

# Open Data: Reality Check

David Tarrant  
@davetaz

# Definition of Open (OKF)



A piece of data or content is open if **anyone** is **free to use, reuse, and redistribute** it — subject only, at most, to the requirement to attribute and/or share-alike.

# 5-Stars



<http://5stardata.info/>

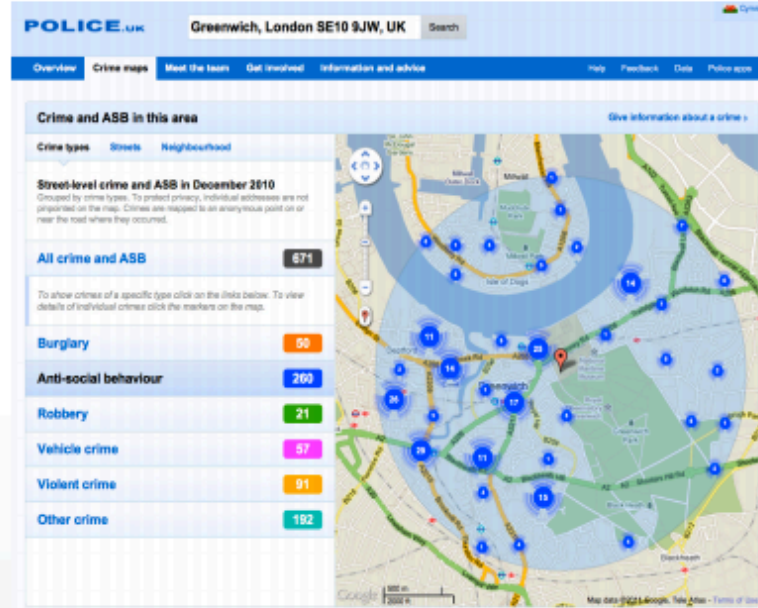
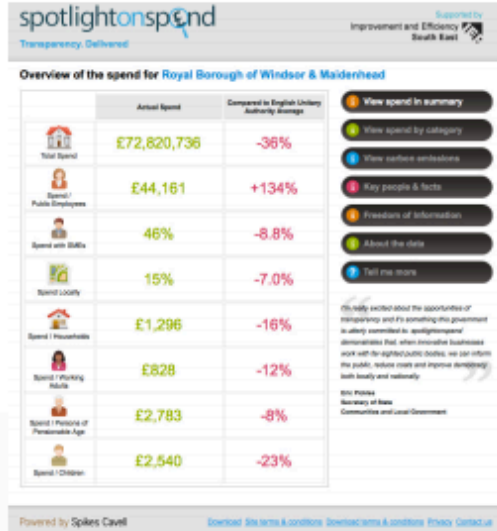


LINKED **OPEN** DATA  
★ On the web **OPEN DATA**  
★ Machine-readable data  
★ Non-proprietary format  
★ RDF standards  
★ Linked RDF  
IS YOUR DATA 5★?

<http://data...>



# open the data...



www.ordnancesurvey.co.uk/opensdata

Home View Devices Supply Help

OS Ordnance Survey OS OpenData

Mapping data and geographic information using Ordnance Survey

Create and support innovation, building ideas and applications using Ordnance Survey mapping. With OS OpenData you can access a selection of the most detailed mapping datasets available for Great Britain.

Now available - OS VectorMap District - a new mid-scale vector and raster dataset (alpha version).

view develop supply

- Outline of Great Britain
- Overviews of Great Britain
- MillScale 0
- 1:250 000 Scale Colour Raster
- OS Street View 0
- Boundary-Line™
- OS VectorMap™ District - New

- Create amazing web applications
- Enhance online projects
- Put Ordnance Survey maps on your website

Our API uses JavaScript to make web pages more interactive, anyone can create an application by following simple code and tutorials.

Order OS OpenData on hard media or download direct to your PC, Mac or laptop (please note - you may need specialist data software to view and use this data...)

about help keep in touch

View, download and order OS OpenData or see OS OpenData to enhance your own application.

You can also experiment with OS OpenData in SQL format.

If OS OpenData doesn't meet your needs, why not try:

- The Ordnance Survey [Data Store](#) for paper maps.
- The [Explorer portal](#) for maps, photos and images.
- Ordnance Survey mapping for [business](#) or [education](#).

See our [FAQ](#) page to find answers to any questions you might have about OS OpenData, get more [technical help](#) with the map viewer or downloads.

Or you can email or call us on 0845 438 1889 (9.30am - 5.30pm, Monday to Friday).

- OS OpenData Licence
- Privacy policy
- Website terms and conditions

Follow us on Twitter, Facebook or YouTube.

Featured blogs:

Ordnance Survey Blog, Sir Tim Berners-Lee, Professor Nigel Shadbolt, Digital Government



# ...and the applications follow



data.gov.uk<sup>BETA</sup>  
Opening up government



## Apps

See UK  
SeeUK provides visualisations of...

- BUSit London
- Carehome Map
- UK Post Box



data.gov.uk<sup>BETA</sup>  
Opening up government



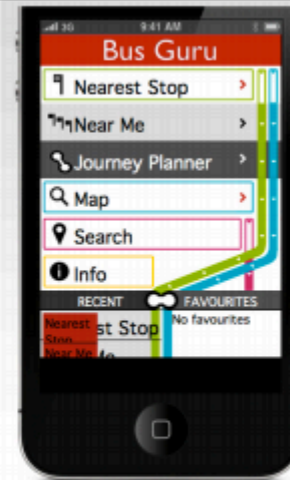
## Apps

- Numberhood
- UK Pharmacy
- UK Crime Stats
- London Cycle Hire

Bus Guru LIVE

Available on the Android Market | Available on the App Store

HOME REVIEWS PRESS SUPPORT



**Bus Guru LIVE NEVER MISS A BUS AGAIN!**

Bus Guru is the UK's first app to give users both the LIVE (real-time) bus times AND the best routes from TfL's Journey Planner and Countdown System – and it's FREE!

**SAVE TIME & ELIMINATE STRESS:** No more waiting around at bus stops, with Bus Guru you can plan your journey to perfection – knowing which route will be the fastest AND when your bus will arrive at the stop.

\*\*\* CLICK ON IPHONE SCREEN TO TRY THE LIVE APP \*\*\*

- For iPhone/iPad: [Download iPhone App](#)
- For Android: [Download Android App](#)
- All Smartphones: To install the Bus Guru mobile app open the following link in your phone's browser: <http://m.buaguru.co.uk> (the web app can usually be saved on your phone from the browser).

