

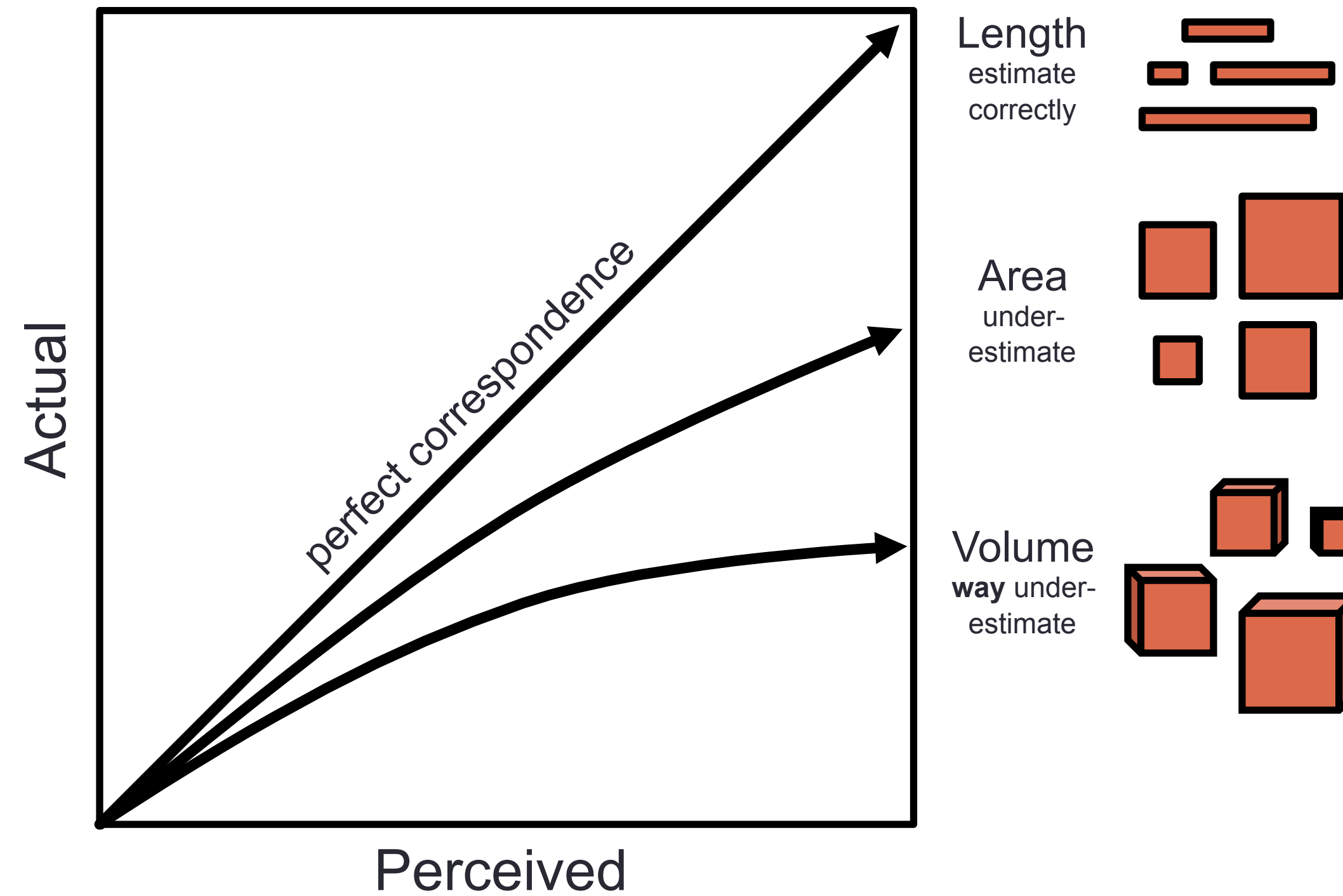
weird “visualizations”  
sound, touch, taste, smell

# Recall

Some (all?) of the visual attributes we have to play with

	<i>Points</i>	<i>Lines</i>	<i>Areas</i>	<i>Best to show</i>
<i>Shape</i>		<i>possible, but too weird to show</i>	<i>cartogram</i>	<i>qualitative differences</i>
<i>Size</i>			<i>cartogram</i>	<i>quantitative differences</i>
<i>Color Hue</i>				<i>qualitative differences</i>
<i>Color Value</i>				<i>quantitative differences</i>
<i>Color Intensity</i>				<i>qualitative differences</i>
<i>Texture</i>				<i>qualitative &amp; quantitative differences</i>

