

Design Thinking Through New Metaphors

Dan Lockton, PhD
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imaginaries lab
Carnegie Mellon



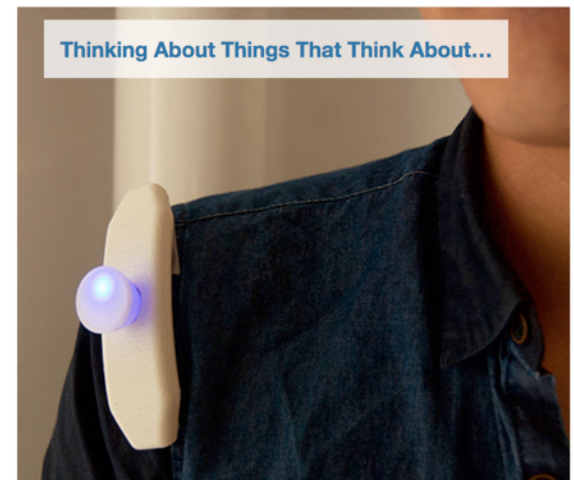
FOR THE SAKE OF MANKIND IN ITS UPWARD STRUGGLES - TO ENNOBLE

imaginaries lab

Carnegie Mellon

We're using design methods to explore and support people's imagining—both new ways to understand, and new ways to live. →

imaginari.es





Who we are

Current Imaginaries Lab team



Ashlesha Dhoty, Research Assistant 2017-



Silvia Mata-Marin, Doctoral Researcher 2017-



Shengzhi Wu, Research Assistant 2017-



Matt Prindible, Research Assistant 2017-



Delanie Ricketts, Research Assistant 2016-17



Theora Kvitka, Research Assistant 2017



Nehal Vora, Research Assistant & Teaching Assistant, 2017



Sarah Foley, Design Researcher Summer 2017

Imaginaries Lab alumnae and alumni



Devika Singh, Research Assistant 2017-



Dan Lockton, Assistant Professor 2017-



Bella, Friend of the Lab



Bella, Friend of the Lab



Ty Yan de Zande, Undergraduate Research Fellow Summer 2017

imaginaries

**‘If [people] define
situations as real,
they are real in their
consequences’**

**William Thomas & Dorothy Swaine Thomas
The Child In America, 1928**

mental models

heuristics

folk theories

user stories

simple cause & effect links

metaphors

people often act
on imaginaries

people often act
on their model of
the situation

people often act
on their model of
the situation

(designers know this)

Two Theories of Home Heat Control*

WILLETT KEMPTON

Michigan State University

People routinely develop their own theories to explain the world around them. These theories can be useful even when they contradict conventional technical wisdom. Based on in-depth interviews about home heating and thermostat setting behavior, the present study presents two theories people use to understand and adjust their thermostats. The two theories are here called the feedback theory and the valve theory. The valve theory is inconsistent with engineering knowledge, but is estimated to be held by 25% to 50% of Americans. Predictions of each of the theories are compared with the operations normally performed in home heat control. This comparison suggests that the valve theory may be highly functional in normal day-to-day use. Further data is needed on the ways this theory guides behavior in natural environments.

Human beings strive to connect related phenomena and make sense of the world. In so doing, they create what I would call folk theory. The word "folk" signifies both that these theories are shared by a social group, and that they are acquired from everyday experience or social interaction. To call it "theory" is to assert that it uses abstractions, which apply to many analogous situations, enable predictions, and guide behavior. I would con-

* This paper will also appear as a chapter in *Cultural Model in Language and Thought*, N. Quinn and D. Holland (Eds.), Cambridge University Press, 1985. Copyright for this paper is held by Cambridge University Press.

Operating instructions

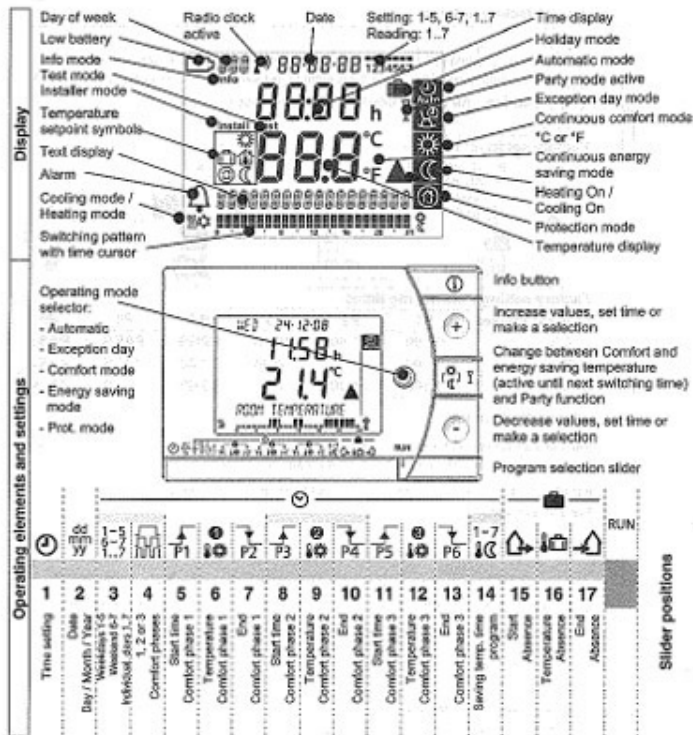
REV24RF.. - 7-day radio room temperature controller for the right temperature at the right time. All factory settings already provide optimal living comfort. You can easily adjust the controller to your needs with the user-assisted clear-text display and program selection slider.

REV24RF.. (controller with radio transmitter) is a wireless device that you can mount on the wall or place freely on a base in the room.

Its radio frequency 868 MHz is largely immune to external disturbances. The signal level meets regulations and is kept as low as possible. The devices are approved for all EU member states, Iceland, Norway, and Switzerland.

Note the following for placing the devices:

- Make sure no other influencing factors influence the controller's temperature sensor (no solar radiation and other heat or cold source influences).
- The distance between controller and receiver may not exceed 20 m or 2 floors.
- Do not place near metallic items or electrical devices, etc.



If the selected operating mode does not support the setting, the time display shows PASS.

Special symbols displayed

The controller display can show the following special symbols:

Is symbol displayed ?

The alarm indicates an error!

Press the Info button and check the error message (e.g. radio clock signal, radio connection to receiver, etc.). Contact a specialist as needed.

Is symbol or displayed ?

The controller is in 'heating mode' or 'cooling mode' .

REV24RF..

RCR10/868

Is a rolling triangle symbol displayed ?

The controller sends

Is symbol displayed ?

This symbol tells you that you must insert new alkaline batteries.

Remove the controller from the mounting base; remove the old batteries; insert the new batteries.

Caution: Time and date are reset to factory settings.

Dispose of the batteries as per local regulations.

Is symbol displayed ?

The radio clock symbol only appears if the controller receives a time signal from Franke (Garmin). The symbol flashes if the signal is weak.

Commission receiver RCR11

The factory setting is 'Auto'. After commissioning, the relay turns off a receipt of the last ok.

Press the override button for ca. 15 s. The relay turns off a receipt of the last ok.

Receiver and control 'LEARN' for ca. 4 s. The relay turns off a receipt of the last ok.

LED_1 LED_3

Max 15 receivers can be commissioned.

Commission the controller

The controller contains a factory setting. Proceed as follows for initial commissioning:

Remove the controller from the mounting base; remove the 2 batteries; insert the controller in the mounting base.

After startup, a welcome message is displayed. Press or to interrupt the message.

setting). Press or to move the slider to accept your setting.

Slider in position 1 (time setting). Note: No entry if there is a program.

Slider in position 2 (date setting). Note: No entry if there is a program.

Slider in position 3 (date setting). Note: No entry if there is a program.

Slider in position 4 (date setting). Note: No entry if there is a program.

Slider in position 5 (date setting). Note: No entry if there is a program.

Slider in position 6 (date setting). Note: No entry if there is a program.

Slider in position 7 (date setting). Note: No entry if there is a program.

Slider in position 8 (date setting). Note: No entry if there is a program.

Slider in position 9 (date setting). Note: No entry if there is a program.

Slider in position 10 (date setting). Note: No entry if there is a program.

Slider in position 11 (date setting). Note: No entry if there is a program.

Slider in position 12 (date setting). Note: No entry if there is a program.

Slider in position 13 (date setting). Note: No entry if there is a program.



artificial intelligence

automation

**algorithmic decision-
making**

personal data and privacy

social media

'the Internet'

**public health
climate change
resources
social equity
the law
the government
the economy
quality of life**

Mission statement

How we imagine affects how we understand the world, how we live, and what we see as possible in our collective futures, with consequences for sustainability, society, our relationships with technology, and our everyday lives.

At the Imaginaries Lab, we believe that humanity needs **tools to enable new ways of understanding and imagining**, and **new ways to live**, that **provide more equitable socially and environmentally sustainable futures**. We are creating those tools through developing creative research methods, adapted from those used in design practice, and exploring their use in a variety of cross-disciplinary contexts. We do research, and we teach others how to do research, **using design as a form of inquiry**.

using design methods to
understand
how people
understand

using design methods to
help people
understand
in new ways

using design methods to
help people
imagine new
ways of living

How do people understand local government?