**FEATURES**

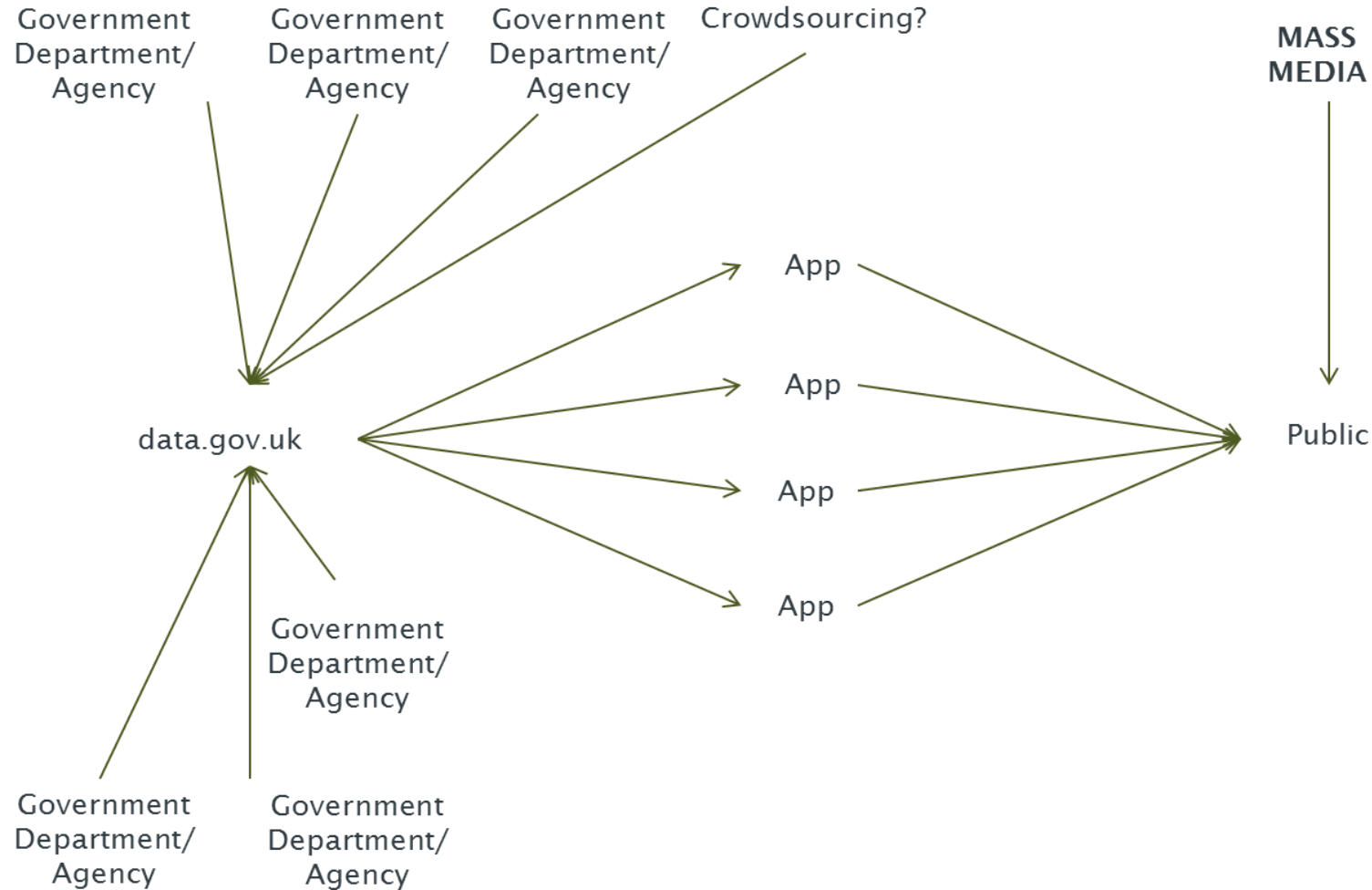
- LIVE INFO:** Up-to-the-second information on all TfL buses' real-time locations.
- ONE CLICK:** To view your nearest stop's buses OR all the bus stops around you.
- LIVE JOURNEY PLANNER:** Compare the quickest routes AND live bus times using Bus Guru's Journey Planner integrated with live bus times. So you can find the fastest bus AND which bus is leaving first. (We have combined two very complex systems so please email [support@buaguru.co.uk](mailto:support@buaguru.co.uk) if you find any bugs and we will update the app).
- SEARCH:** For ANY bus stop and live bus info via an address/postcode/area.

Developed by AppShed

Bus Guru has been developed by



# The role of data.gov.uk?



# Cos that's how the web works, right?



WIKIPEDIA  
The Free Encyclopedia

Main page  
Contents  
Featured content  
Current events  
Random article  
Donate to Wikipedia  
Wikimedia Shop

Interaction  
Help  
About Wikipedia  
Community portal  
Recent changes  
Contact page

Tools  
Print/export

Languages  
Simple English  
العربية  
Bahasa Indonesia  
Bahasa Melayu

Main Page Talk

## Welcome to Wikipedia,

the free encyclopedia that anyone can edit.  
4,450,133 articles in English

### From today's featured article



*Rambles in Germany and Italy* is a travel narrative by the British Romantic author *Mary Shelley* (pictured). Issued in 1844, it describes two European trips that she took with her son and some of his friends. She had lived in Italy with her husband, Percy Bysshe Shelley, between 1818 and 1823 and it was associated with joy and grief: she had written much there but had also lost her husband and two children. Shelley presented her material from what she describes as "a political point of view", challenging the convention that it was improper for women to write about politics. Her aim was to arouse English sympathy for Italian revolutionaries, having associated herself with the "Young Italy" movement when in Paris on her second trip. Although Shelley herself thought the work "poor", it found favour with reviewers who praised its independence of thought, wit, and feeling, and her political commentary on Italy. However, for most of the 19th and 20th centuries, Shelley was usually known only for *Frankenstein* and her husband. *Rambles* was not reprinted until the rise of feminist literary criticism in the 1970s provoked a wider interest in her entire corpus. (**Full article...**)

Recently featured: Bill Russell – Perseus (constellation) – Operation Kita

[Archive](#) – [By email](#) – [More featured articles...](#)

