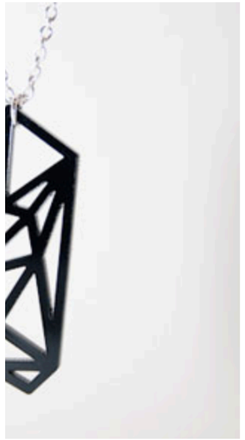
Haelo Design + Zach Pino · 2016

meshu turns your places into beautiful objects

get started

whether it's celebrating a trip or remembering your home,
meshu helps you create mementos from the places that are importar

Data Jewelry
meshu.io · 2014



Trends in Water Use

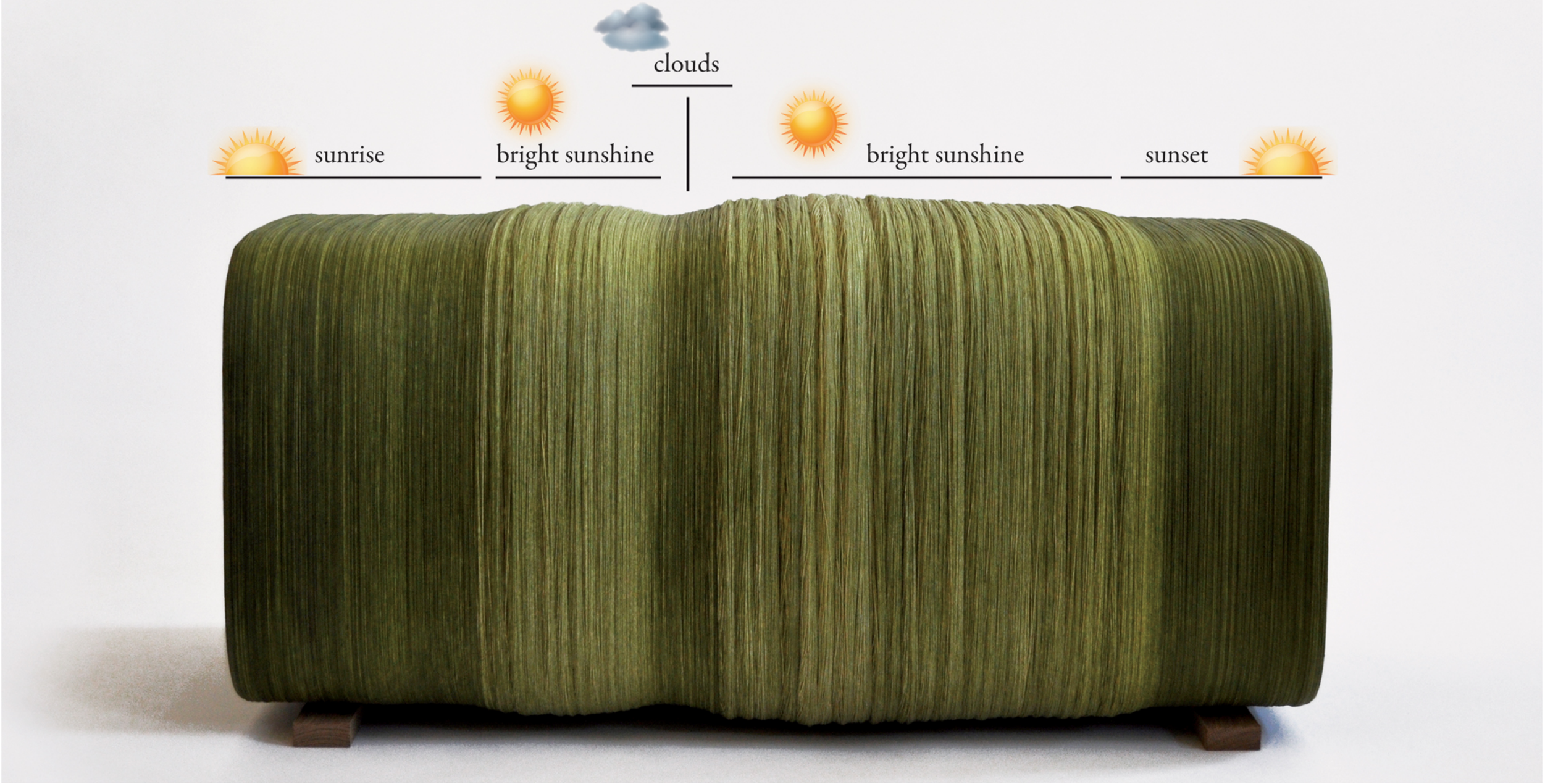
Adrien Segal · 2000

Mollalla Meander
Adrien Segal · 2009

Idea of Tree : Recorder One
Mischer'Traxler · 2014

Idea of Tree · Bench

Mischer'Traxler · 2014



DNA Glass

Suntory · 2016

01

Alcohol Tolerance

↓

Capacity

Glass capacity is adjusted based on the level of tolerance to alcohol.