# Recall – apparent magnitude

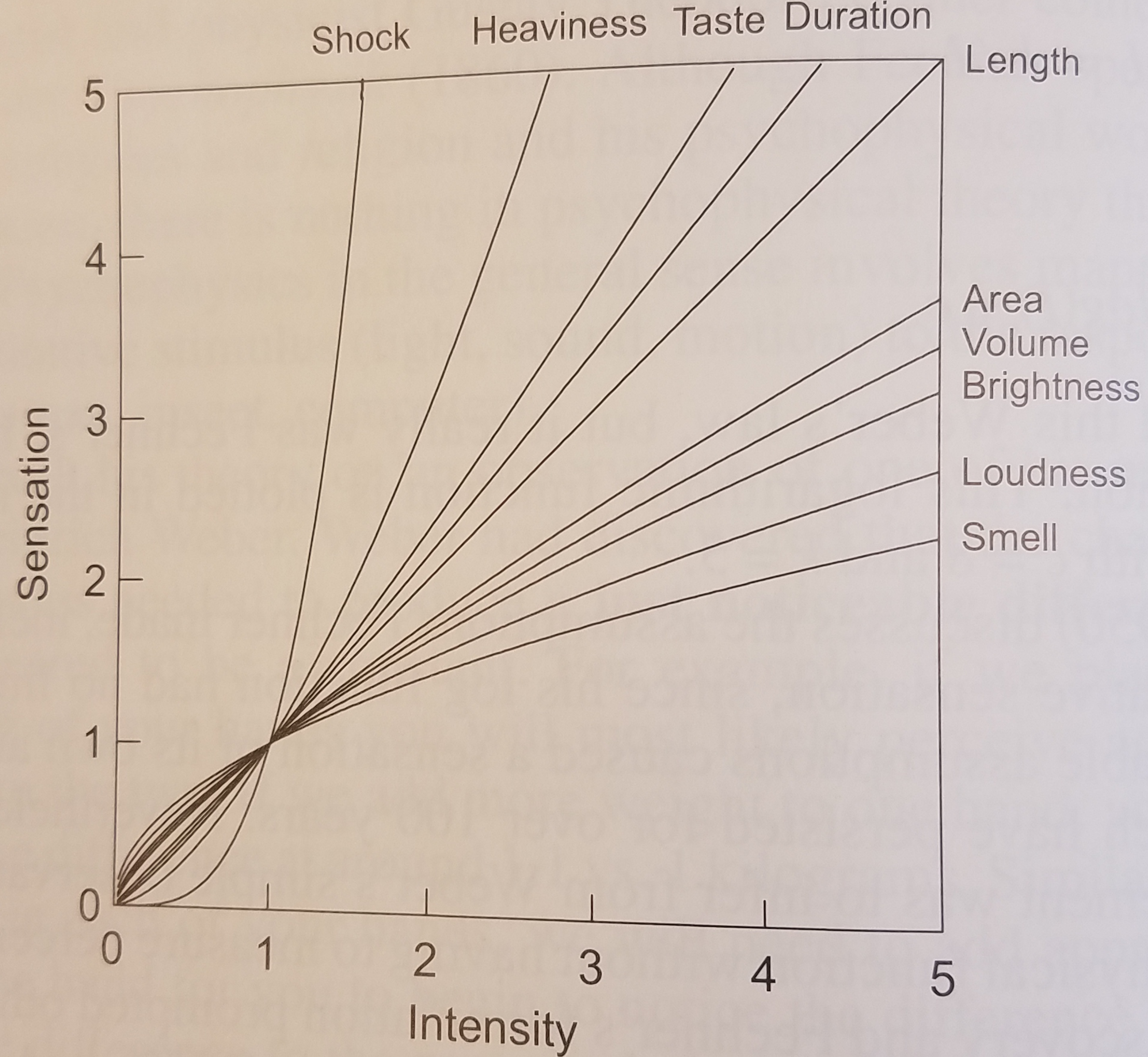


# Weber's/Steven's law

Weber's law is about "just noticeable differences" and Steven's law is an extension of that, including more stimuli

[https://en.wikipedia.org/wiki/Weber%E2%80%93Fechner\\_law](https://en.wikipedia.org/wiki/Weber%E2%80%93Fechner_law)

[https://en.wikipedia.org/wiki/Stevens%27s\\_power\\_law](https://en.wikipedia.org/wiki/Stevens%27s_power_law)



*Figure 10.2 Psychophysical functions for various stimuli*

**sound (sonification)**

# A Decade of U.S. Home Prices

♩=240

Planet Money

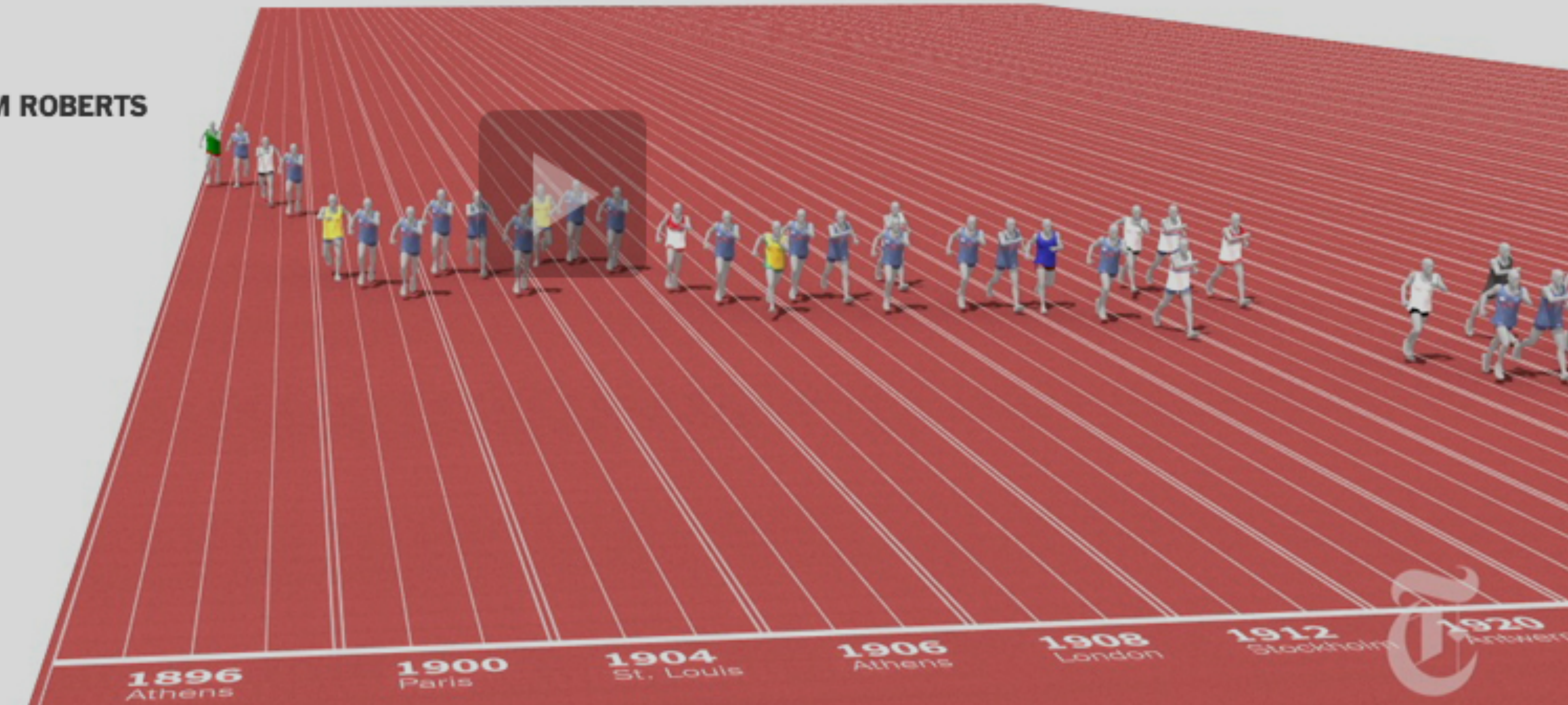


*Jess Jiang/Case-Shiller home price index*

# One Race, Every Medalist Ever

Usain Bolt's 9.63 set an Olympic record in the 100. So how far ahead of every Olympic medalist is he?