### Did you know...

The screenshot shows the Yahoo! homepage with the logo at the top center. Navigation links include 'What's New', 'Check Email', 'Personalize', and 'Help'. Promotional banners for 'Yahoo! Mail free email for life' and 'Know when friends are online! Click to download Yahoo! Messenger' are visible. A search bar with a 'Search' button and a link to 'advanced search' is present. A horizontal menu lists various services: Shopping, Auctions, Yellow Pages, People Search, Maps, Travel, Classifieds, Personals, Games, Chat, Clubs, Mail, Calendar, Messenger, Companion, My Yahoo!, News, Sports, Weather, TV, and Stock Quotes. The main content area is divided into several sections: 'Yahoo! Shopping' (Thousands of stores, Millions of products) with sub-sections for Departments (Apparel, Bath/Beauty, Computers, Electronics, Flowers, Food/Drink, Music, Video/DVD), Stores (Sports Authority, Gap, Eddie Bauer, Macy's), and Products (Digital cameras, Pokemon, MP3 players, DVD players); 'Arts & Humanities' (Literature, Photography); 'Business & Economy' (Companies, Finance, Jobs); 'Computers & Internet' (Internet, WWW, Software, Games); 'Education' (College and University, K-12); 'Entertainment' (Cool Links, Movies, Humor, Music); 'Government' (Elections, Military, Law, Taxes); 'Health' (Medicine, Diseases, Drugs, Fitness); 'News & Media' (Full Coverage, Newspapers, TV); 'Recreation & Sports' (Sports, Travel, Autos, Outdoors); 'Reference' (Libraries, Dictionaries, Quotations); 'Regional' (Countries, Regions, US States); 'Science' (Animals, Astronomy, Engineering); 'Social Science' (Archaeology, Economics, Languages); 'Society & Culture' (People, Environment, Religion); 'In the News' (Scores killed in Nigerian riots, Austria's Haider resigns as party leader, Floods trap thousands in Mozambique); 'Marketplace' (Y! Auctions - Peanuts, Pokemon, computers, Free 56K Internet Access, Yahoo! Bill Pay - free 3-month trial); and 'Inside Yahoo!' (Yahoo! GeoCities - build your free home page, Play free Fantasy Soccer, Yahoo! Clubs - create your own, Y! Greetings - free greeting cards). At the bottom, there are links for 'World Yahoo!' (Europe, Pacific Rim, Americas), 'Yahoo! Get Local' (LA, NYC, SE Bay, Chicago), and 'Other' (Autos, Careers, Digital, Entertainment, Greetings, Health, Invites, Local Events, Net Events, Message Boards, Movies, Music, Real Estate, Small Business, Y! Internet Life, Yahooigans!). A 'Yahoo! prefers' button and a 'How to Suggest a Site' link are also visible.



# Definition of Open (OKF)



A piece of data or content is open if **anyone** is **free to use, reuse, and redistribute** it — subject only, at most, to the requirement to attribute and/or share-alike.



# 5-Stars



<http://5stardata.info/>



<http://data...>





= Usable data?



= Data I can rely upon to use as a core asset within my business?

# 5 Aspects



# General

				
Title/Description/Publisher/URL	●	●	●	●
Release Type	●	●	●	●

# Legal

Rights to publish 

Data licensed 

Content licensed 








Clear privacy statement 

Sources of data documented

Audited anonymisation 



# Practical

				
Usable period described		•	•	•
Availability period described		•	•	•
Discoverable from home page			•	•
Listed in collection			•	•
Referenced from publication/application			•	•
Quality problems listed			•	•
Quality control process described				•

# Technical

Data hosted online



Type of data defined

Machine readable metadata

Clear technical documentation

Persistent & common identifiers used

5-Star Linked Data



Machine readable provenance

Data can be verified



# Social

Support for improving/fixing

Email support

Discussion groups/forums

Social media channels


Supported community

Tools and guides available to work with data





# Open Data Certificates (certificates.theodi.org)



## Where can you create certificates?

Different countries have different laws, so their certificates are slightly different too. Choose your country to create the right certificate.

Senegal

Create a certificate

**SN** alpha

This certificate hasn't been properly **localised** yet, and we need your help! Please contact [certificate@theodi.org](mailto:certificate@theodi.org)

---

### Legend

Certificate in alpha stage   Certificate in beta stage   Certificate in final stage

# One Objective

Minimum Requirement

3-Star Data

Standard Level Open Data Certificate



Sshhhh

All the examples Nigel demonstrated  
were built from 3-Star data!

as are all one the ones in this  
presentation...