*Glass capacity is not an indication of a recommended amount of alcoholic consumption.

02

Sensitivity to hops bitterness

↓

Glass rim thickness

Create a thicker rim for those inherently sensitive to bitterness, allowing them to enjoy the natural flavor of beer. Design a thinner rim for those less in tune to bitterness,

03

Sensitivity to malt aroma

↓

Top diameter

Create a wider opening for those with a heightened sense of smell, allowing them to enjoy beer's natural aroma. Design a narrower opening for those with a less re-

04

Stimulation preference

↓

Glass design sharpness

A straightforward and angular design for thrill seekers.
A smooth, curvy shape for easy-going folk.

05

Sociability

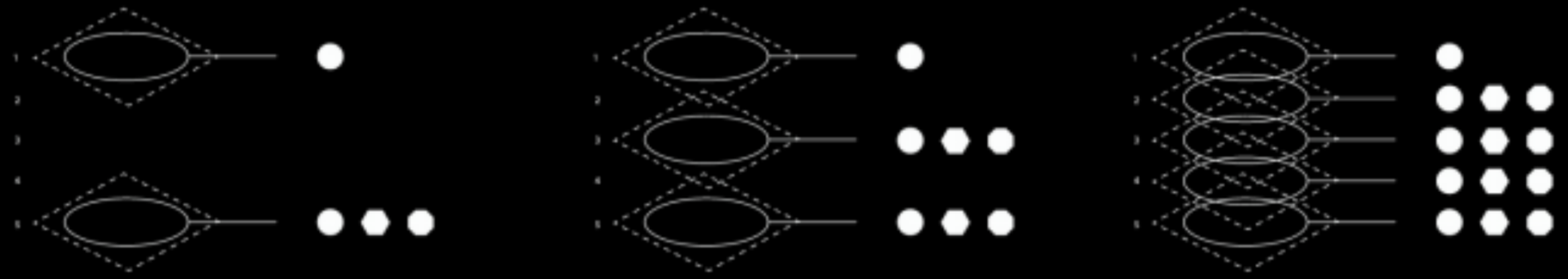
↓

Design complexity

A fun, slightly complicated design for those who enjoy the company of others.
A simpler, rather stanch shape for those who prefer a solitary atmosphere.

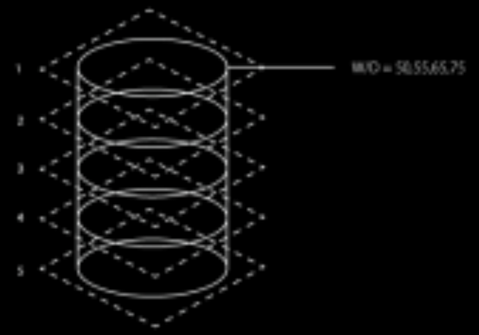
Cross-sectional shape

Dopamine - 11P15.5/636784 ¦ Tenacity - 17P12/14007232 ¦ Resilience to adversity - 6P12/47344162