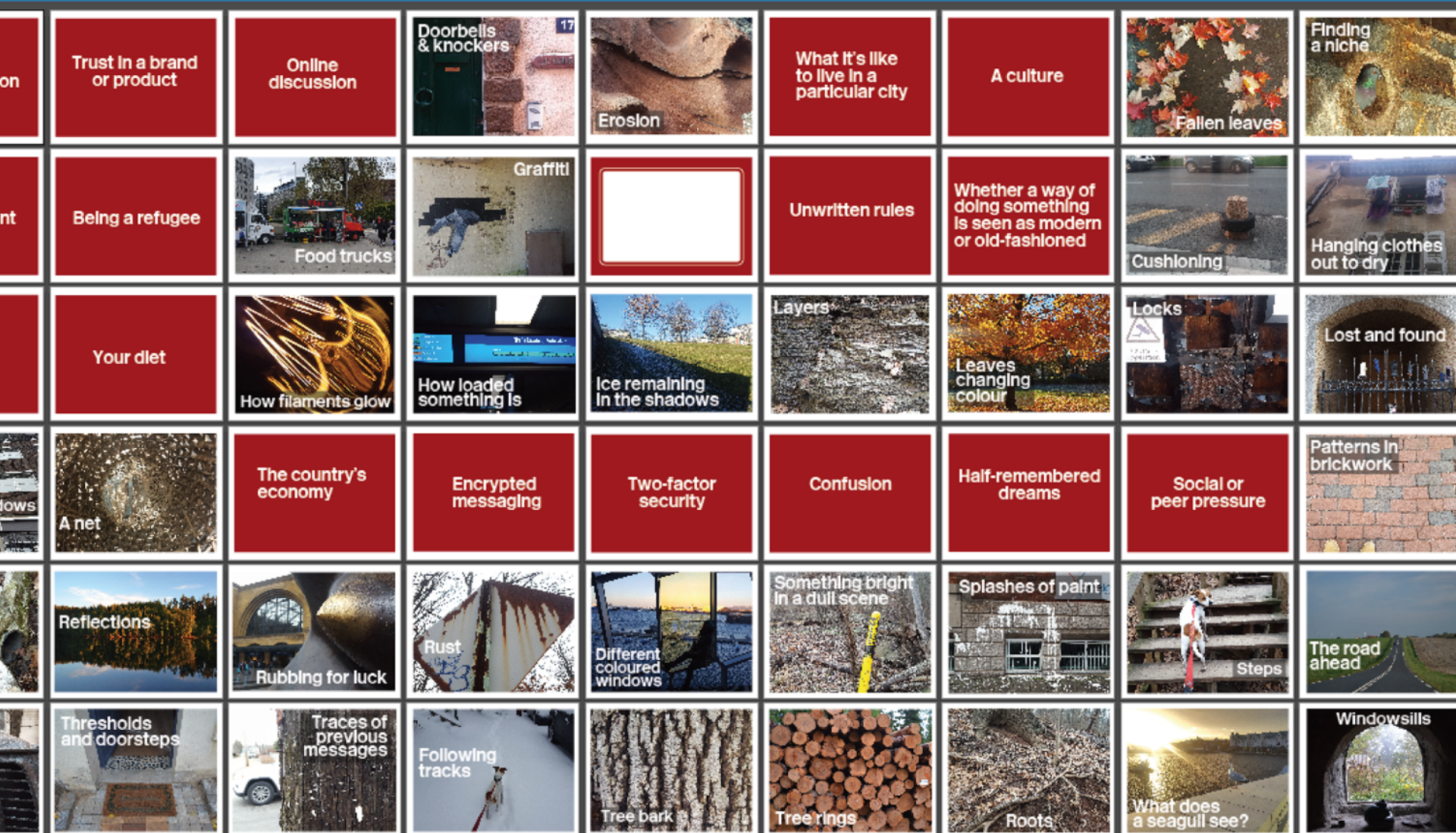
If you could hear electricity, would you understand it differently?

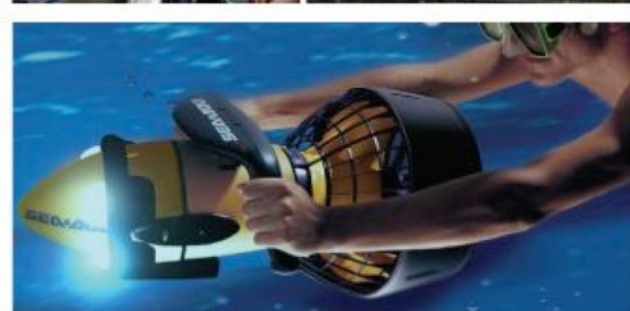
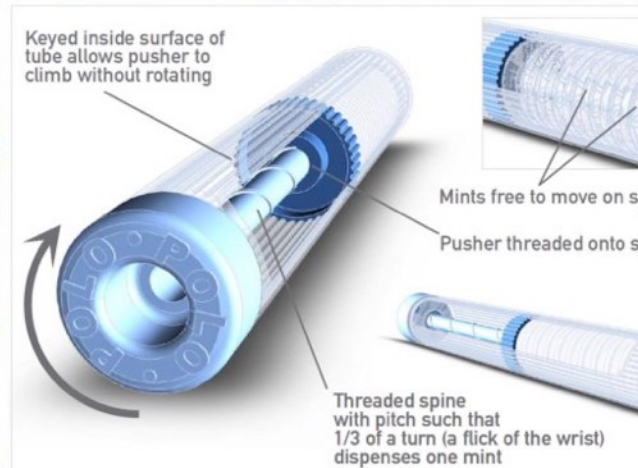
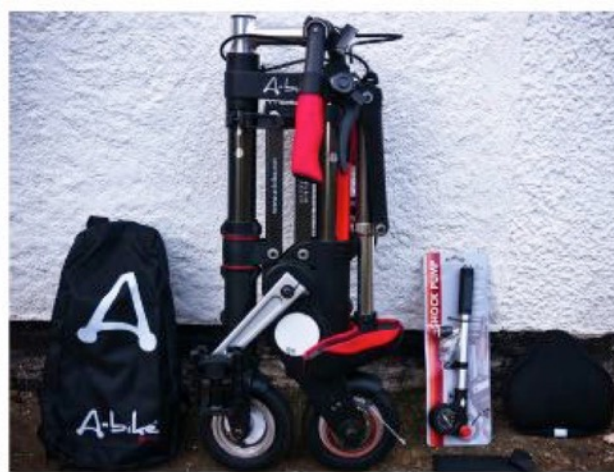


Can you use model landscapes to explore how you think about your own life?



Can we create new metaphors to help us understand complex ideas?







**Judge Institute,
University of Cambridge**

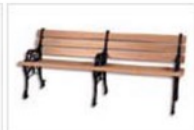
DAN LOCKTON || REBEL WITHOUT APPLAUSE | LIGHTWEIGHT TRANSPORT DESIGN | GRAFSPRAY



Welcome : About this site

[Send an example](#) (or picture) or add a comment

Increasingly, many products are being designed with features that intentionally **restrict** the way the user can behave, or **enforce** certain modes of behaviour. The same intentions are also evident in the design of many systems and environments.



How products increasingly control and restrict your behaviour

HOME

[Architectures of Control Blog](#)
[Welcome: About this site](#)

INTRODUCTION

[What are architectures of control in design?](#)

THE RANGE OF ARCHITECTURES OF CONTROL

[The built environment](#)
[The digital environment](#)

Design for behavior change

Behavioral Design

Persuasive technology

Design for sustainable behavior



Brunel
UNIVERSITY

Lecture Centre

Many different areas (and traditions) of psychology
Sociology, science & technology studies
Ethnography, cognitive anthropology
Architectural theory
Human-computer interaction
Ergonomics and human factors
Decision science, behavioural economics
Cybernetics











Behaviour decomposition

Entrepreneur Lens
Action Planning

Entrepreneur Lens
Action Planning

Entrepreneur Lens
Action Planning

Entrepreneur Lens
Action Planning

Your Schedule tool



This image is a dense grid of 48 small cards, each representing a different concept in behavioral psychology and user experience design. Each card contains a title, a brief explanation of the concept, a small image or screenshot related to the concept, and a list of key points or examples. The cards are arranged in a grid that is roughly 6 columns wide and 8 rows high. The concepts include:

- Symmetry:** Discusses how symmetry or asymmetry affects focus and attention.
- Bundling:** Explores how bundling items can influence user behavior.
- Challenges & targets:** Examines how challenges and targets can motivate users.
- Choice editing:** Looks at how choices are presented to users.
- Coercive atmospherics:** Discusses how ambient sensory effects can influence behavior.
- Collections:** Explores how collections of items can be used to encourage user engagement.
- Colour associations:** Examines how color can be used to suggest associations.
- Conditional warnings:** Discusses how warnings can be made conditional.
- Converging & diverging:** Looks at how paths can be designed to converge or diverge.
- Decoys:** Explores how decoy options can be used to influence choice.
- Feedback through form:** Discusses how the form of an object or interface can provide feedback.
- Kairos:** Examines how timing can be used to influence behavior.
- Leave gaps to fill:** Discusses how gaps in a design can be used to engage users.
- Matched affordances:** Looks at how products can be designed to match user expectations.
- Mazes:** Explores how mazes can be used to guide user behavior.
- Mimicry & mirroring:** Discusses how mirroring can be used to influence behavior.
- Personality:** Examines how personality can be used to engage users.
- Poison pill:** Discusses how a less attractive option can be used to deter users.
- Positioning:** Looks at how things can be rearranged to influence user behavior.
- Progress bar:** Explores how progress bars can be used to motivate users.
- Sousveillance:** Discusses how users can be encouraged to monitor others.
- Social proof:** Examines how social proof can be used to influence behavior.
- Summary feedback:** Discusses how summary feedback can be used to encourage users.
- Transparency:** Looks at how transparency can be used to influence behavior.
- Unpredictable reinforcement:** Explores how unpredictable rewards can be used to influence behavior.
- Worry resolution:** Discusses how users can be helped to overcome worry.



designwithintent.co.uk

Design with Intent toolkit

A cross-disciplinary design pattern library for behaviour change with products, services and environments; developed through workshops with industry and academia



Design with Intent
101 patterns for influencing behaviour through design

1-0

Atmosfera
Onde
Obsolescência funcional
Diversidade
Reciprocidade

Proeminência

Ângulos

Você pode
usuários
que rece
favor (p
ou por
usuário
querer

Estes ca
'grátis'
buição
pessoal

O b
com
No t
para

1.0

Design com Intento

101 padrões para influenciar
comportamentos através do design

Dan Lockton
com
David Harrison
& Neville A. Stanton
Tradução: Luis Oliveira



energy use and sustainability



Royal College of Art, London



THE HELEN HAMLYN CENTRE FOR DESIGN



IN THIS SECTION ^

- About
- Research Projects
- Research Spaces
- Student Programme
- PhD Programme
- Knowledge Exchange
- External Education

SEE ALSO

Executive Education: Masterclasses & Workshops

The Helen Hamlyn Centre for Design at the Royal College of Art undertakes design research and projects with industry that will contribute to improving people's lives

Helen Hamlyn Centre for Design

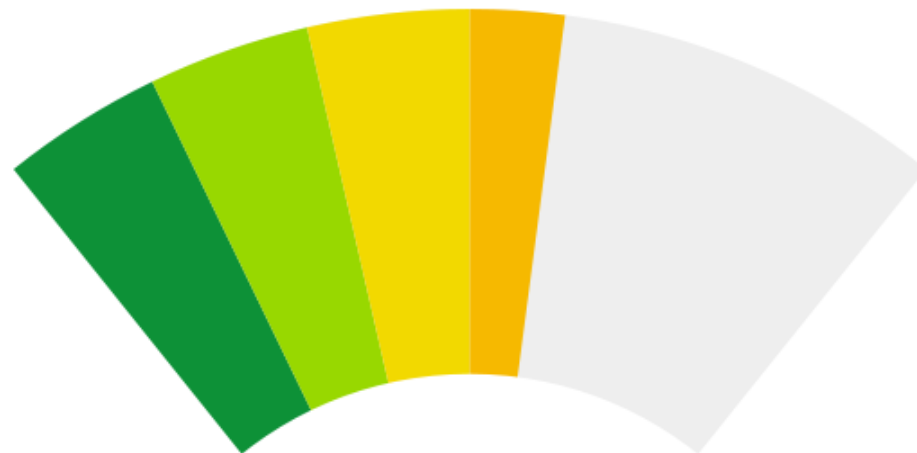




ivered cash

nt Efficiency

Real time energy use



165 kg CO₂
per hour

[See more on CarbonCulture](#)

[Submit feedback](#)

www.carbonculture.net

CARB N CULTURE dashboard prizes blog help logout

Hi Alice. You work at DECC and are a **Newbie**. You have not yet yet to play an App. You have earned yet reserved a prize. You have saved 0kg of CO₂.