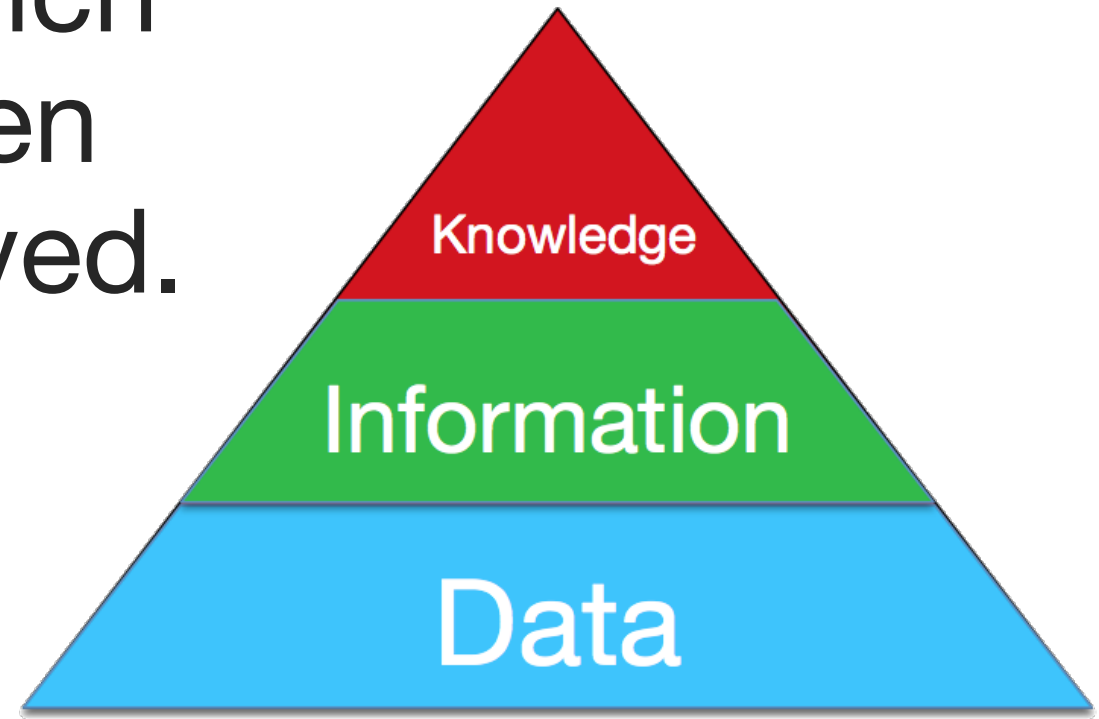
# Data, Information and Knowledge

*“Information is not Knowledge”*

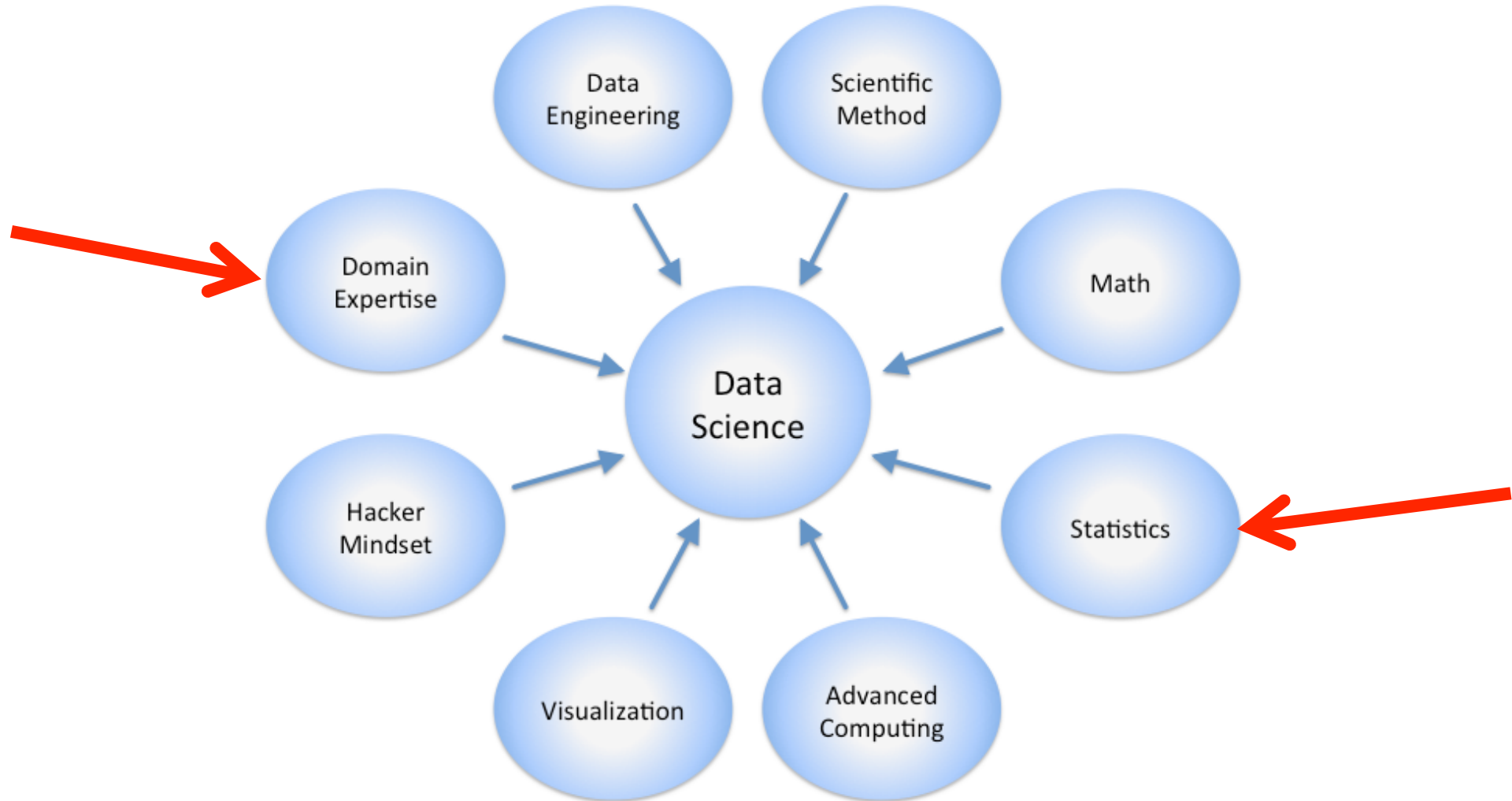
- Albert Einstein

# Data

The lowest level of abstraction from which information and then knowledge are derived.



# Data Science



Making Money  
Saving the World



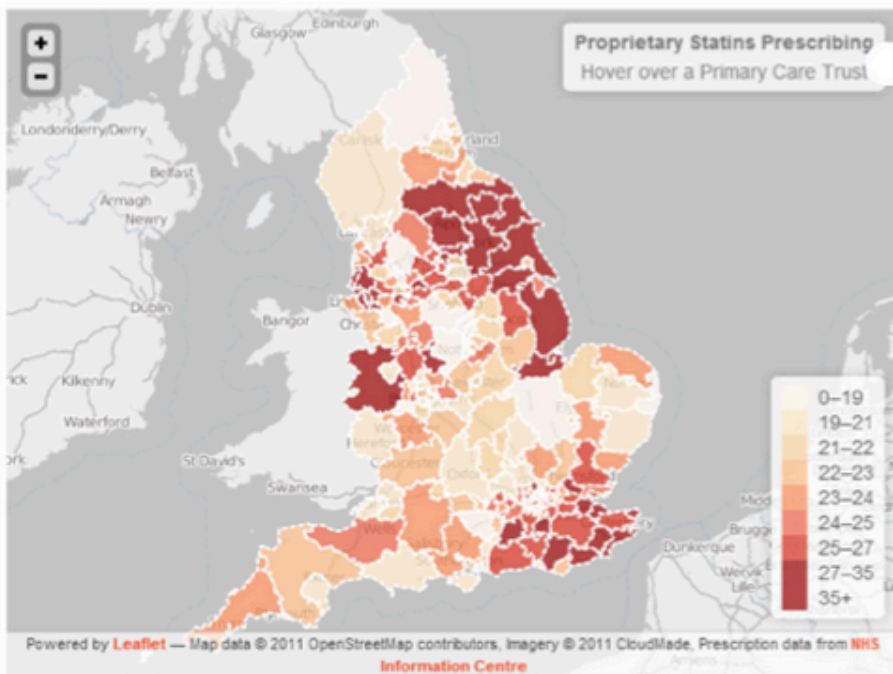
# THE CLIMATE CORPORATION



## NHS efficiency savings: the role of prescribing analytics

The NHS has been challenged to make £20 billion in "efficiency savings" by 2015 (1). £10 billion a year are spent by the NHS on essential drugs. Often, there's a choice between a cheap "generic" medication, or an expensive "branded" one. Branded drugs can cost over ten times as much, for the same therapeutic benefit. "Prescribing Advisors" in the NHS, with the support of NICE, encourage doctors to use the most cost effective treatments. We have analysed exactly how much is spent on expensive "branded" medicines, for one class of drugs, namely statins, in England.