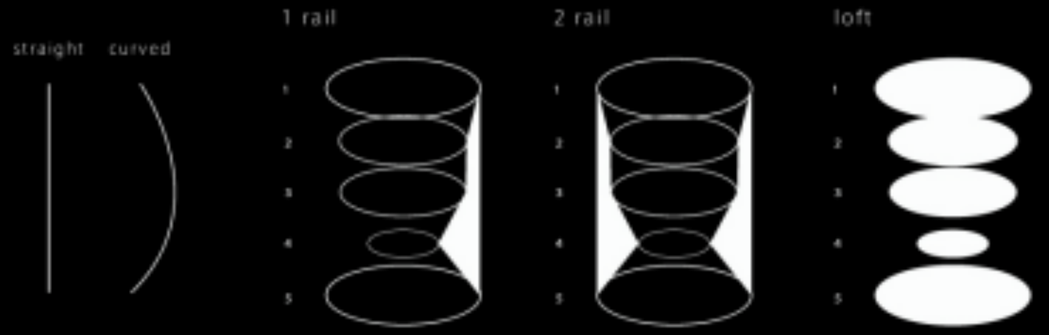
Top diameter

Sensitivity to malt aroma - 2Q37.3/239960704



Sharpness

Stimulation preference - 2P12/80484464



Central axis

Honesty - 18Q21.1/47059049

Rotation

Exercise habits - 10Q23.3/87683553

Quasi Series

Aranda \ Lasch · 2014

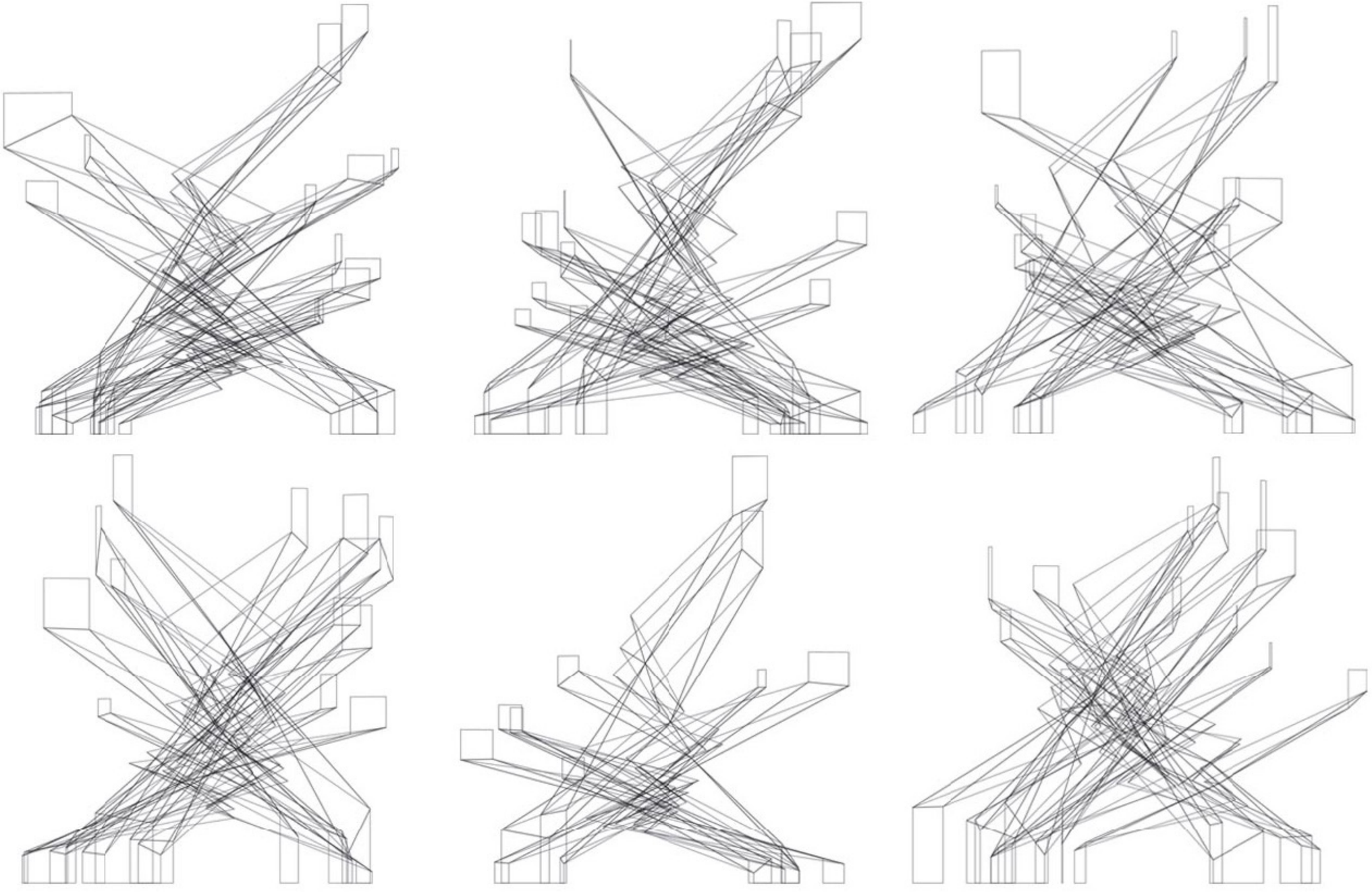
Quasi Series

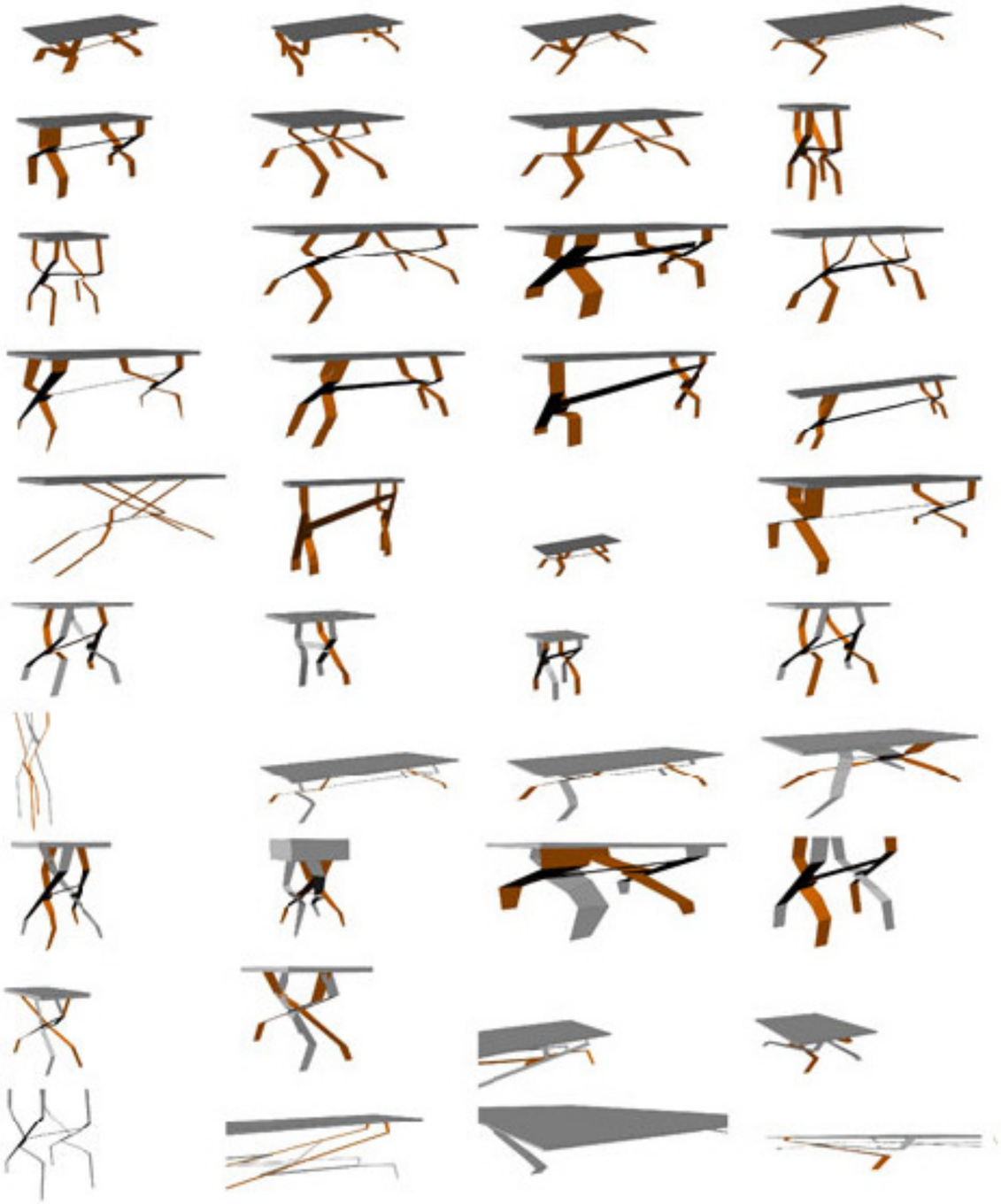