Hello Alice

50 points
0 streak

Apps

Feedbacks OK Commuter

Prizes

Win points and swap them for great prizes!

Blog

New post: Night Pumping

Members

defra

Whitehall Place

Find out how much energy the DECC offices use

View Feedback's Get us when you think about CarbonCulture

Invite a colleague Invite CarbonCulture to your office

www.carbonculture.net

CARBON CULTURE

Scrunch starts at 6:30pm in area 5B
Go home on time or come along to Scrunch and we'll reward you. You don't get points for playing at your desk late.

Home Check in

Your September 2011 Scrunches

Mo	Tu	We	Th	Fr
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
1	2	3	4	5
6	7	8	9	10

Feedbacks Give feedback about Scrunches Learn more about Scrunches

CarbonCulture is a New Association project

www.carbonculture.net

CARBON CULTURE

Feedbacks Give feedback about Feedbacks Learn more about Feedbacks

Foodprints Eating healthy, saving carbon

Everyday lunches Whenever you eat your lunch, reward your choices. Here is your guide and how much of your personal Foodprints.

What kind of lunch did you have today?

Lunch History

This week: 111 mg 24 mg

Completed goals

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Feedbacks Give feedback about Feedbacks Learn more about Feedbacks

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CARBON CULTURE

OK Commuter Give feedback about OK Commuter Learn more about OK Commuter

Today I travelled by... and it was

Today's Commuters

Your September 2011 Commutes

Mo	Tu	We	Th	Fr
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
1	2	3	4	5
6	7	8	9	10

Feedbacks Give feedback about OK Commuter Learn more about OK Commuter

CarbonCulture is a New Association project

This app is provided by ENERGY CLIMATE CHANGE

About this building

Tate Modern is the home of Tate's collection of international modern and contemporary art. Formerly Bankside Power Station, designed by Sir Giles Gilbert Scott and built in two phases between 1947 and 1963, Tate's transformation of the Power Station began in 1995. A steel framework was built within the existing walls of the Power Station to create the seven gallery floors. This framework also supports the existing brick façade of the building. The architects were Herzog & De Meuron. Since it opened in May 2000, more than 40 million people have visited Tate Modern.



Our energy use

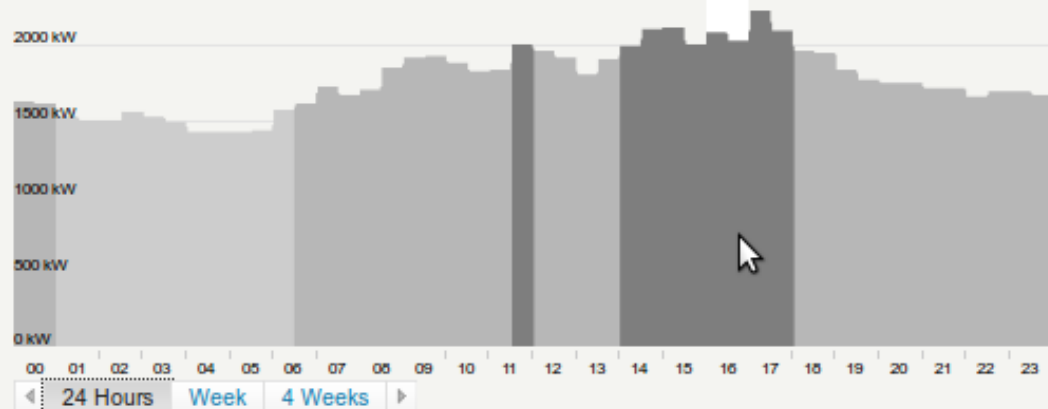


Tate Modern

This graph allows everyone to access a range of data from Tate Modern. It's generated daily from data collected every half hour from the on-site meters.

For the hour commencing 16:00 on 5 Sep, Tate Modern has used:

2,044kWh Energy use <small>Average 2,044kWh per hour</small>	£163 Energy cost <small>Average £163 per hour</small>	1,072kg Carbon impact <small>Average 1,072kg per hour</small>
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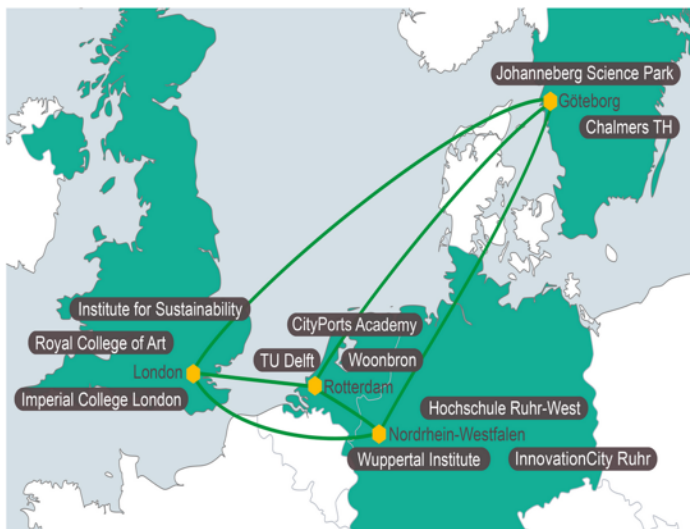




The 11 partners in SusLabNWE

Locations

Research for SusLab is carried out in: Rotterdam, London, Goteborg and Nordrhein-Westfalen



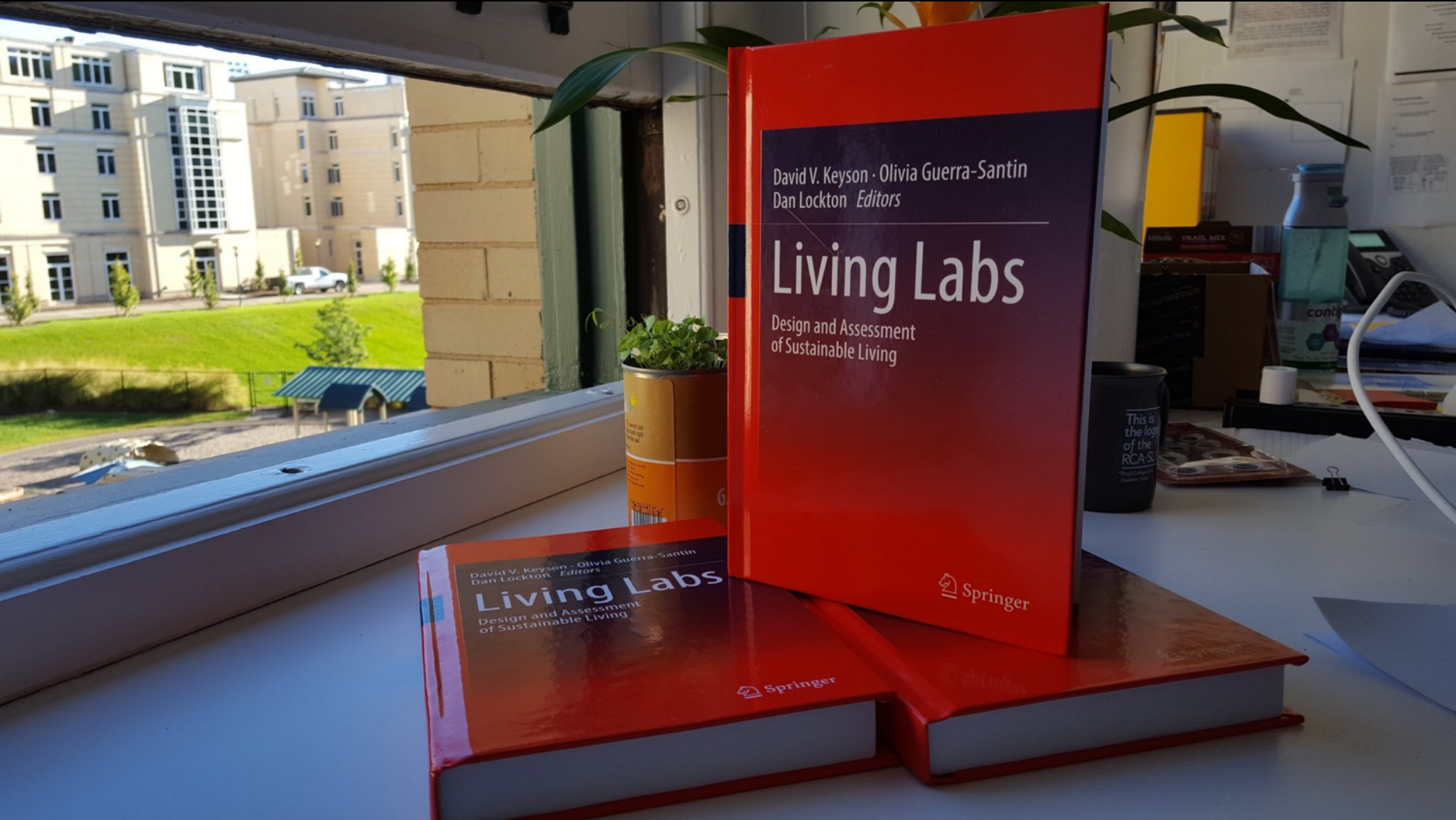
Partner log-in

SusLab Partners

The SusLab platform is constructed between 11 partners in four North West European countries.

- Delft University of Technology (TU Delft)
- Chalmers TH
- Innovation City Ruhr
- Institute for Sustainability
- Imperial College London
- Hochschule Ruhr-West
- CityPorts Academy
- Johanneberg Science Park
- Royal College of Art
- Woonbron
- Wuppertal Institute





David V. Keyson · Olivia Guerra-Santin
Dan Lockton *Editors*

Living Labs

Design and Assessment
of Sustainable Living

 Springer

David V. Keyson · Olivia Guerra-Santin
Dan Lockton *Editors*

Living Labs

Design and Assessment
of Sustainable Living


 Springer



Image: Karolina Raczynska





1086 HG

30
25
20
15
10
5
0

TARE THIS DAY

OWL

Ramonardo





ROBERT GLENN









Here's something
that could help us
cut carbon emissions

The hot-rip
flaps break
regularly that's
why we need
this kettle!