### Percentage of proprietary statin prescribing by CCG Sep 2011 - May 2012



Show PCT data

Where generic alternatives exist, NHS purchasing of branded drugs has a number of effects:

1. There is only a finite amount of money to spend on treatments. Prescribing a patient expensive branded drugs, when cheaper equivalents would have the same therapeutic effect, means that money is wasted. As a result the NHS has less money to spend on the care needed by other patients.

1x Rosuvastatin Calcium  
 1.2x Simvastatin  
 11x Atorvastatin

2<sup>nd</sup> Largest Drug Cost  
 • (prior to June 2012)

Saving Money

# Open data in business

Core consumer



Consumer



Service provider

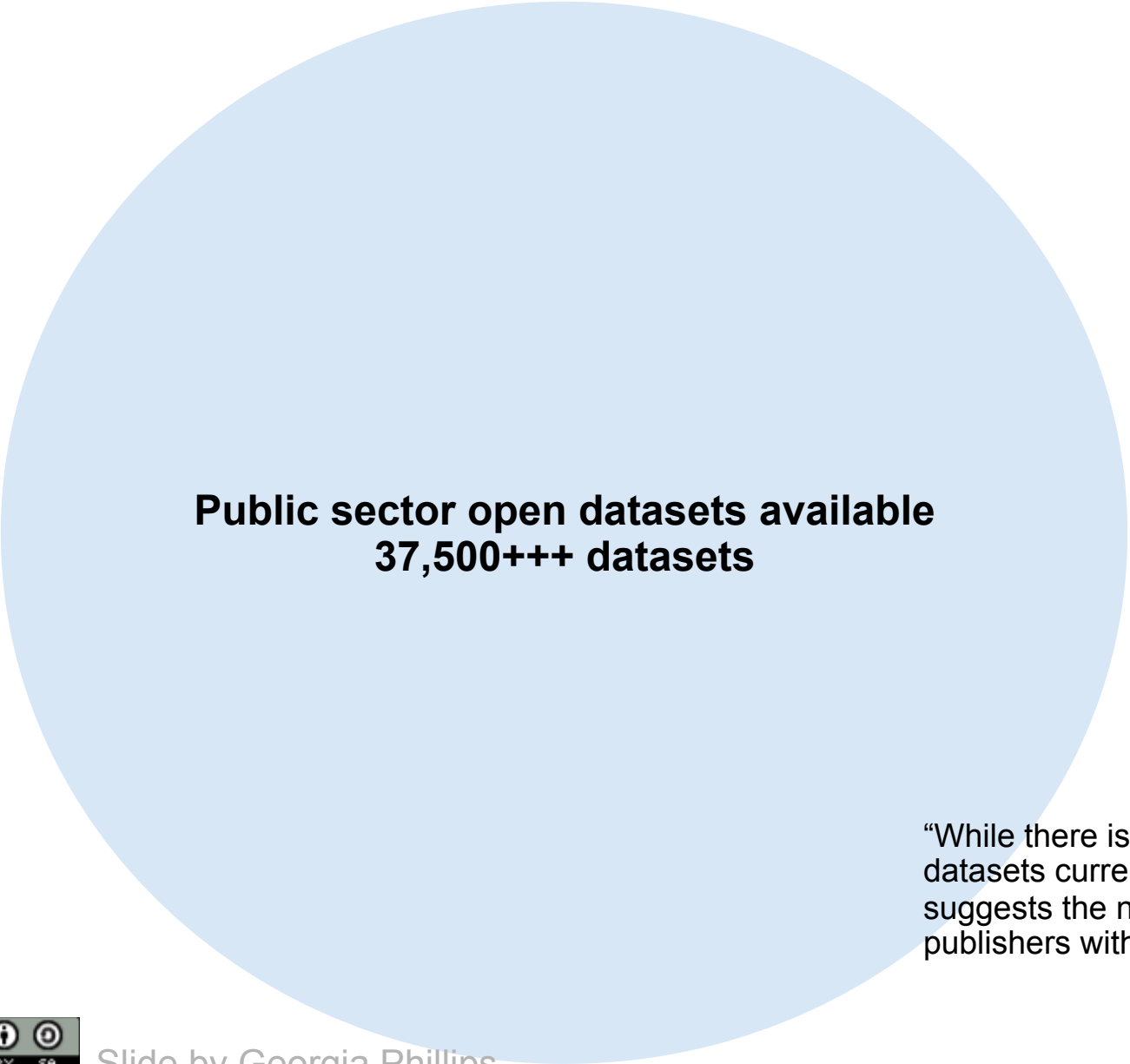
(existing data)




Publisher

(Open Innovation)





**Public sector open datasets available  
37,500+++ datasets**



**Private sector  
open datasets**

“While there is no central figure on the number of public sector information datasets currently being made available, a review of selected data portals suggests the number could exceed 37,500 from over 750 different publishers with over 2.5 million downloads by October 2012” Deloitte 2012

# Easy win: Publishing ESG (environmental, social, governance) data

More companies are deciding that the best strategy is to operate sustainably and release open data that shows it

- Sustainable practices as a sign of good corporate governance & predictor of long-term profitability
- Reduction in investment risk and helps attract new investment
- Good for branding and recruiting
- Can improve operations
- Be a step ahead of Government regulation in this area