By KEVIN QUEALY and GRAHAM ROBERTS





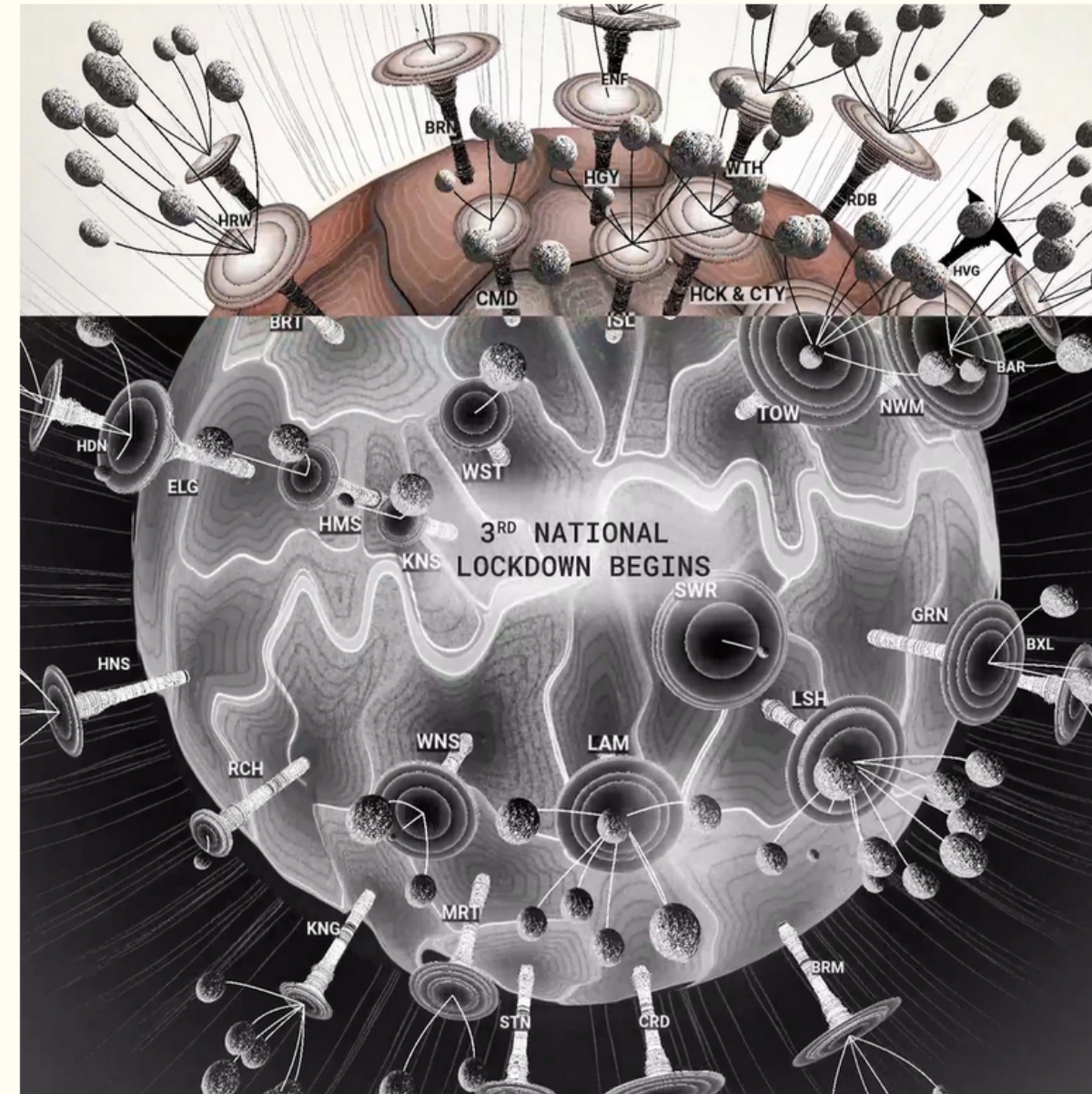
## OUR WORK



### WALMART EVENT

A guitar rock track based on US pandemic sales data, created for an industry event hosted by Jack Morton for Walmart.

LISTEN



### LONDON UNDER THE MICROSCOPE

Transforming London's Covid-19 data into sound for the Museum of London, with video by Valentina D'Elfilippo.

WATCH



### BRISTOL BURNING

A year of city air quality as a dub track, with original vocals by T. Relly. Part of the [Slow the Smoke](#) citizen science project.

WATCH



### THE I

Where it all starts... climate change, economy and...

SONIFY  News Initiative

# Welcome to TwoTone

A free open-source web app to turn data into music

[Launch App](#)

or

[View on GitHub](#)

1999	2,637,000
2000	2,604,000
2001	2,542,000
2002	2,565,000
2003	2,591,000
2004	2,539,000
2005	2,394,000
2006	2,378,000
2007	2,428,000
2008	2,326,000

## TwoTone allows you to sonify a dataset without writing a single line of code

### Developed by

TwoTone is a [Sonify](#) project built with support from [Google News Initiative](#). The app was originally developed by Datavized Technologies.

### What is it for?

TwoTone is an introduction to data sonification and data-driven music. [Data sonification](#) adds the option of listening to data to amplify understanding.

### Data Sonification

Data sonification is a technique that can augment visualization. Sounds add another dimension to data, expanding the possibilities for human-computer interaction

### Data-Driven Music

TwoTone is a fun and intuitive way to make your own compositions from datasets without any prior musical or programming knowledge.