Hot and safe to use
www.russellhobbs.com



**mental models
and mental
imagery**



Energy's 'invisibility' is a key issue in people's understanding

Drawing Energy

V&A Digital Design Weekend

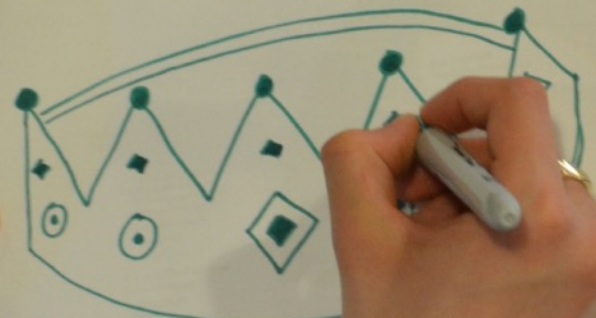
~13,700 visitors

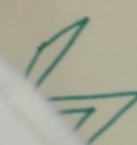
100 Drawing Energy participants



**What does
energy look like?**



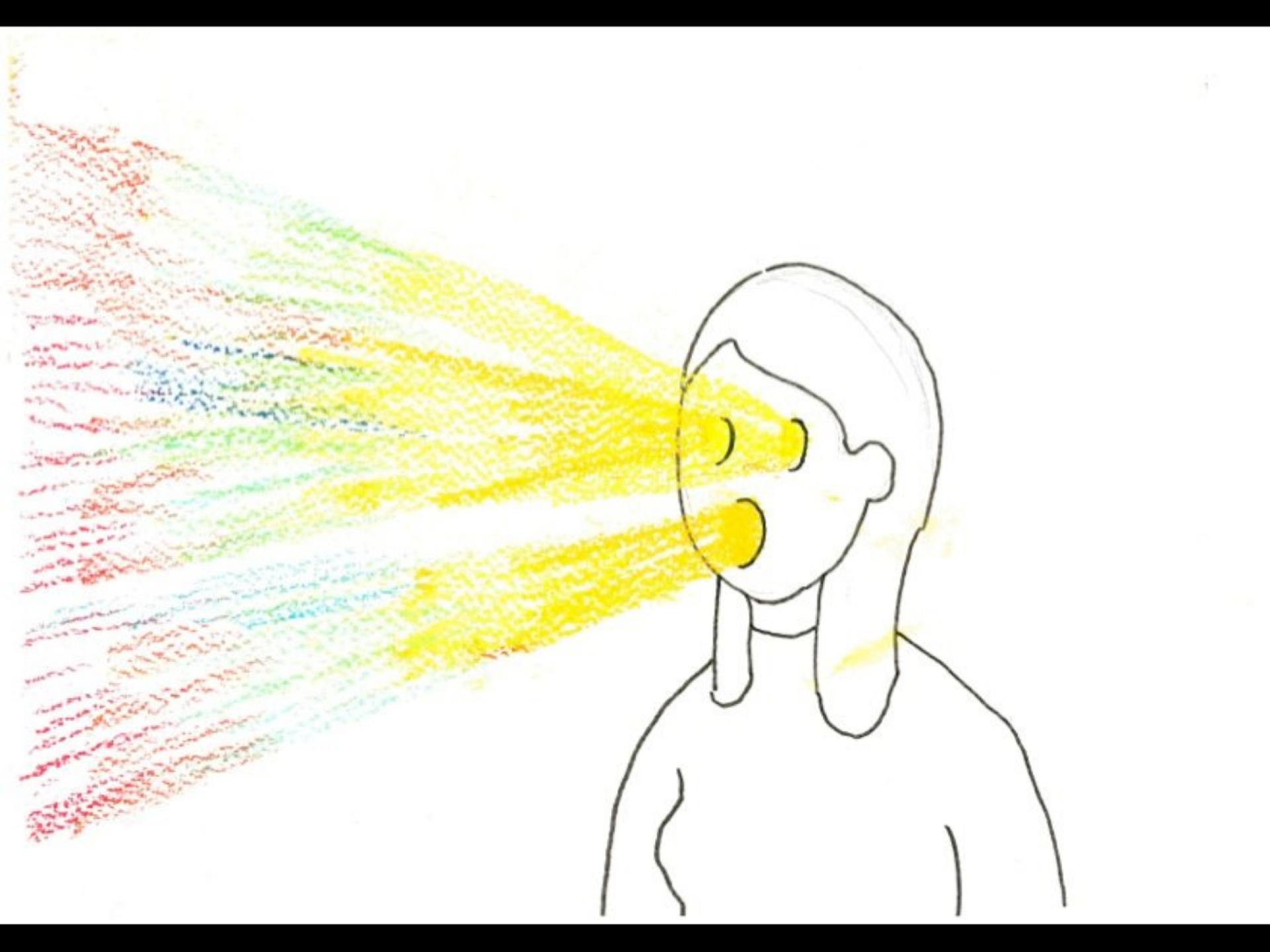


 = P



IF WE PUT A FILM SCREEN
HERE - WHAT SHOULD
WE SHOW?

**we started to see that
metaphors were
important to people's
mental models of abstract
or invisible concepts**



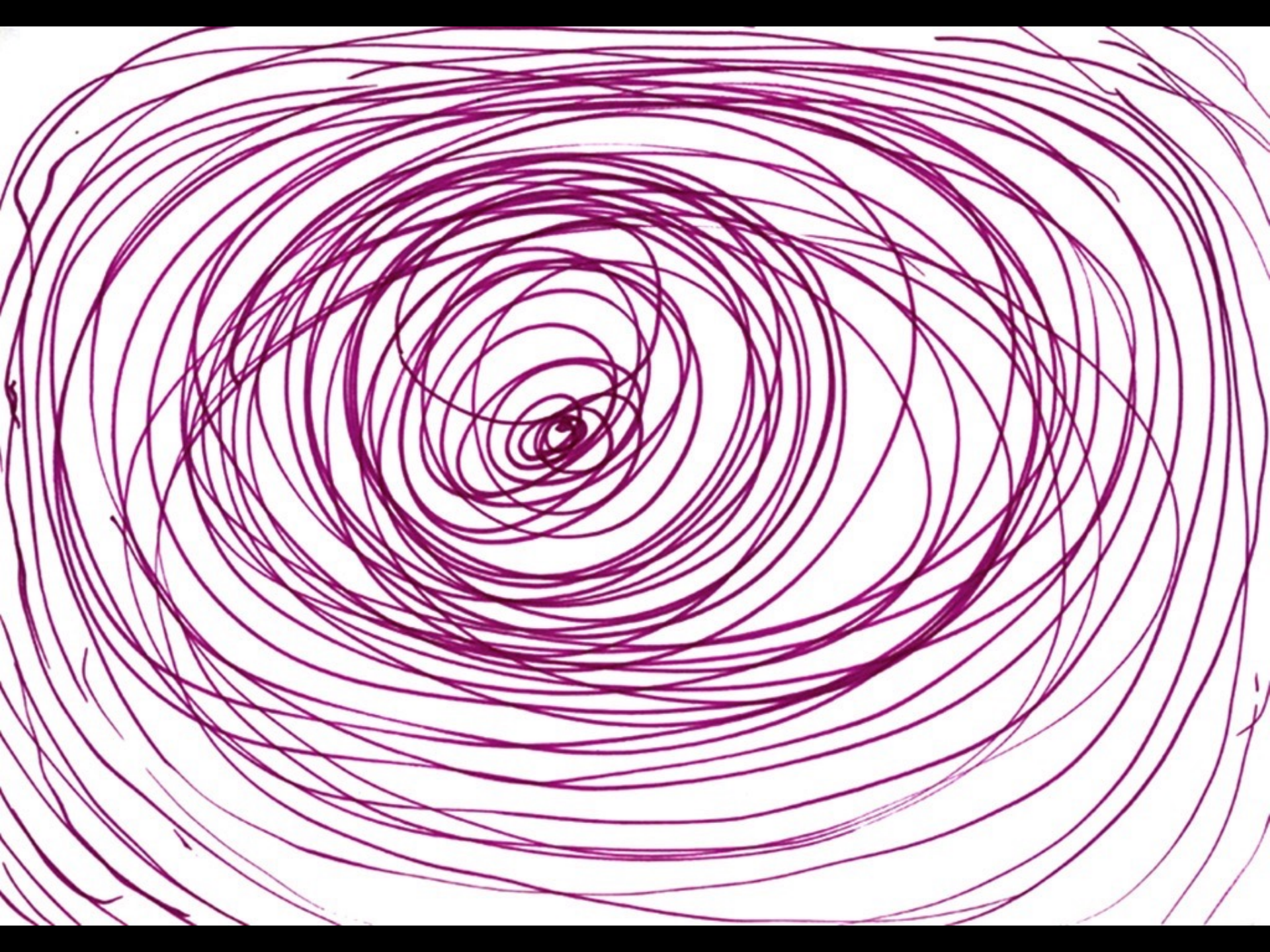




It comes
and it goes somewhere.