Aranda \ Lasch · 2015

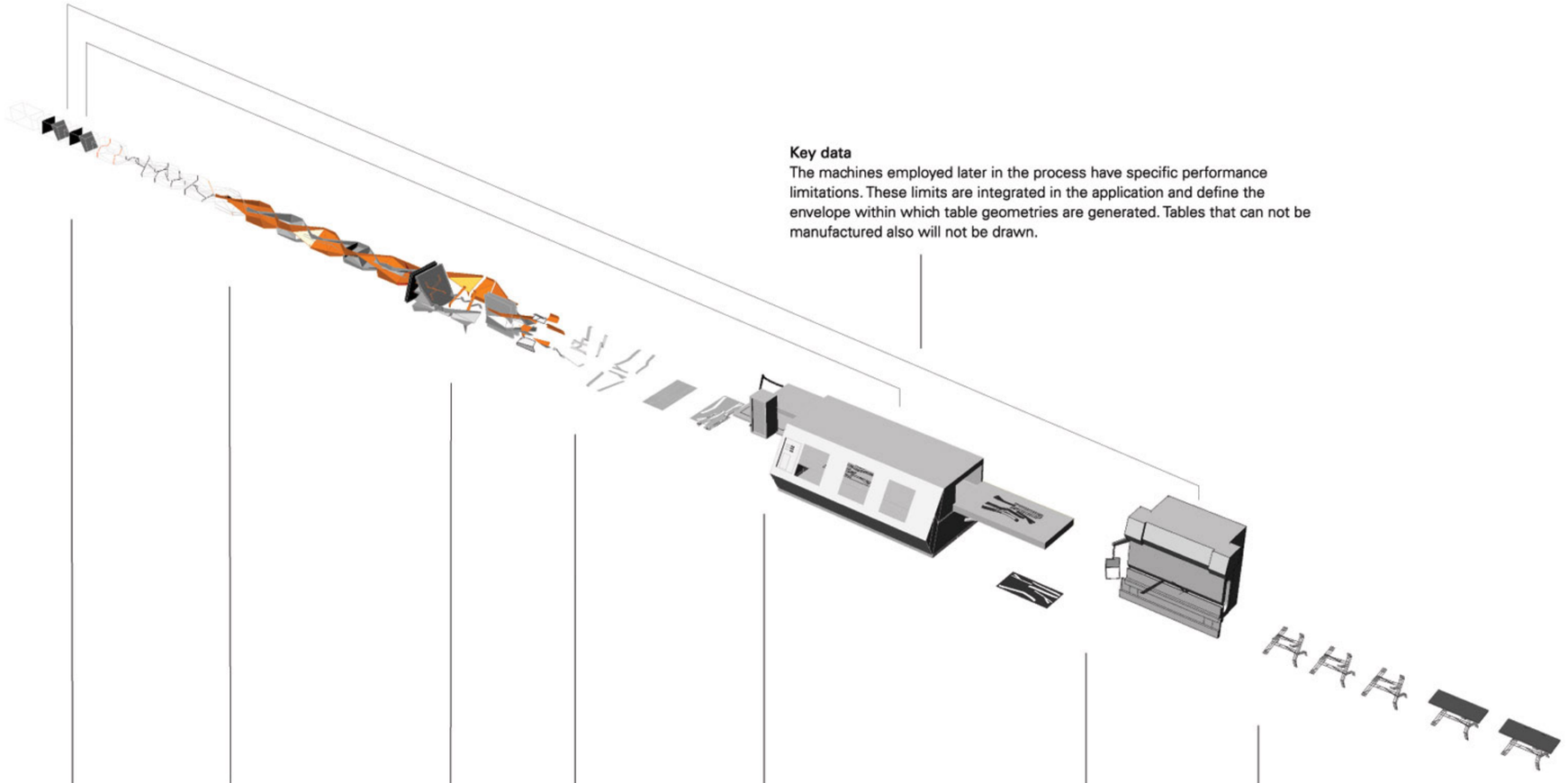
Hyphae Lamps
Nervous System · 2017

Breeding Tables

Kram / Weisshaar · 2010







Key data
The machines employed later in the process have specific performance limitations. These limits are integrated in the application and define the envelope within which table geometries are generated. Tables that can not be manufactured also will not be drawn.

Input
Basic data is input into the applica-tion by the user. Table width, Table height, Table length as well as a set of typology rules are defined.

Algorithm
Within the envelope established, the algorithm continuously generates a series of 2d base geometries each inheriting a set of properties from the mother table.