***Attention to environmental, social and governance factors is good for business***

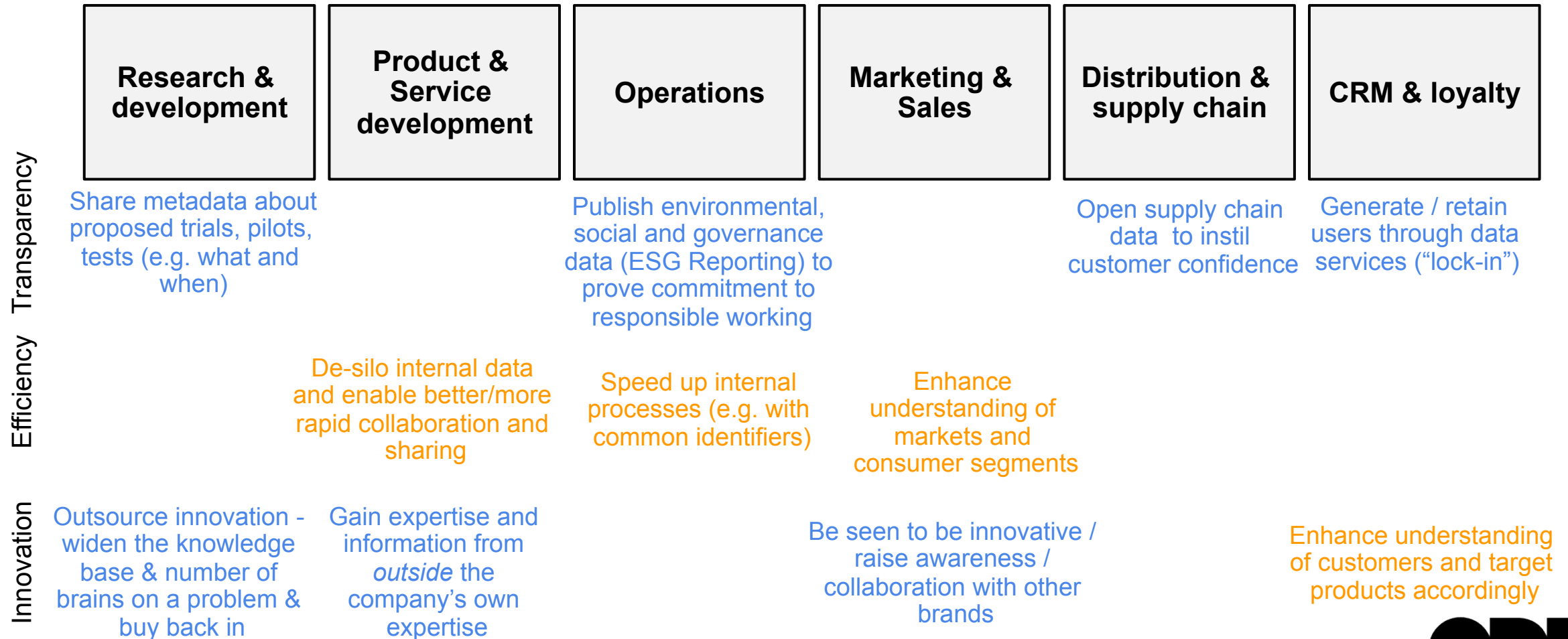
# Where can businesses start **using** data and **publishing** it openly?

Increase transparency / trust / reputation

Operate more **efficiently** and make more informed decisions

**Innovate** to deliver new products, services and ways of working

# How businesses can best **use** data and **publish** it **openly** will vary, but there are some common themes...





Strategic use of data and publication of open data driving business value and new business models

Targeted use of open data amongst specialist teams

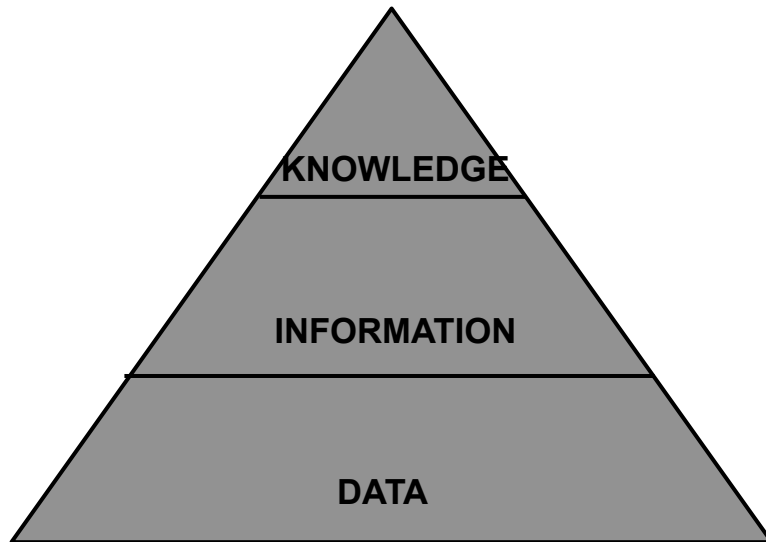
Ad hoc / tactical / inconsistent use of open data

Minimal awareness of open data and no recognition of its potential value to the business

- **Senior management championing open data** and sharing stories exemplifying the benefits and value it can bring
- **Teams across the business consistently using open data** to generate answers to problems, innovate and operate more effectively
- **Training, engagement and events promoting the value of open data** being shared internally and externally so employees and customers feel encouraged and empowered to use and publish data

# Open data has the potential to deliver value for businesses if they...

Strategic use of data and publication of open data driving business value and new business models



- understand that the value isn't in the data itself but in what you do with it
- make data part of their core strategy or a critical part of their strategy
- use data to inform what they do and the decisions they make
- invest in training their domain specialists to understand and use data to enable business specific outcomes