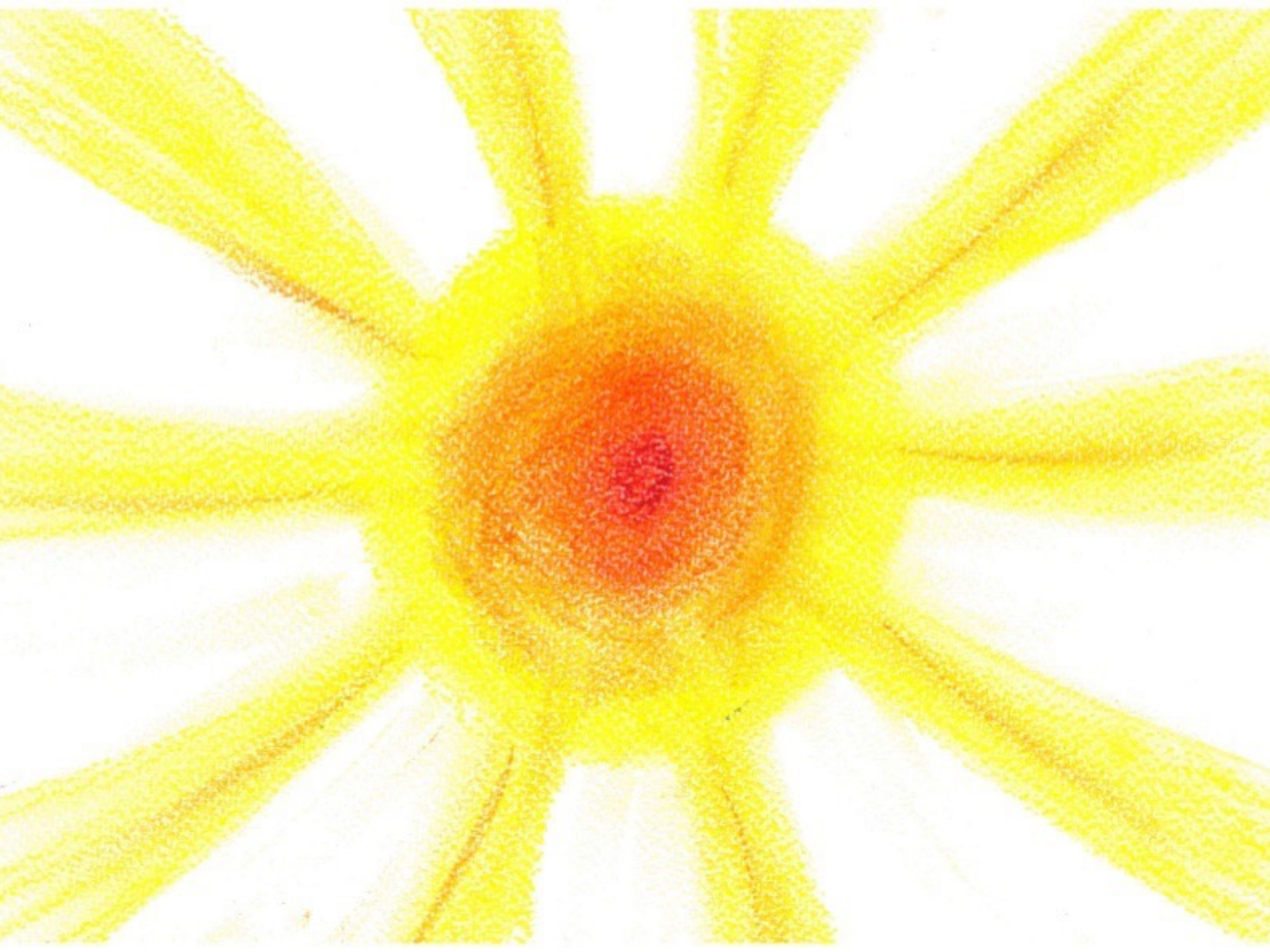






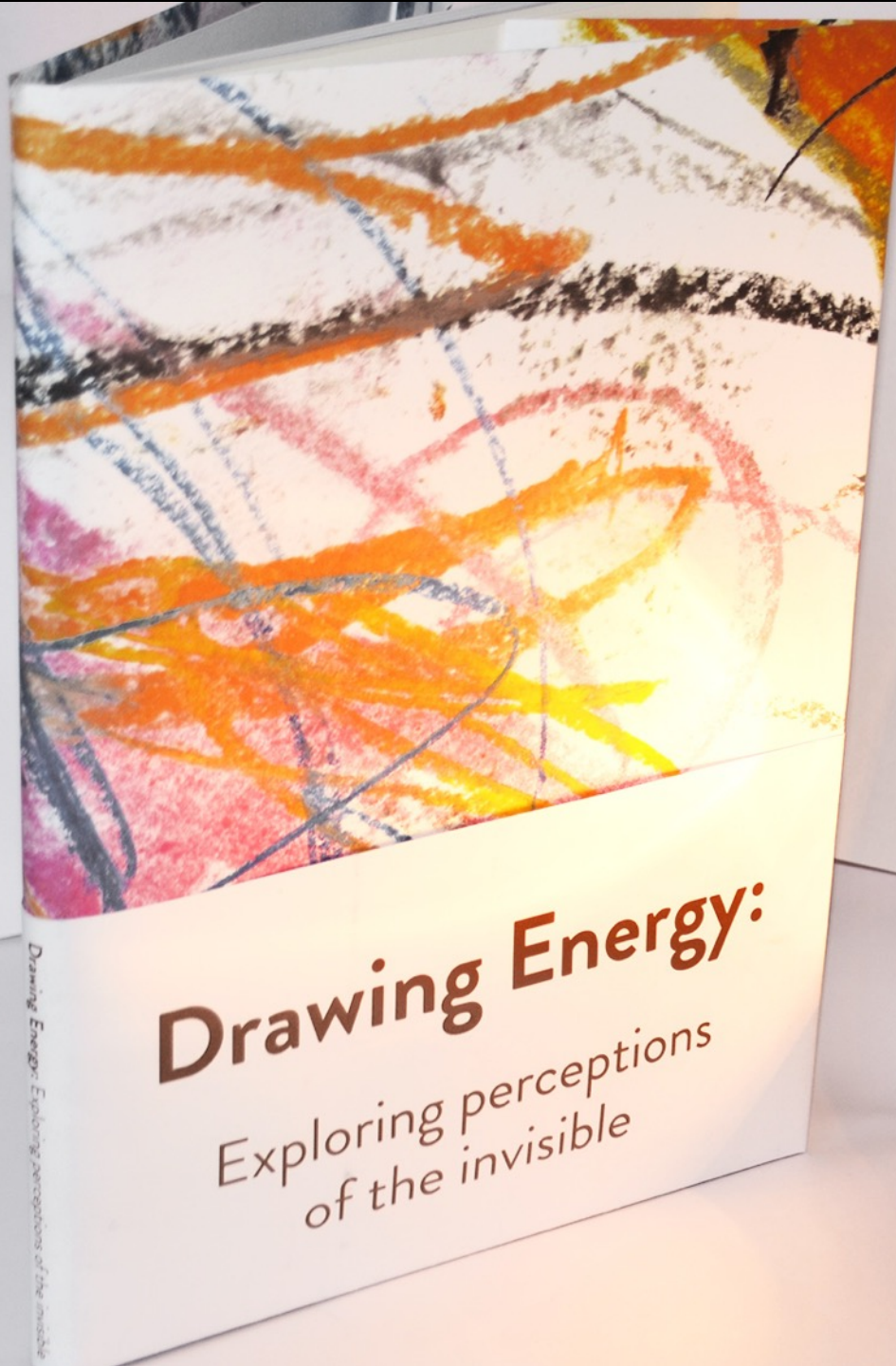








drawingenergy.com



Drawing Energy:

Exploring perceptions
of the invisible

Drawing Energy: Exploring perceptions of the invisible





**Powerchord
Sonified
energy monitor**



**Electric Acoustic:
Sonification and
cymatics (vibration
displays)**

**Electricity use data
for building for 24
hours, turned into
sound and vibrations**

**Next step: real-time,
interactive**





What does electricity sound like?

Electric Acoustic explores the use of sonification - turning data into sound - and other novel forms of interface design, as a way to engage with energy use.

Using three months of electricity use data for [redacted] (where you are right now), from October to December 2017, we have converted it into different forms to enable exploration of new forms of understanding. Each of these prototypes will be developed further in the coming months.

What patterns do you hear and see that would be missed if you only saw the numbers?

[Redacted text]

metaphors

literally 'carrying across'

μετά (*meta*), “after, with, across”

φέρω (*pherō*), “to bear”, “to carry”

a metaphor is:

**'a device for seeing something in terms of something else.
It brings out the thisness of that or the thatness of a this.'**

(Kenneth Burke, 1945)

**'The way we understand new things is to
conceive of them in terms of things we already
know' (Dan Saffer)**

...which suggests, if you want people to understand something new, it might work to frame it in terms of something they already understand

System 1.1 Finder 1.1g

11 items

245K in disk

557K available



System



Finder



Imagewriter



Clipboard File



Empty Folder



Fonts



Disk Copy



Font Mover



SysVersion



Scrapbook File



Clipboard

System 1.1 Finder 1



The Mac 512



Trash



Jun 18

1, to start a program just click on it.

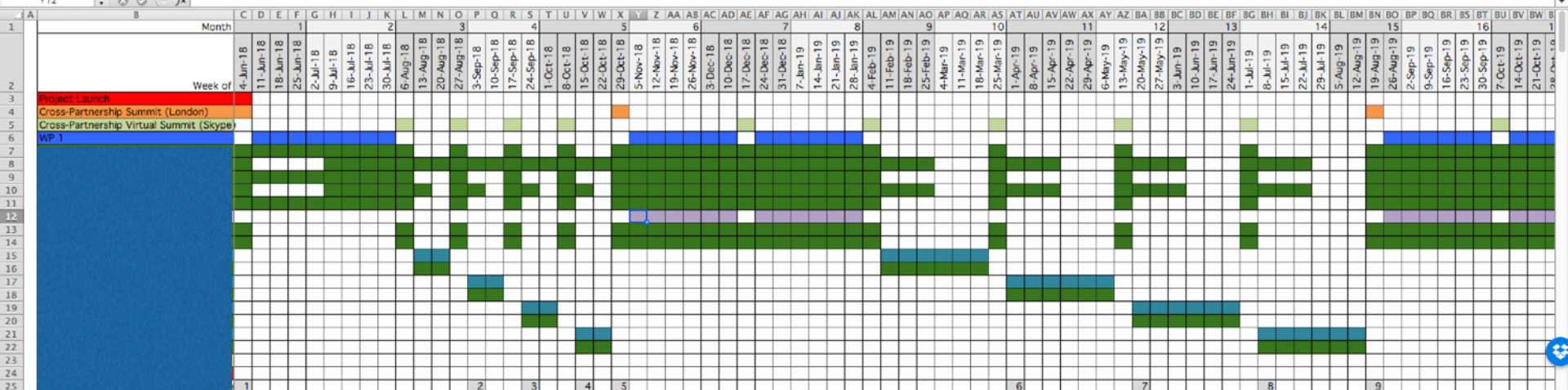
To see the programs in this room, hold down the F1 key.