Construction Surfaces
The basic construction surfaces are generated by triangulating the base geometry created by the algorithm in the previous step.

Structure Extraction
The table structure is extracted using angled cutting planes. A 3-dimensional model of the table is now available

Unfolding
After computational testing, if the table is deemed suitable for production, the program unfolds the table legs flat. These flat geometries then make up the cutting pattern for a given table structure.

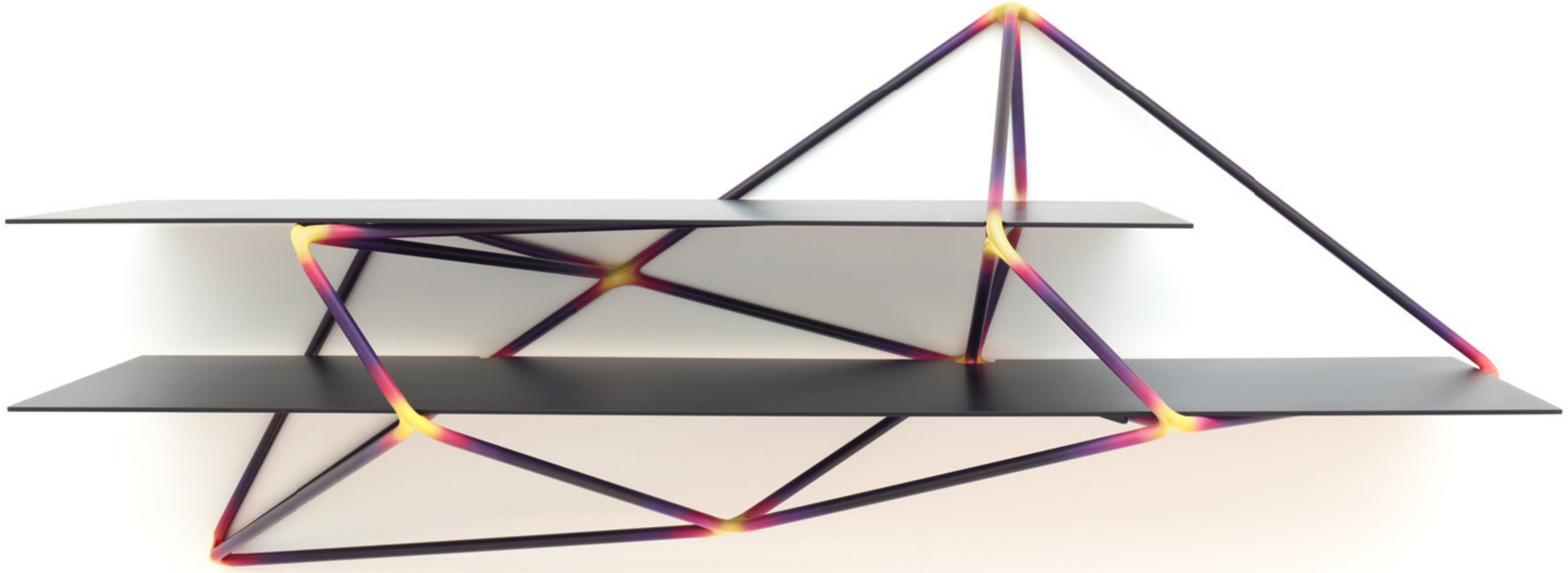
Laser Cutting
The leg cutting pattern is then transferred into the laser cutting machine where it cuts the sheet steel. Each leg is cut individually, with the bend and joint information for putting the table together engraved on the table leg itself.

Bending
The cut flat leg is then moved to the bending machine. The bending machine technician follows the directions on the table leg, turning each bend in the table leg the specified number of degrees.

Table Structure
Once the table legs are bent, the final stages of the table construction involve joining the table legs together, painting them, and attaching the table top.

Complete Table

DIGITAL PHYSICAL



contemporary product design

<3

data visualization

After spending more than six hours drawing this hyper-detailed card, Giorgia texted Stefanie as she posted it:
"You need to know that if this one doesn't get to you I won't redraw it. You'll see what I mean."

Unfortunately, while Giorgia's postcard arrived, Stefanie's postcard didn't, so she had to draw hers again
(luckily it wasn't as detailed, but it was still supremely annoying).

Dear Data

Giorgia Lupi and Stefanie Posavec · 2014

Paul Heinicker
Good Night SMS · 2015

let’s do an exercise!