We would love to hear what you're doing with TwoTone! Drop us a line at [support@sonify.io](mailto:support@sonify.io).

# Immersive Soundscapes for your Podcasts: Data-Sonification

Turn numbers and tables into dynamic soundscapes and make complex data sets more understandable: that's data sonification. No coding skills required, plus it's free!

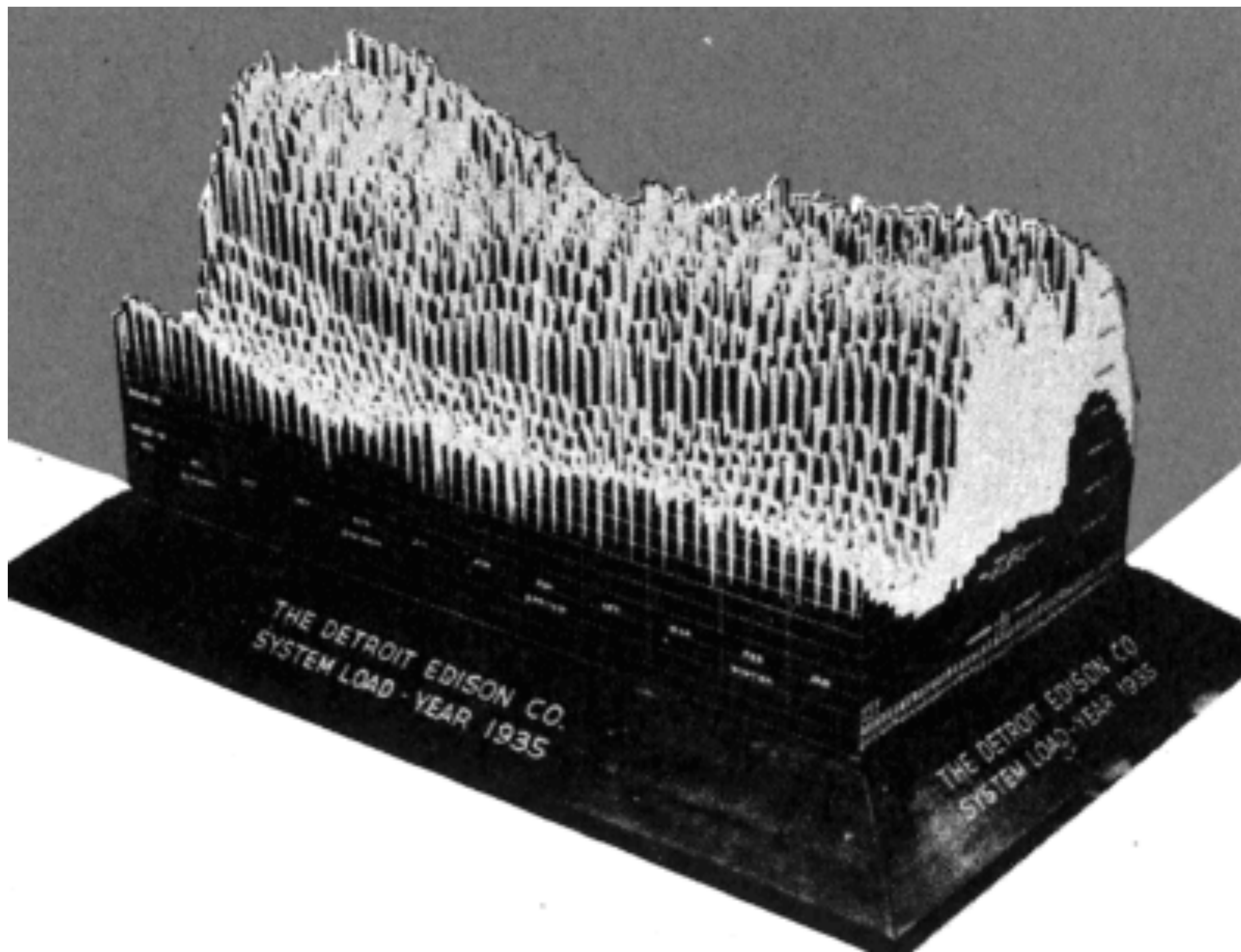
Start now

Watch tutorials



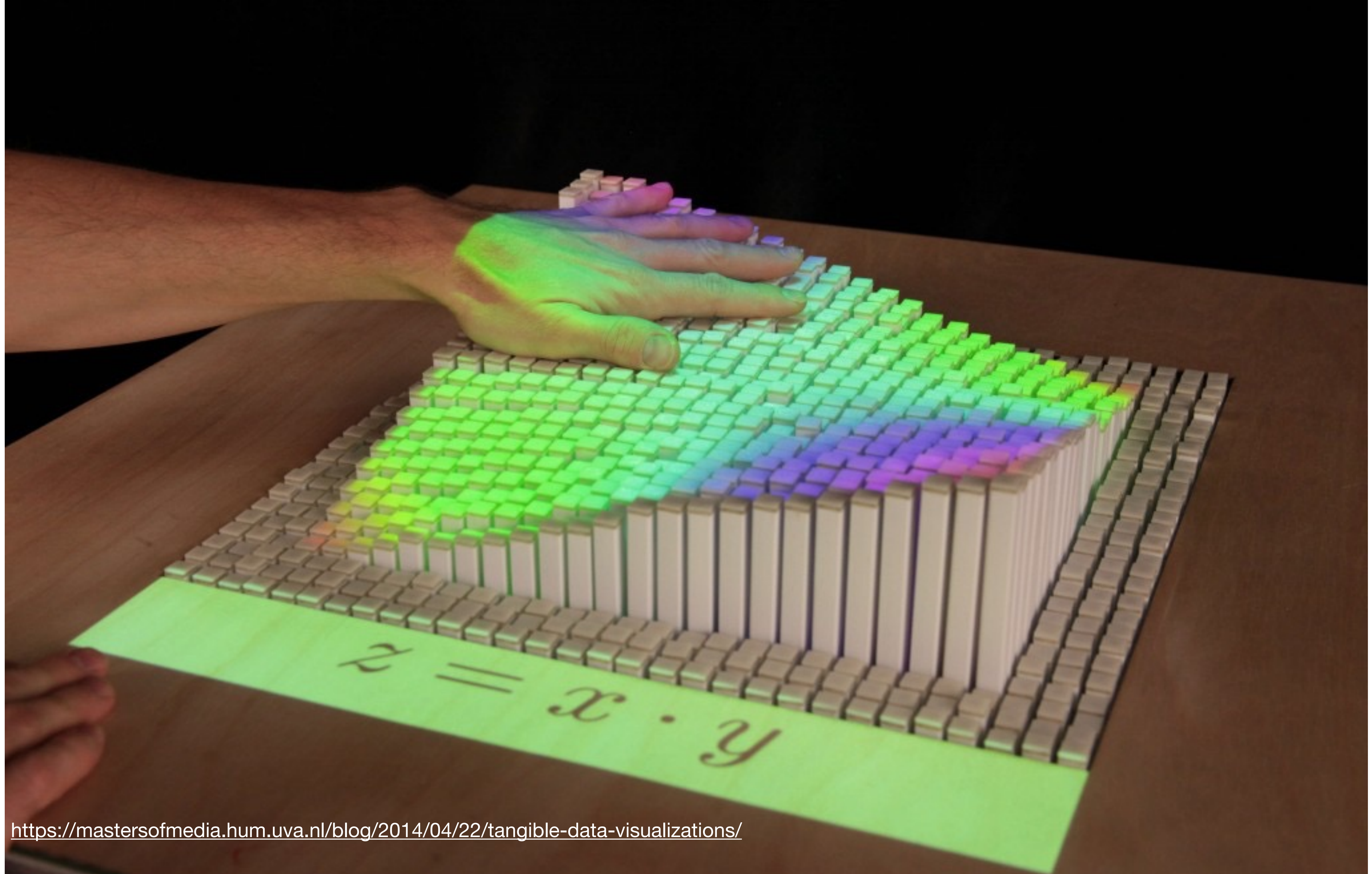
**touch (physicalization)**







**Electricity generated or demanded in Manchester, 1951–1954.**  
**Via [Science Museum](#). CC-BY-SA 4.0. Via [Nightingale](#).**



<https://mastersofmedia.hum.uva.nl/blog/2014/04/22/tangible-data-visualizations/>

<https://vimeo.com/165798784>



# Jose Duarte



# Jose Duarte



**Amelia McNamara**  
@AmeliaMN