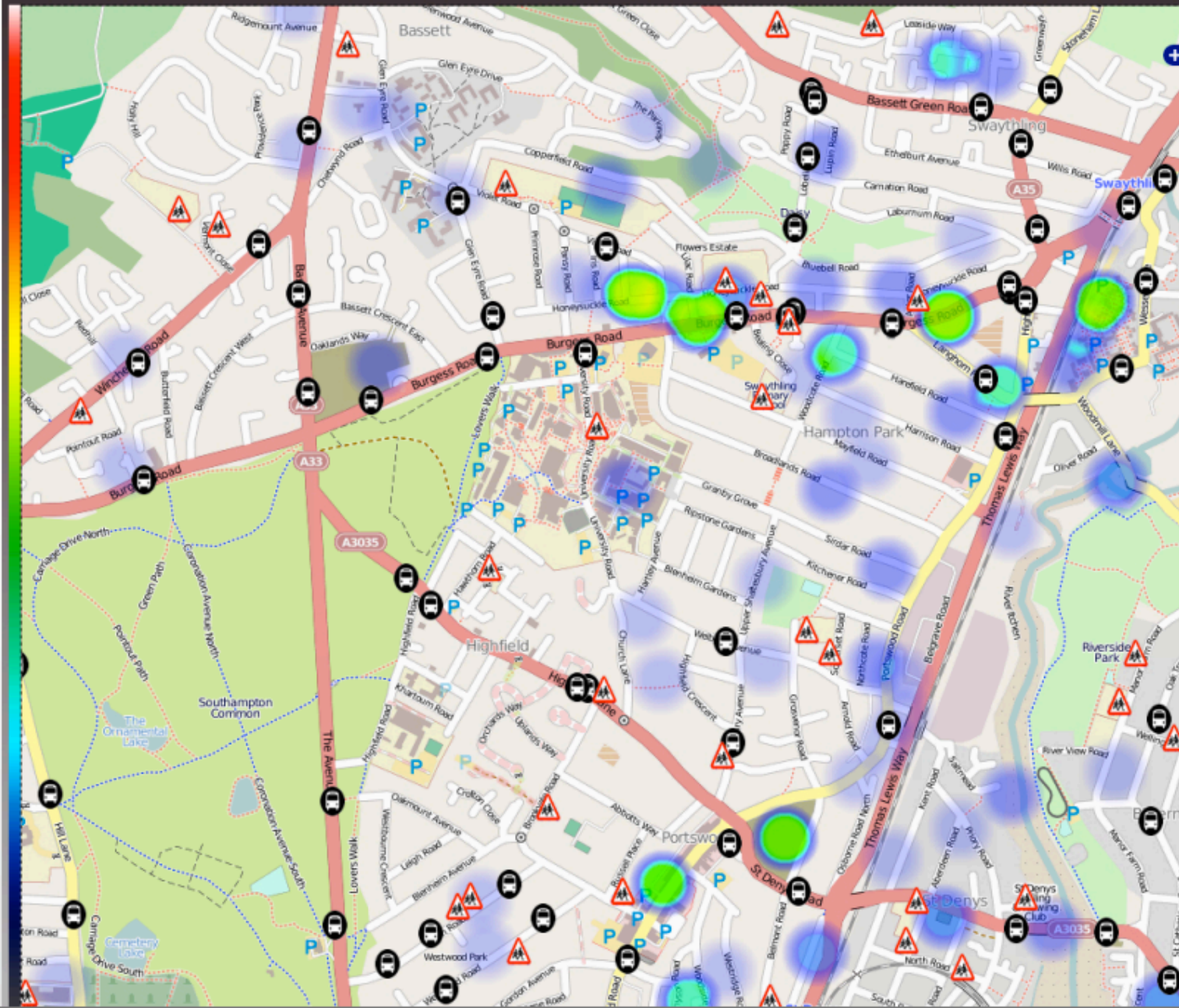


# Data: Powerless without knowledge

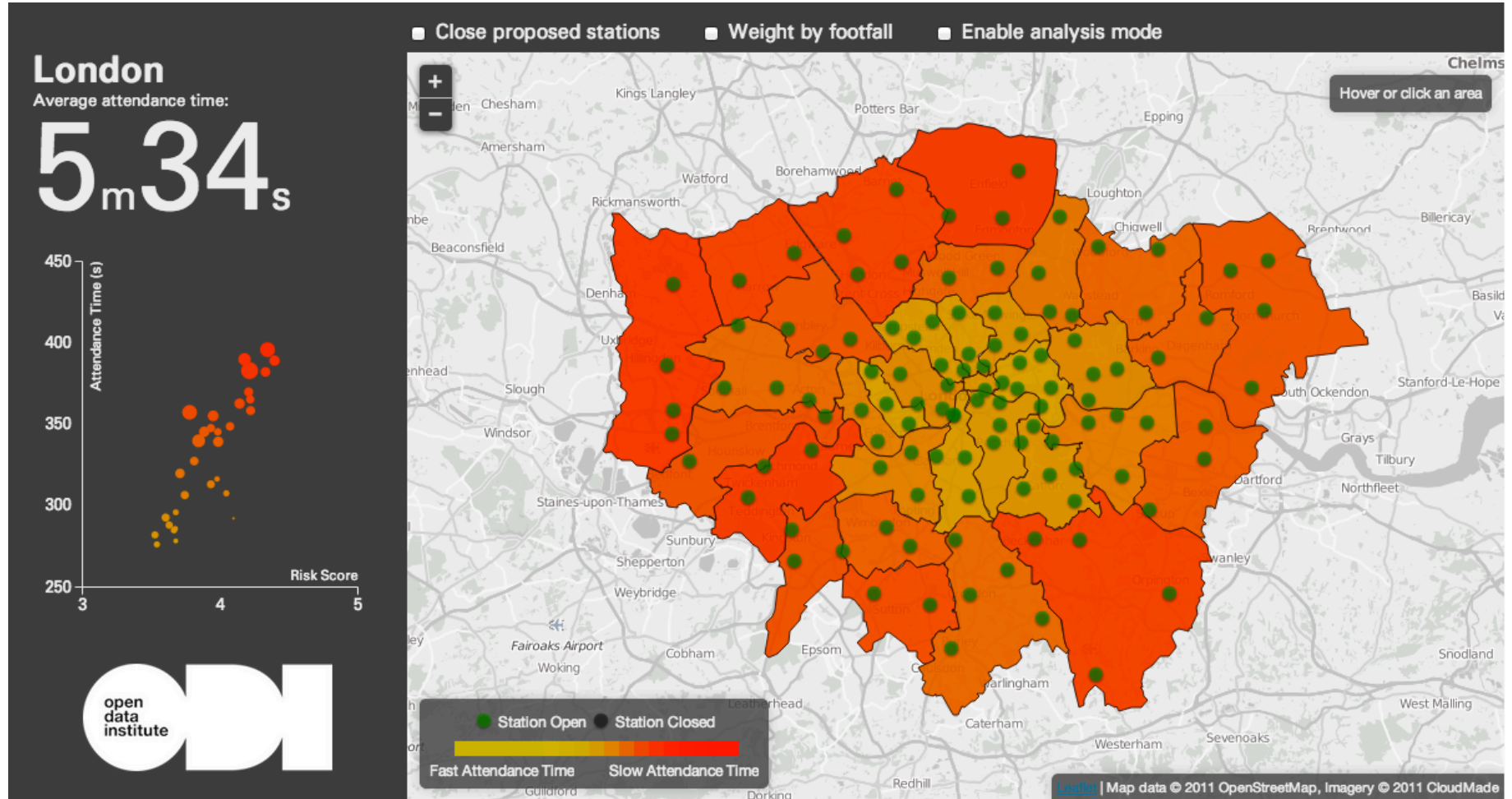


Beware of what people do  
with data and information!