Other options

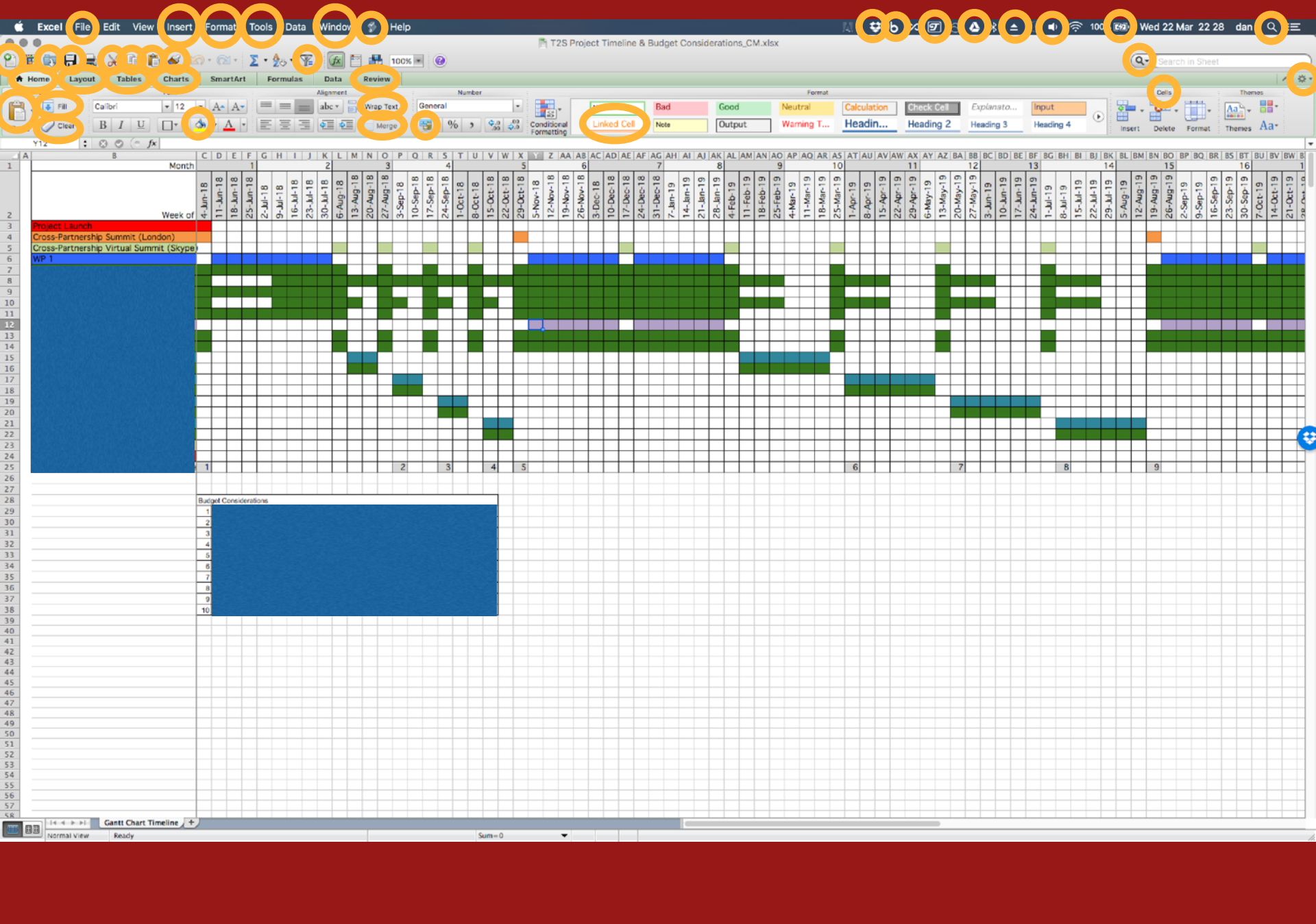
EXIT

Excel ribbon: Home, Layout, Tables, Charts, SmartArt, Formulas, Data, Review. Font: Calibri 12. Alignment: General. Number: General. Conditional Formatting: Normal, Bad, Good, Neutral, Calculation, Check Cell, Explanato..., Input, Linked Cell, Note, Output, Warning T..., Headin..., Heading 2, Heading 3, Heading 4. Cells: Insert, Delete, Format, Themes. Search in Sheet.



Budget Considerations

1
2
3
4
5
6
7
8
9
10



**Even the names of some of the major products
and services of our age:
Facebook, Twitter, Photoshop, Snapchat—**

There's the 'pitch generator' idea of something being like X for Y:

Like Uber but for dog sitting

Like a café but for robots

but metaphors go a bit further

**Metaphors
We Live By**

George Lakoff and
Mark Johnson

Metaphors are the foundation of our language, and also our conceptual system, but are so ingrained that we are often not conscious of them

Metaphors are the **foundation** of our language, and also our conceptual system, but are so **ingrained** that we are often not conscious of them

**Your claims are indefensible.
She attacked every weak point in my argument.
His criticisms were right on target.
I demolished his argument.
I've never won an argument with her.
You disagree? Okay, shoot!
If you use that strategy, she'll wipe you out. She shot
down all of my arguments.**

Your claims are **undefensible**.
She **attacked every weak point** in my argument.
His criticisms were **right on target**.
I **demolished** his argument.
I've never **won** an argument with her.
You disagree? Okay, **shoot!**
If you use that strategy, she'll **wipe you out**. She **shot down** all of my arguments.

ARGUMENT IS WAR

What if
ARGUMENT IS DANCE?

What metaphors are in use that shape our worldview?

How have metaphors 'persuaded' us, or limited the scope of our thinking, without our necessarily having realised it?

THE ECONOMY IS ?



How to win the case for a better system...

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NEF
FrameWorks Institute
PIRC

- Export PDF
- Create PDF
- Edit PDF
- Comment
- Combine Files
- Organize Pages

Adobe Acrobat Pro DC
Delete, insert, extract, or rotate pages

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HOW DOES THE BRITISH PUBLIC THINK ABOUT THE ECONOMY?

These are the key cultural models, the shared, durable ways of thinking we identified through in-depth interview research.

WHAT THE ECONOMY IS AND HOW IT WORKS



Economy as Container
People saw the nation as functioning like a pot, with people putting in (contributing) or taking out (draining).



Economy as Money
Discussions of the economy are nearly always about money and people often drew on the metaphor of circulation.



Cognitive Hole
While people had some limited ways of understanding the economy, many mechanisms of the economy remain in a black box, seen as being governed by 'mysterious market forces'.



Edge of Disaster
The economy was thought of as volatile, unpredictable and difficult to manage, with language like 'tumbling', 'falling' often being used in interviews.

WHY THE ECONOMY WORKS AS IT DOES



System is Rigged
Many thought that the economy was manipulated by elites with coordinated nefarious intent.



Hidden Agenda
People displayed remarkable and blanket distrust of news sources, assuming different ideological biases.



Greed=Human Nature
At base, human nature was often assumed to be selfish, therefore producing natural and inevitable inequality.

These models in particular led to tremendous *fatalism* and an *inability to imagine* positive, structural changes in the economy.



HOW THE ECONOMY SHOULD WORK



National Self-Reliance
People thought Britain should aim to meet its own basic needs without being reliant on other countries.



Ideal Past
People had nostalgia for a time when wages were high, inequality was low and, as a country, we were more 'self reliant'.



Government Responsibility
Despite cynicism about elites, people saw a role for the government in fixing problems and regulating the economy.

Export PDF

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Comment

Combine Files

Organize Pages

Adobe Acrobat Pro DC

Delete, insert, extract, or rotate pages

Learn more

Fill & Sign

Send for Signature

Send & Track

More Tools

**Be aware of (and perhaps
inspired by) the cultural
dimensions of metaphors**

**It's worth being aware of the
limitations of metaphors**

**It's worth being aware of the
limitations – and side effects –
of metaphors**

**‘All models are wrong,
but some are useful’**

George Box

**All metaphors are wrong,
but some are useful**

Susan Sontag

**Illness as
Metaphor**



**AIDS and Its
METAPHORS**
Susan Sontag

Infectious diseases to which sexual fault is attached always inspire fears of easy contagion and bizarre fantasies of transmission by nonvenereal means in public places. The

DISEASE IS ?

- something people ‘fight’ (so, if they don’t ‘fight hard enough’, it’s their fault’)
- something ‘polluting’ (so, people with diseases are ‘unclean’ or have allowed themselves to be polluted)
- something ‘punishing’ people for things they’ve done

**All metaphors are wrong,
but some are useful**

**Metaphors as a way of
prompting discussion or
reflection, and generating
ideas**

Maybe **the metaphors people use** tell you something about how they think about a situation

Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)

Projects are landscapes

Careers are landscapes

**Events or things are features of
landscapes (hills, bridges, trees, rivers,
roads, rocky patches, etc)**

Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)



Mental Landscapes (Delanie Ricketts)



**new metaphors
could mean new
ways to understand**

New Metaphors

Idea generation through juxtaposition (Arthur Koestler)

HE FOUND A WAY...

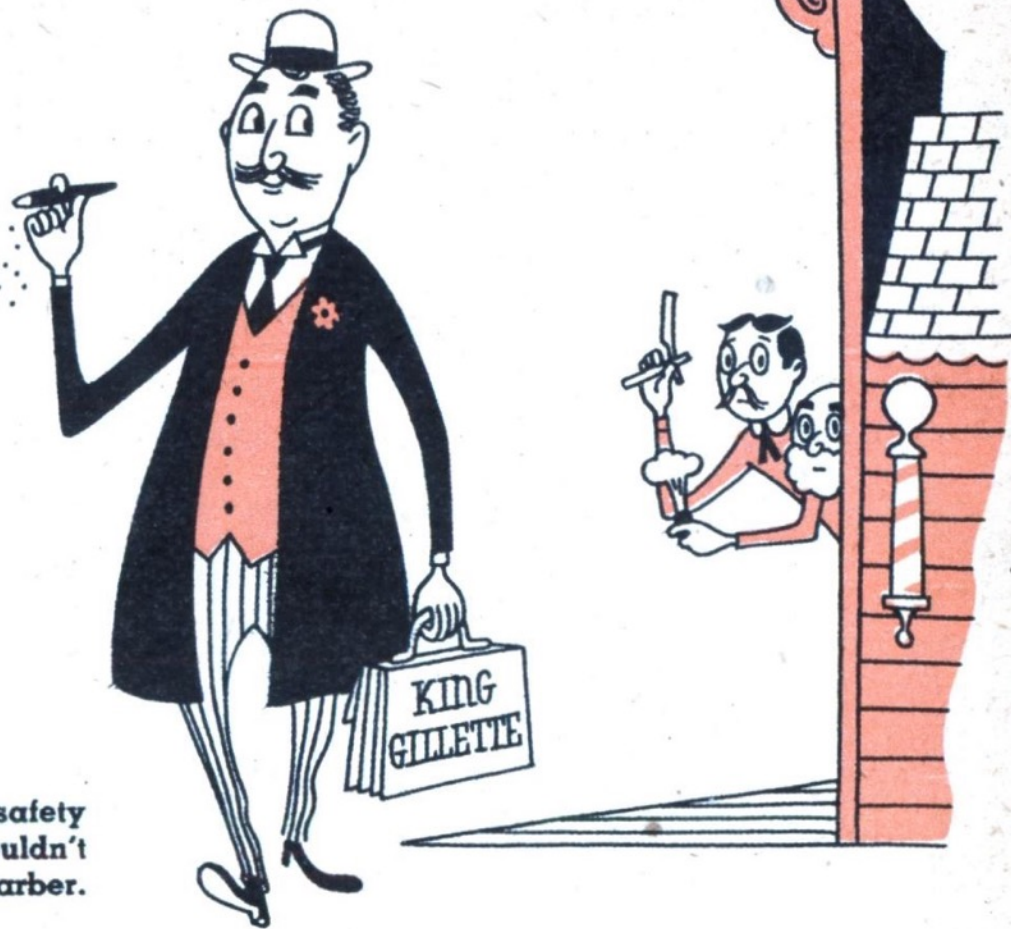
King Gillette's Safety Razor

By Alfred Lief

When King Gillette first tried to sell his safety razor, investors were skeptical. They couldn't visualize the American male giving up his barber.

A SALESMAN who wanted a business of his own, King C. Gillette tackled the dictionary to find an idea for something he could invent, make, and sell over and over again to the user. This was in the 1890's, and his \$6,000 a year was a pretty good salary. But he was 40 and restless.