Physical dataviz of the World Happiness Index. From @joseduarteq's #easydataviz workshop at #dlc2017



8:06 AM - 23 Sep 2017

# Mona Chalabi



monachalabi

Follow

monachalabi If this data surprises you, there's an explanation on @guardian\_us today.

Source: Nielsen US consumption 2015, #datasketch #🍫 #easter

self\_righteous\_me I must consume.

piperblack @lisaliusa

olivierstephen I would have expected more for Halloween! Q

olivierstephen Will read the article tomorrow

lucian\_adamoli Fascinating feed



116 likes

MARCH 26, 2016

Add a comment...



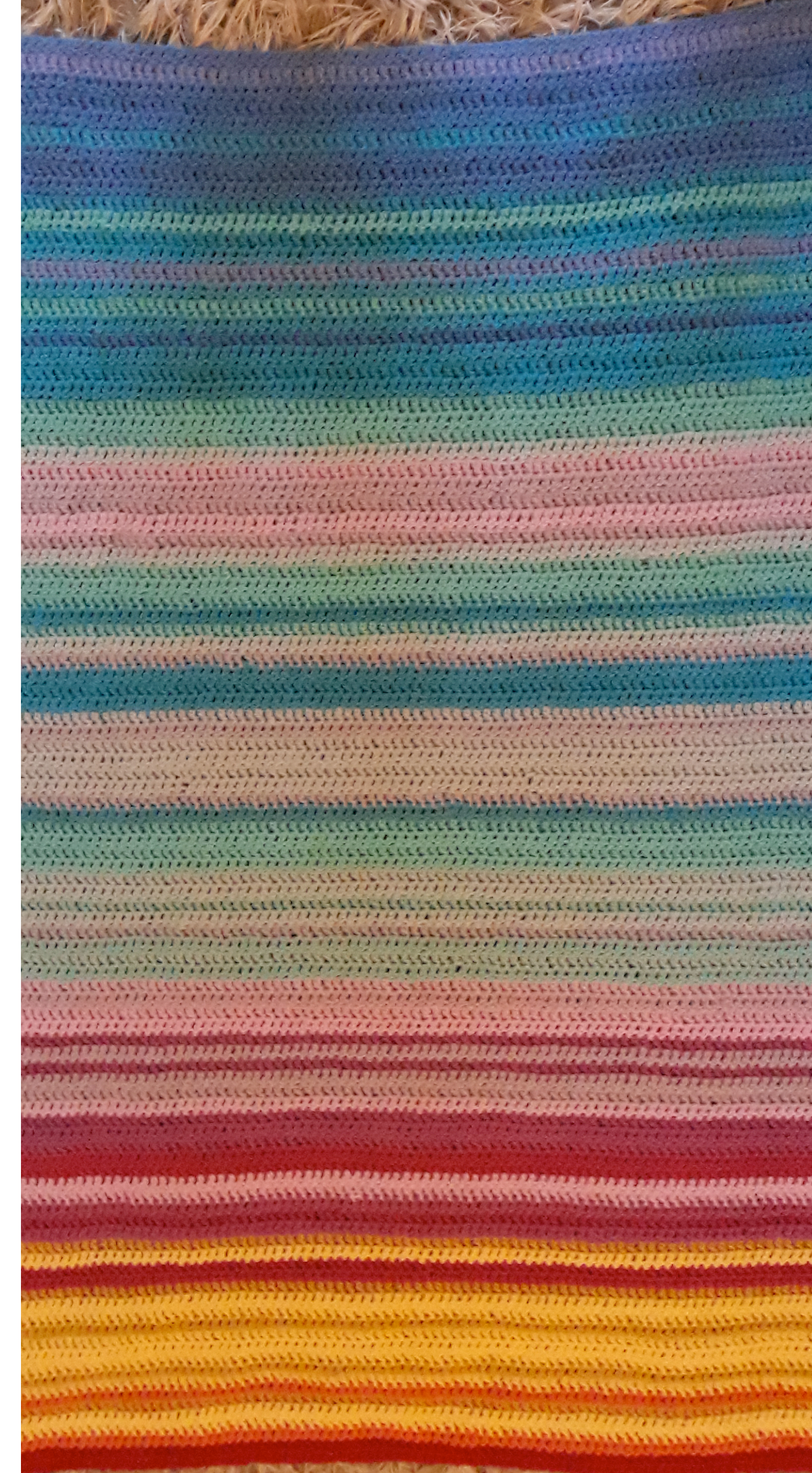
# Walkable bar chart

Via [dataphys](#), via [Twitter](#)



# Climate blanket

Original (?) by Ellie Highwood, based on temperature blankets people have made for a while.



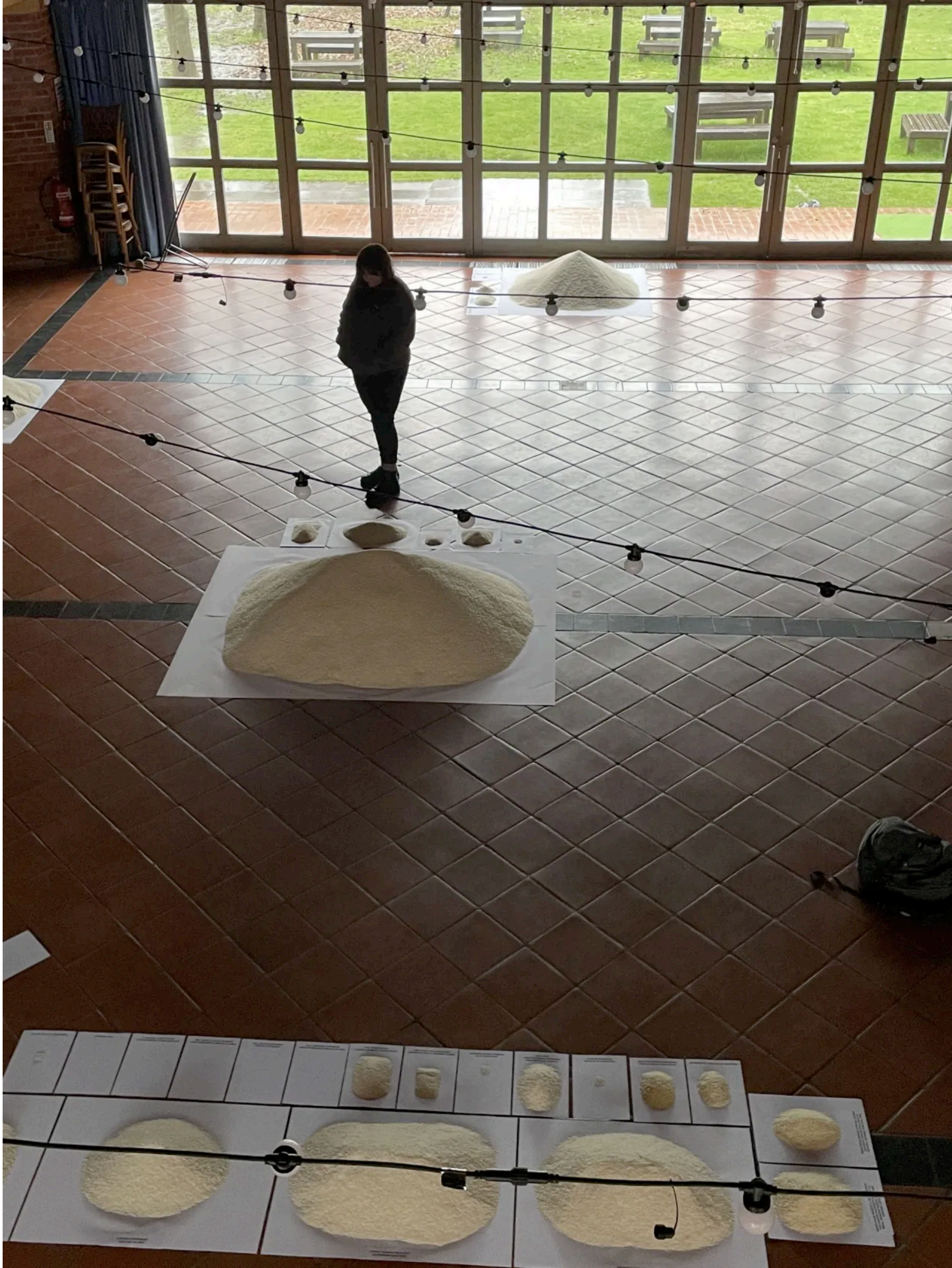
# ...variations on the temperature blanket