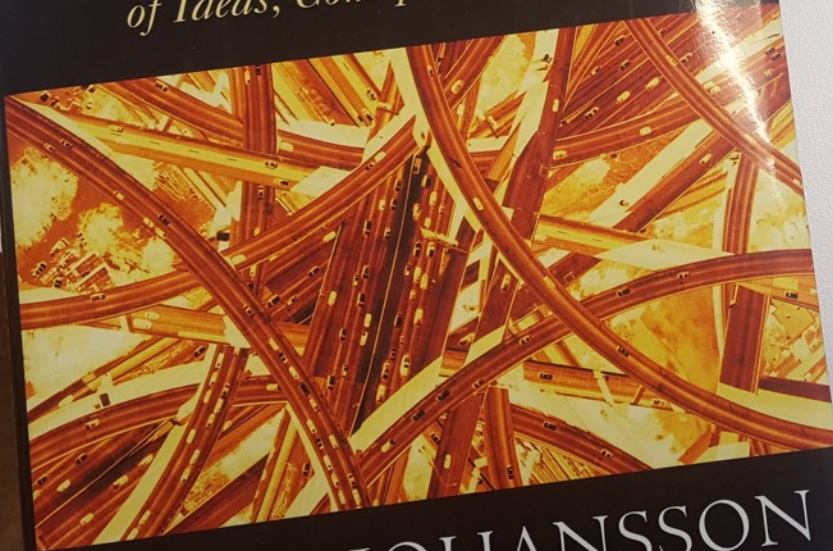
Gillette had not gotten far into the alphabet when a personal need supplied an answer that literally hit him on the chin.



What he didn't see was the trouble to come. Gillette knew little about mechanics, less about steel. With materials and tools bought in a Boston hardware store he made a crude model. From 1895 to 1900 this was all he had (besides persistent faith), for he couldn't get technical advice or financial help. Then two businessmen introduced him to William E. Nickerson, a graduate of the Massachusetts

THE MEDICI EFFECT

*Breakthrough Insights at the Intersection
of Ideas, Concepts & Cultures*



FRANS JOHANSSON

HARVARD BUSINESS SCHOOL PRESS

Edward de Bono
Practical Thinking



4 ways to be right;
5 ways to be wrong;
5 ways to understand

Can we use **new metaphors** to inspire or suggest new products or services?

Thing 1

Thing 2



**Thing 1 cards
represent concepts
that are (maybe)
hard or abstract to
visualize**

Thing 2



Thing 2 cards represent things, or phenomena, that might work as a metaphor for other things



**Power relations
between
people**

Contentedness



Waves



Smell

**Your challenge
in the next 20
minutes**

Design Thinking Through New Metaphors: Workshop outline

12.30 – 12.50 Introduction

12.50 – 13.15 Work in groups of 4 or 5, look through the cards you have in front of you, and come up with an idea for a new product or service. Use the worksheets to help you.

13.15 – 13.30 (some) groups present/talk about their concepts; discussion

**Pick a Thing 1
and a Thing 2**

(you can try out multiple combinations – whatever appeals or seems interesting)

**We're going to assume here
(because of lack of time) that some
of the details on the cards
represent insights which have
arisen during user/customer
research.**

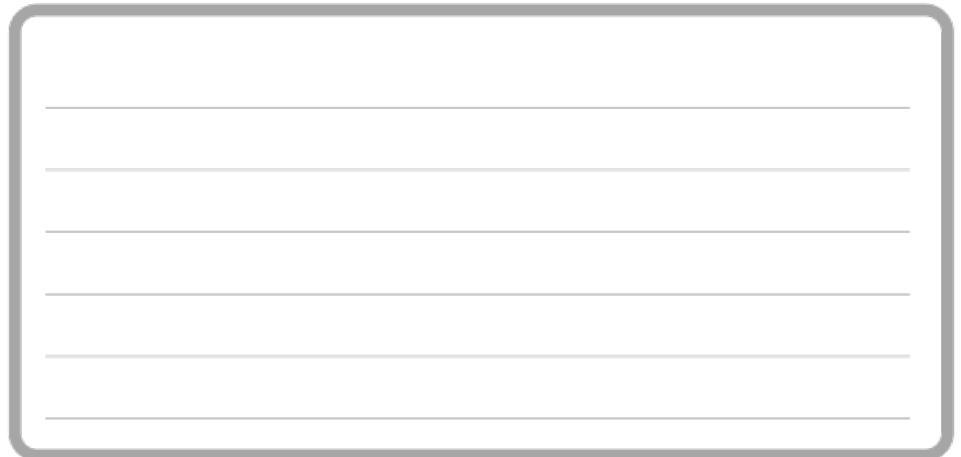
In reality you would do this properly.

Thing 1 has these characteristics



Include characteristics that are hard to measure or quantify, but which you know exist

Thing 2 has these characteristics



How could some of Thing 1 and Thing 2's characteristics map to each other?

Thing 1 has these characteristics

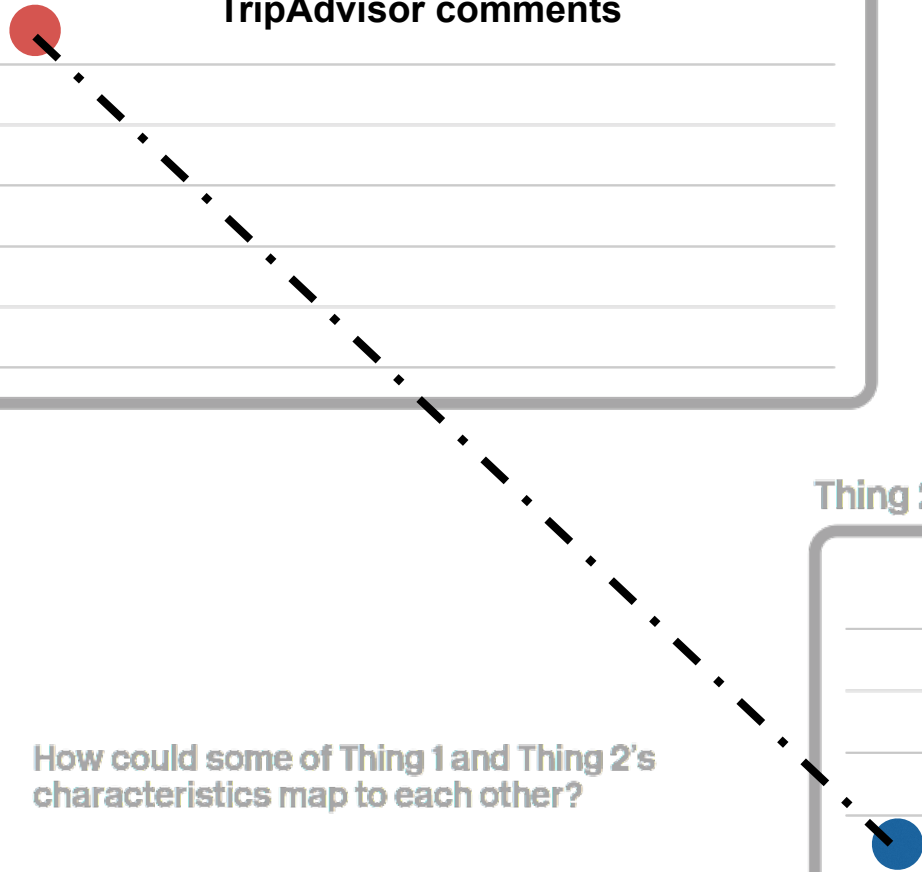
TripAdvisor comments

Include characteristics that are hard to measure or quantify, but which you know exist

Thing 2 has these characteristics

Facial expressions

How could some of Thing 1 and Thing 2's characteristics map to each other?



Thing 1 has these characteristics

honest, opinionated, customized,
 anonymous, enthusiasm, complaints
 can be fake, bipolar, photos,
 recommendations, out of context,
 touristy, nested, social, informative.

Include characteristics that are hard to measure or quantify, but which you know exist

Thing 2 has these characteristics

expressive, visual, personal,
 telling, honest, casual, automatic,
 universal, transcend language & culture
 misleading, subtle, emoji,
 life / creation,

How could some of Thing 1 and Thing 2's characteristics map to each other?

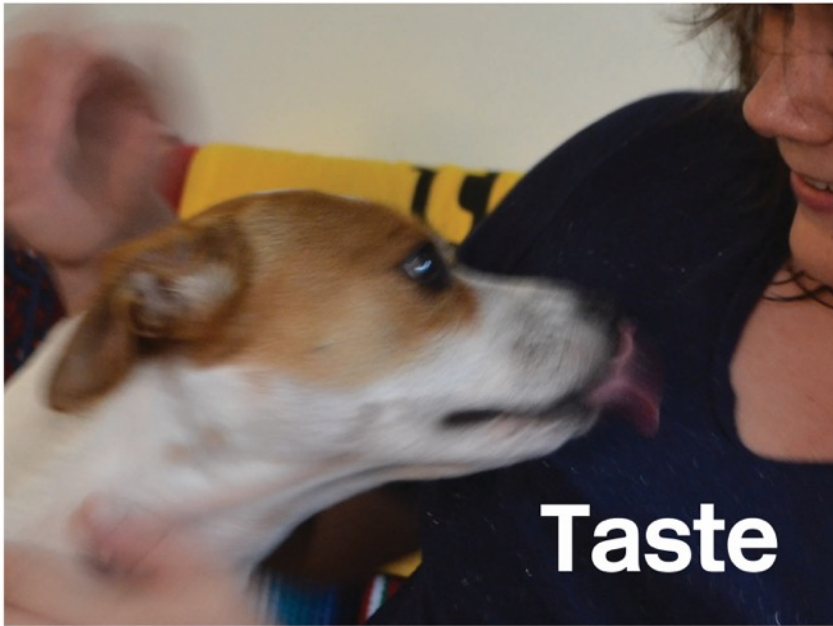
Think up what a new product or service could be that uses (or is at least inspired by) the metaphors you 'create' by juxtaposing cards