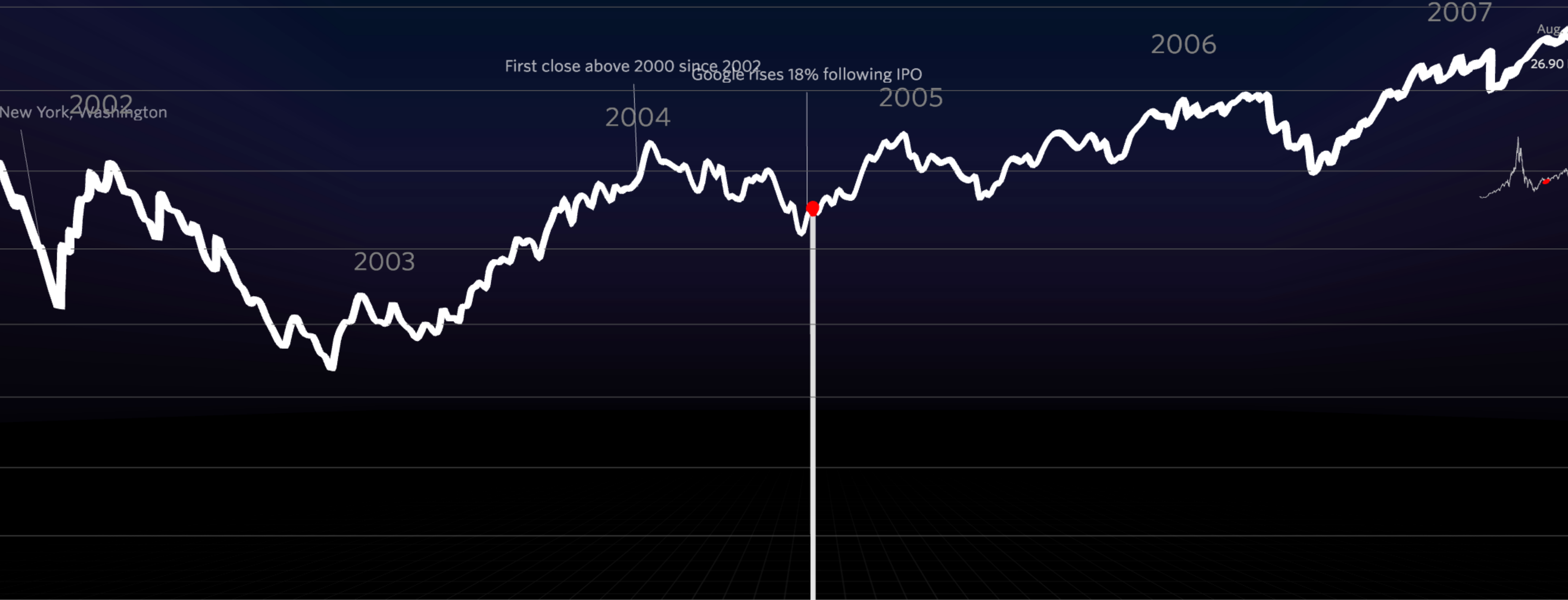


@mwilson203,

<https://www.ebaumsworld.com/articles/woman-knits-a-shit-blanket-documenting-all-her-shits-from-the-past-year/87334579/>

Stan's Cafe. Of all the people in all the world. UK Installation, 2023. <https://stans.cafe/project/project-of-all-the-people/>





<http://graphics.wsj.com/3d-nasdaq/>

[https://youtu.be/EEN\\_sNXMyko?t=6m56s](https://youtu.be/EEN_sNXMyko?t=6m56s)



**taste (tastification?)**



Eurogums are edible population pyramids of the 28 EU member countries. Whereas 27 countries taste cherry-sweet, the UK Eurogum is rather sour, due to the referendum and Brexit.

Energy mix



In Switzerland, only

15%

of energy consumed  
comes from  
renewable sources

# A million new friends

## Number of fecal coliform bacteria in the Boston Harbor

Summer	Winter	Recreational limits
34163	409	34
<i>organisms / 100mL</i>	<i>organisms / 100mL</i>	<i>organisms / 100mL</i>



# Liquid assets

Which parts of the population have access to liquid assets?

95.7%

82.6%

84.8%

63.3%

57.2%



**US white**

*Privateer Silver Serve  
Rum*

**US black**

*GrandTen Distilling  
Medford*

**Caribbean Black**

*Plantation 5-  
Year Grand  
Reserve*

**Dominican**

*Brugal Anejo Superior*

**Puerto Rican**

*Bacardi  
Superior*



**smell (smellification?)**







Sissel Tolaas

# The Smell of Data

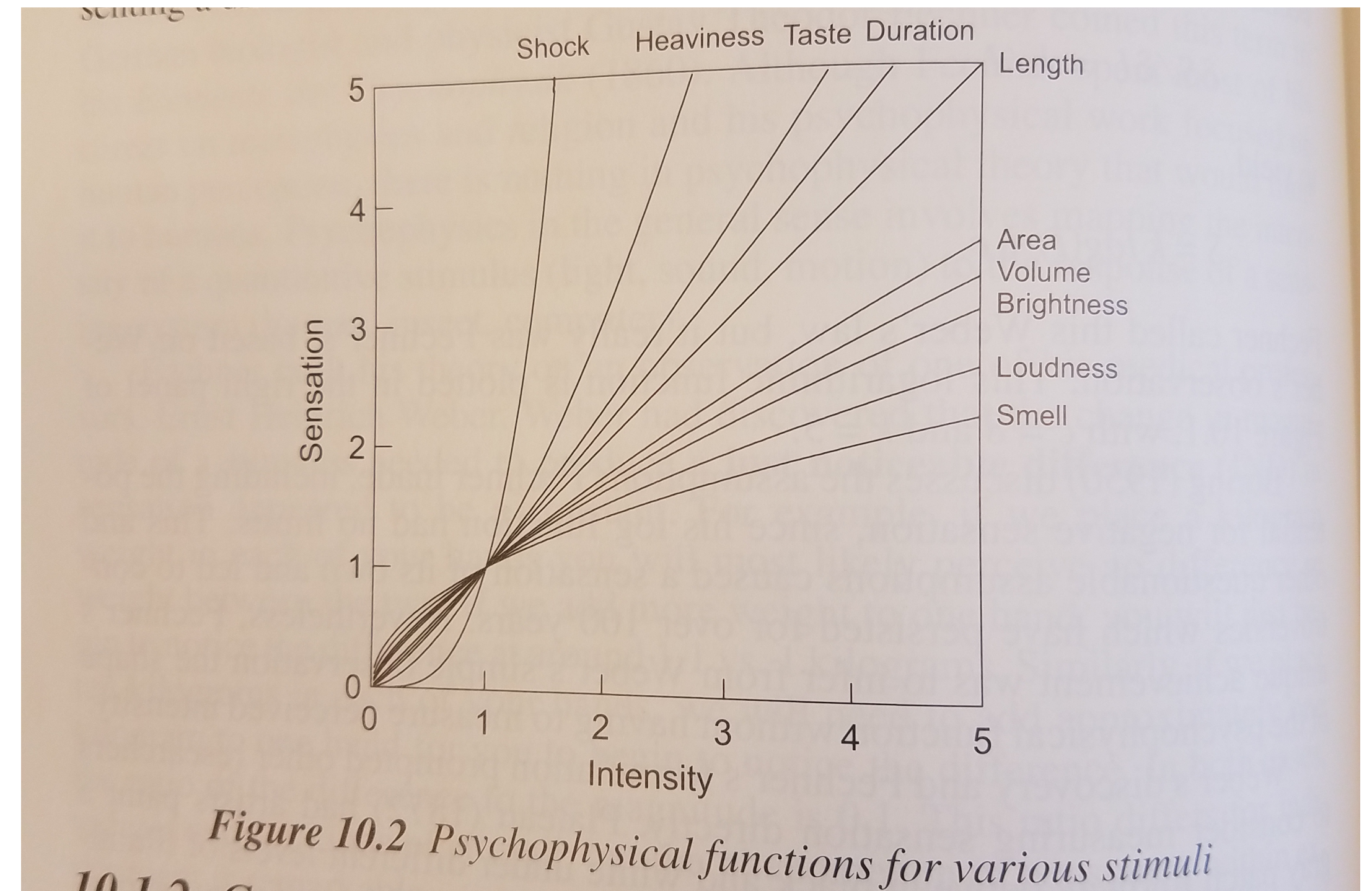
Leanne Wijnsma and Froukje Tan

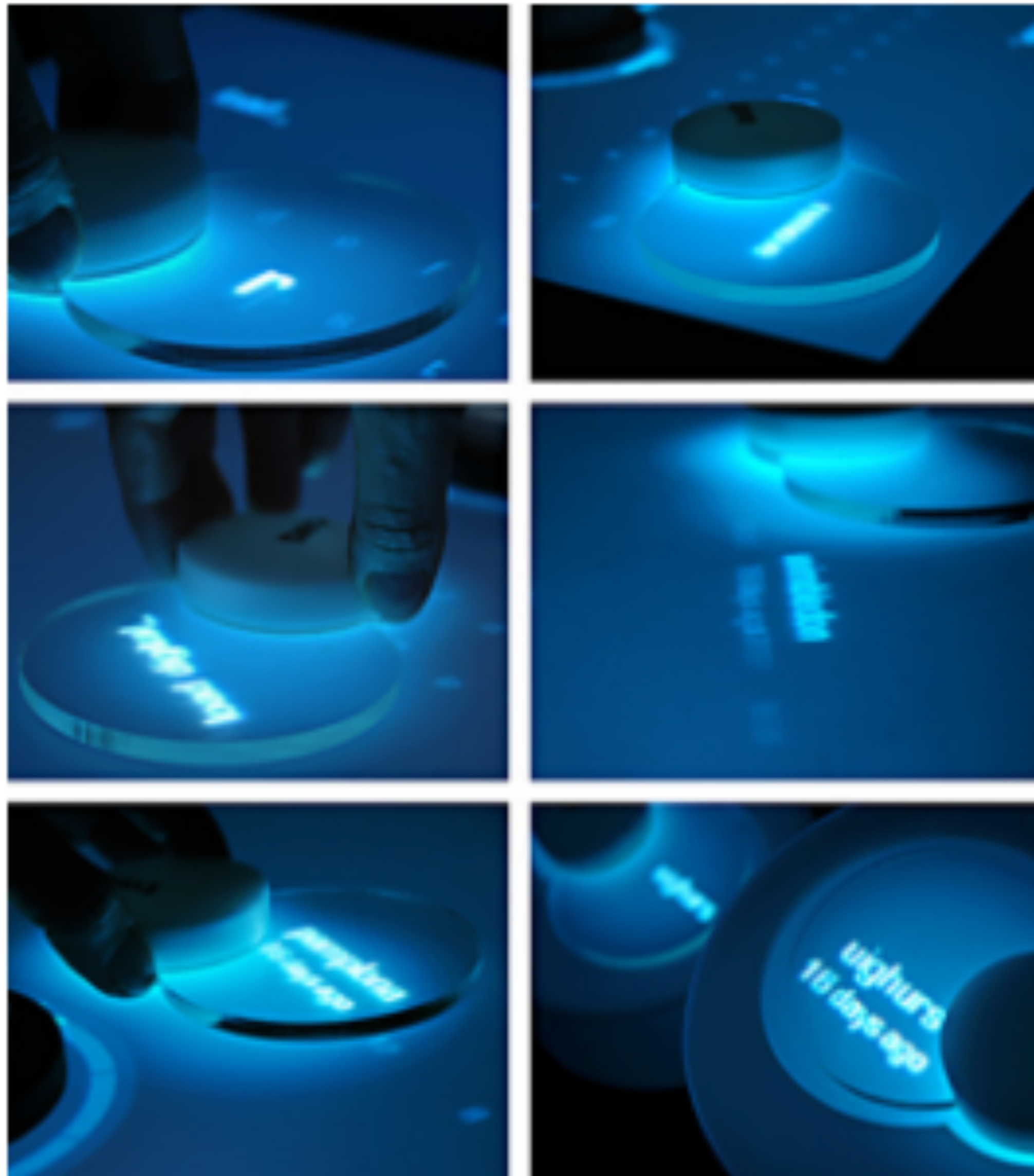
The device emits a smell when you visit an unsecured website on a public Wifi network.

Via Amy Cesal's [Data Smellification — Smelling Data Saved My Life](#)

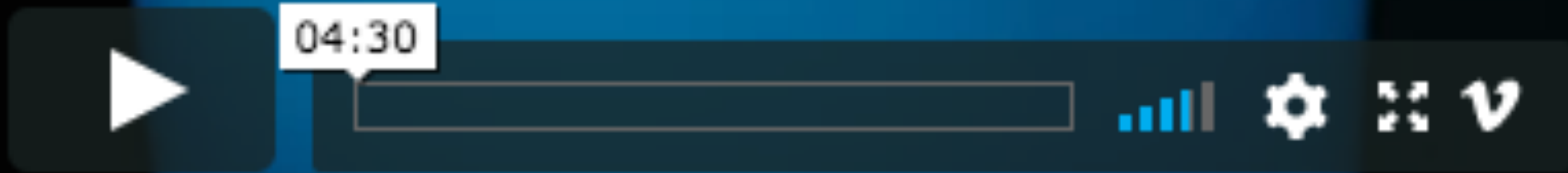


# Heaviness?





# virtual gravity - the physical weight of data



# Shock??