New Metaphors – newmetaphors.com



Pensions

New Metaphors – newmetaphors.com



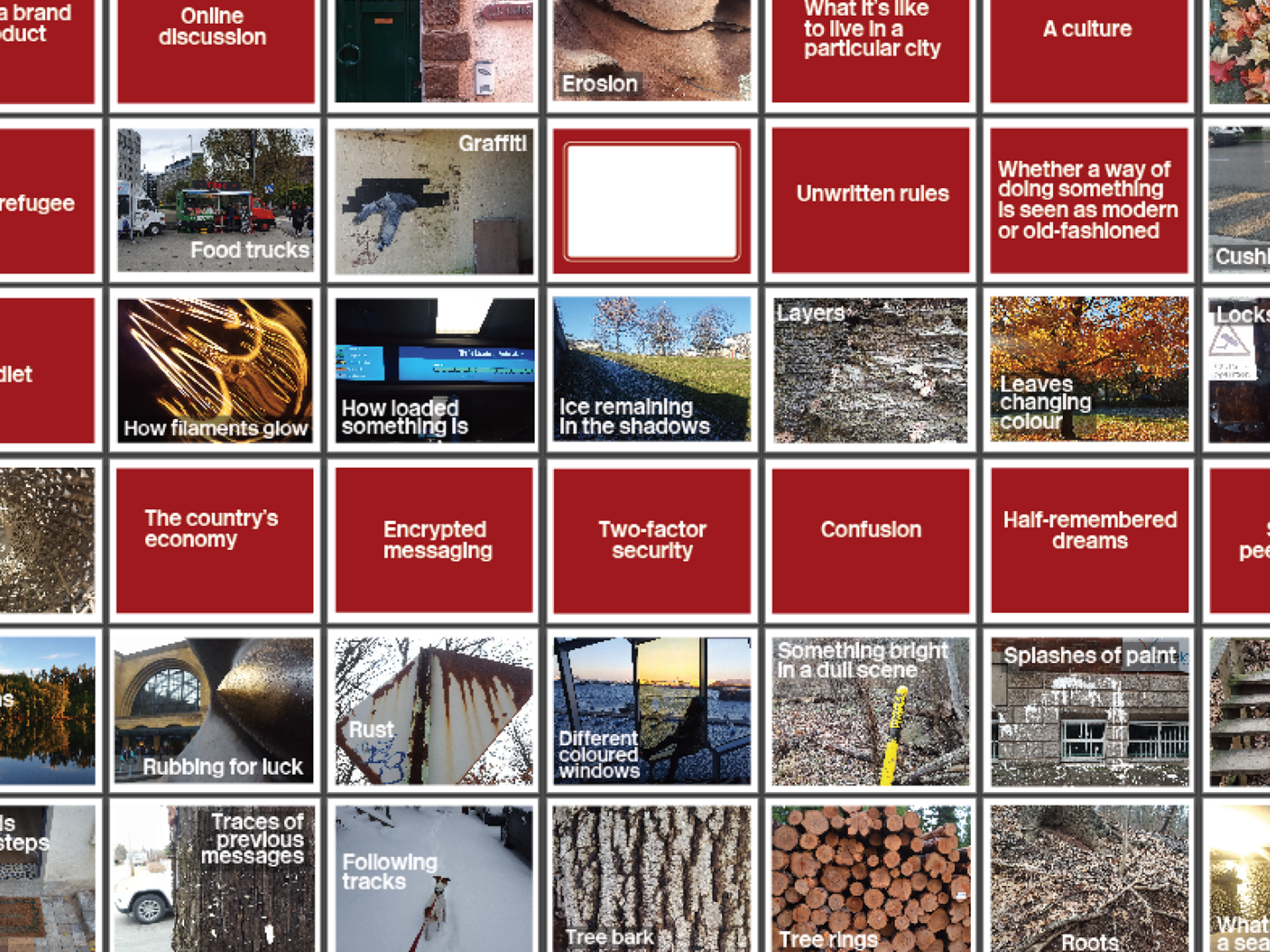
Taste

**Two-factor
security**

New Metaphors – newmetaphors.com



**Worrying about
what people
think of you**



a brand
duct

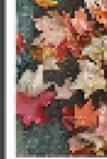
Online
discussion



Erosion

What it's like
to live in a
particular city

A culture



refugee

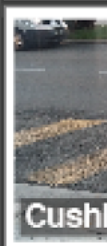


Graffiti



Unwritten rules

Whether a way of
doing something
is seen as modern
or old-fashioned



edlet



How loaded
something is



Layers

Leaves
changing
colour



The country's
economy

Encrypted
messaging

Two-factor
security

Confusion

Half-remembered
dreams



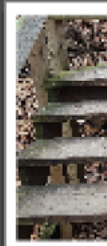
Rubbing for luck

Rust

Different
coloured
windows

Something bright
in a dull scene

Splashes of paint



steps

Traces of
previous
messages

Following
tracks

Tree bark

Tree rings

Roots

What
a sea

Name of your concept

This { product service } { uses is inspired by }

Thing 2

as a metaphor for

Thing 1

It could be useful for

Overwhelmed-ness



Notes of your concept

OVERGROW

Product Designer / Designer (UI/UX) (Your Name)

This interface display uses is inspired by **Overwhelmed-ness**

to visualize enable interaction with **Plant Growth**

Overwhelmed

Amount, when, tense, habitizing, structure, directional, expansion

Include characteristics that are hard to measure or quantify, but which you know exist

Thing 2 has these characteristics: **Plant growth**

Grow, Spread, ~~many~~ Bugs, They Die, Green, Brown, healthiness, active, weedy, soil, needs nurturing, ripeness, Spred, grows upwards, lushness, Fruity, drooping, readable, medicinal, nutritious.





STRUGGLE TO FIND SAFE WFT IN UNFAMILIAR PLACES

PROX

SAFE	X	✓ Safe + Limited
NOT SAFE	X NOT UNFAMILIAR	X UNSAFE + UNFAMILIAR

NOT AVAILABLE AVAILABLE

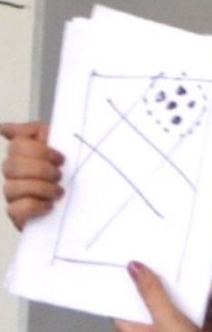
SCENARIOS:
UNFAMILIAR &
KARISMAVE MEE
IN DOWNTOWN
BDOOTA WITHOUT
DATA

DESIGN GOAL: MAKE ZONE 4 VISIBLE
APPROX: BULLD OF FLOCK METHODOR

PRINCIPLES:
- BE DYNAMIC
- MAKE INVISIBLE VISIBLE
- FOLLOW LEADER (CROWD IS LEADER)
- STAY TOGETHER

VI DEVICES: HEAT MAP, SPATIAL MAP OF WIFI/USP

THIS MOBILE INTERFACE IS INSPIRED BY FLOCK BEHAVIOR TO VISUALIZE AND DIRECT HUMANS IN AN UNFAMILIAR CITY TOWN WITH AVAILABLE & HIT WFT SIGNALS





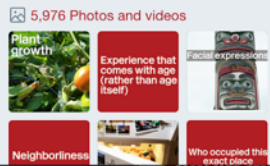
Tweets 5,979 Following 4 Followers 26

Following

New Metaphors

@newmetaphors Follows you
New Metaphors for Qualitative Interfaces.
An experiment by @danlockton using cheapotsdonequick.com
Pittsburgh, PA
imaginari.es
Joined September 2017

Tweet to Message



Tweets Tweets & replies Media

New Metaphors @newmetaphors · 12m
Would it make sense if we had a display using as a metaphor for ?



Reply Retweet Like Message

New Metaphors @newmetaphors · 42m
What if you designed a visualisation using

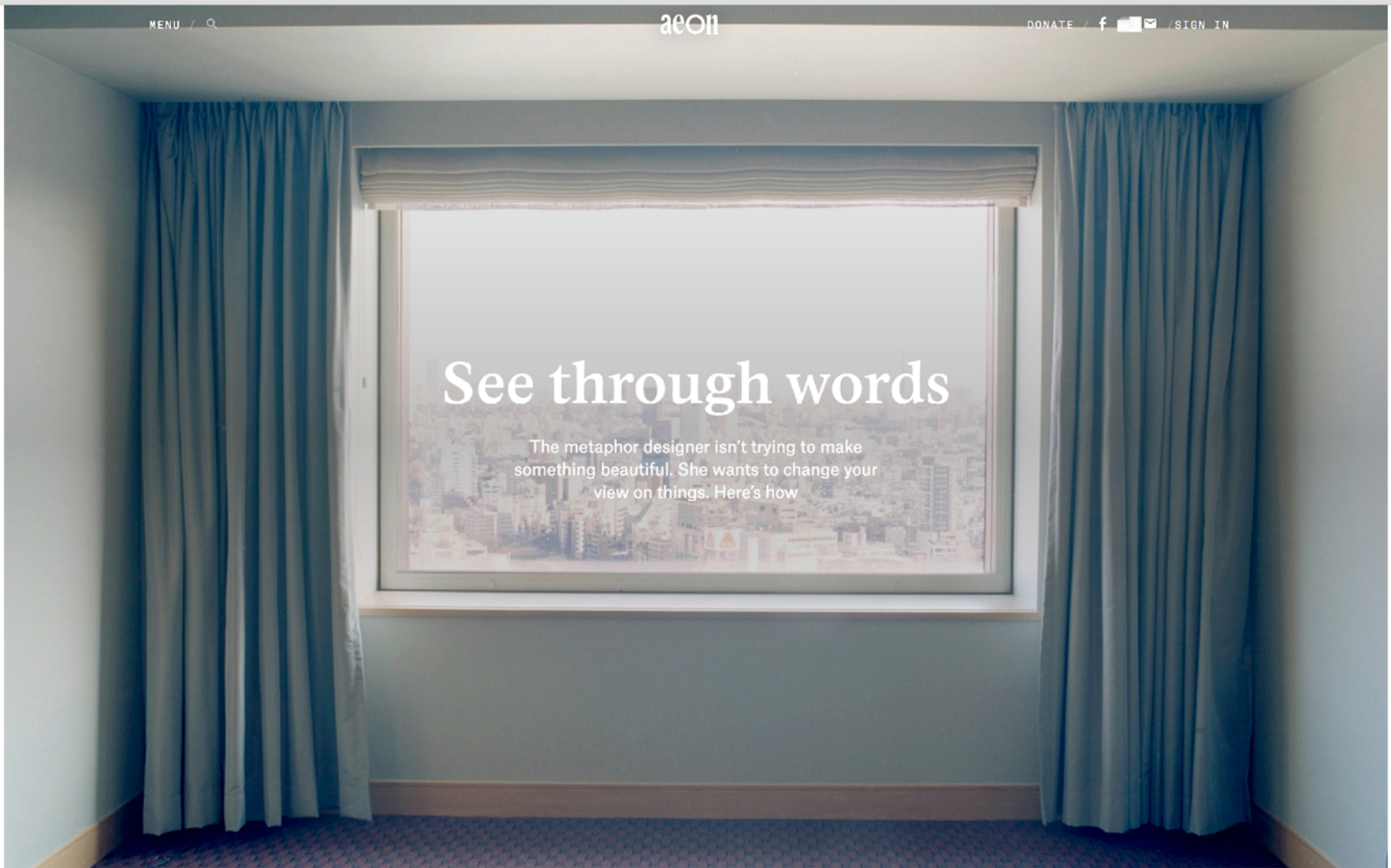
Who to follow Refresh View all

- Skeptech @skeptech_ Follow
- Jillian Crandall @network... Follow
- Monday @joinmonday Follow

Find people you know

Trends for you Change

- NEW SHOW**
60.2K Tweets
- Ticketmaster**
- #SOTU**



Michael Erard

**Everything we've used is
downloadable at:
newmetaphors.com**

**Please get in touch if you
think this could be useful
for your team**

**Dan Lockton, PhD
danlockton@cmu.edu
@danlockton**

imaginaries lab
Carnegie Mellon