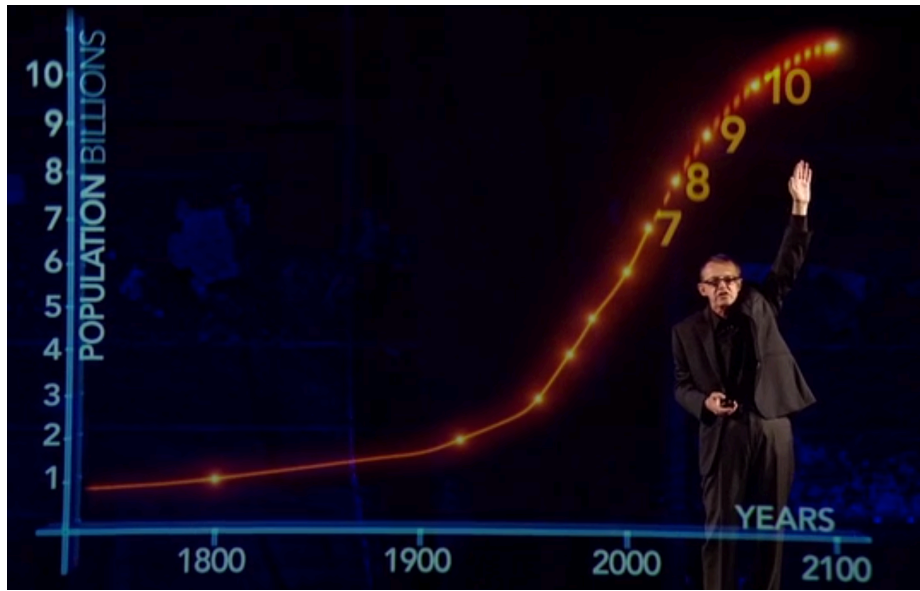
# UK Crime Heatmap for SO17 1BJ



# London fire station closures



# When domain expertise isn't enough?

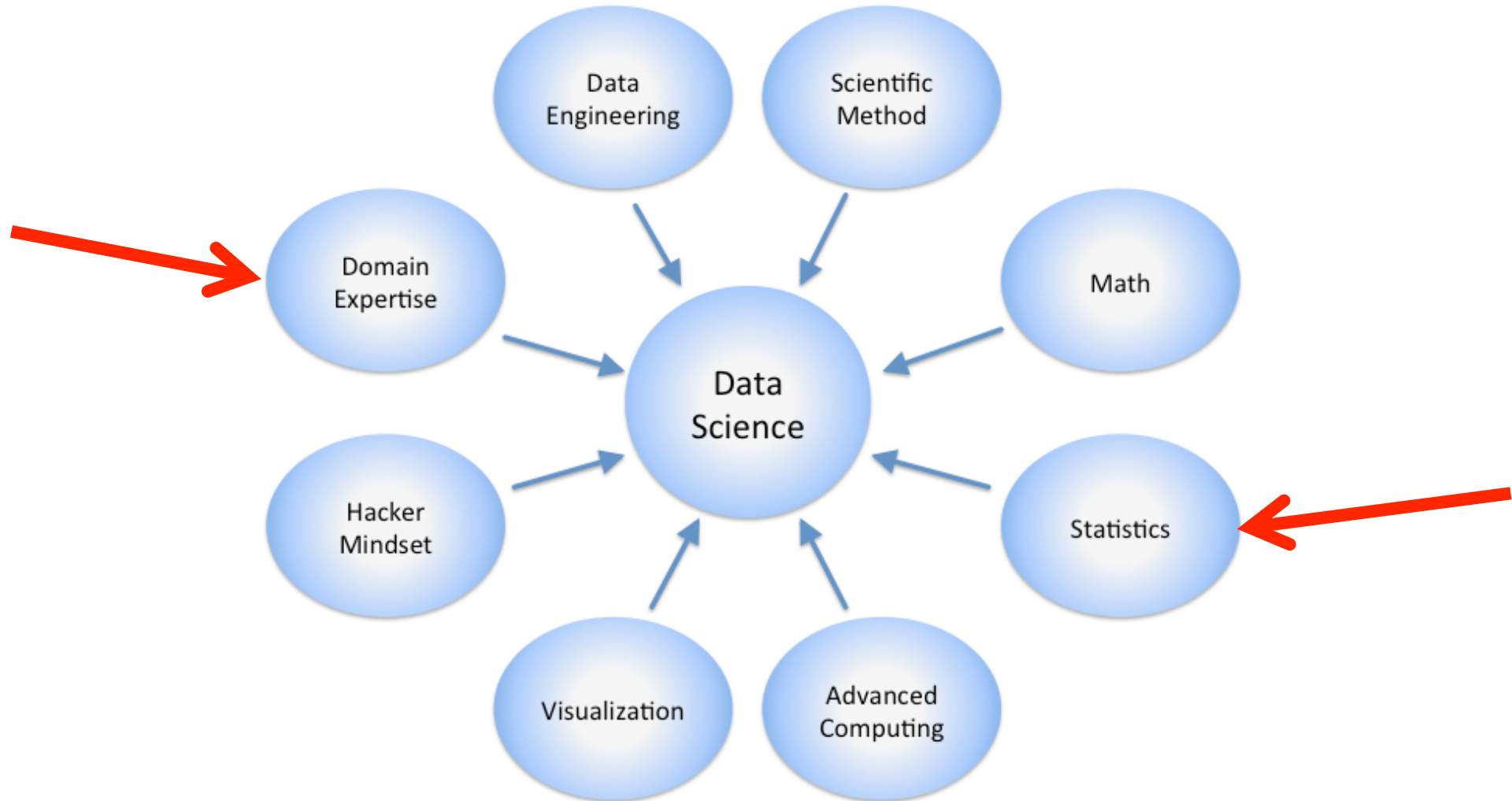


## Worldwide cancer cases expected to soar by 70% over next 20 years

New cancer cases expected to grow from 14m a year in 2012 to 25m, with biggest burden in low- and middle-income countries



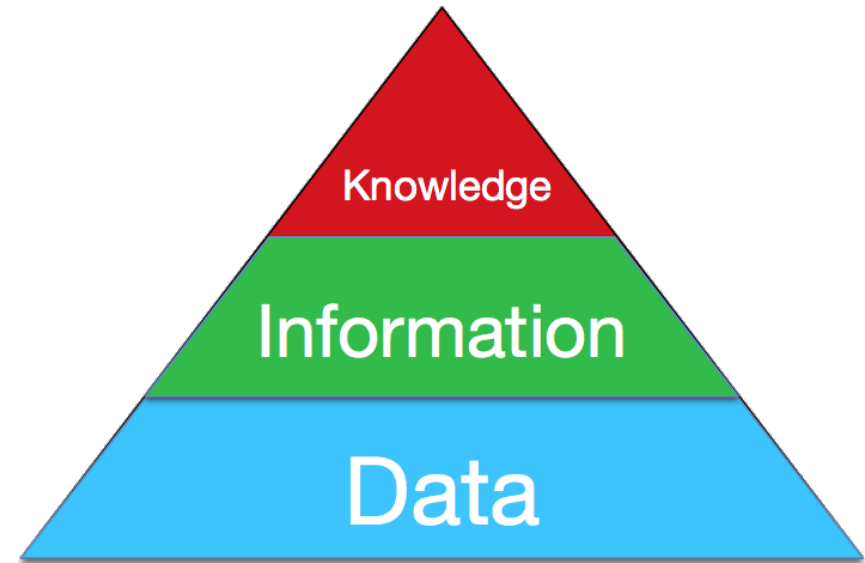
# Data Science



# Exercise

Pick any dataset on [data.gov.uk](https://data.gov.uk) and see how far you can get up the triangle.

How would you improve its publication?



# Further reading:

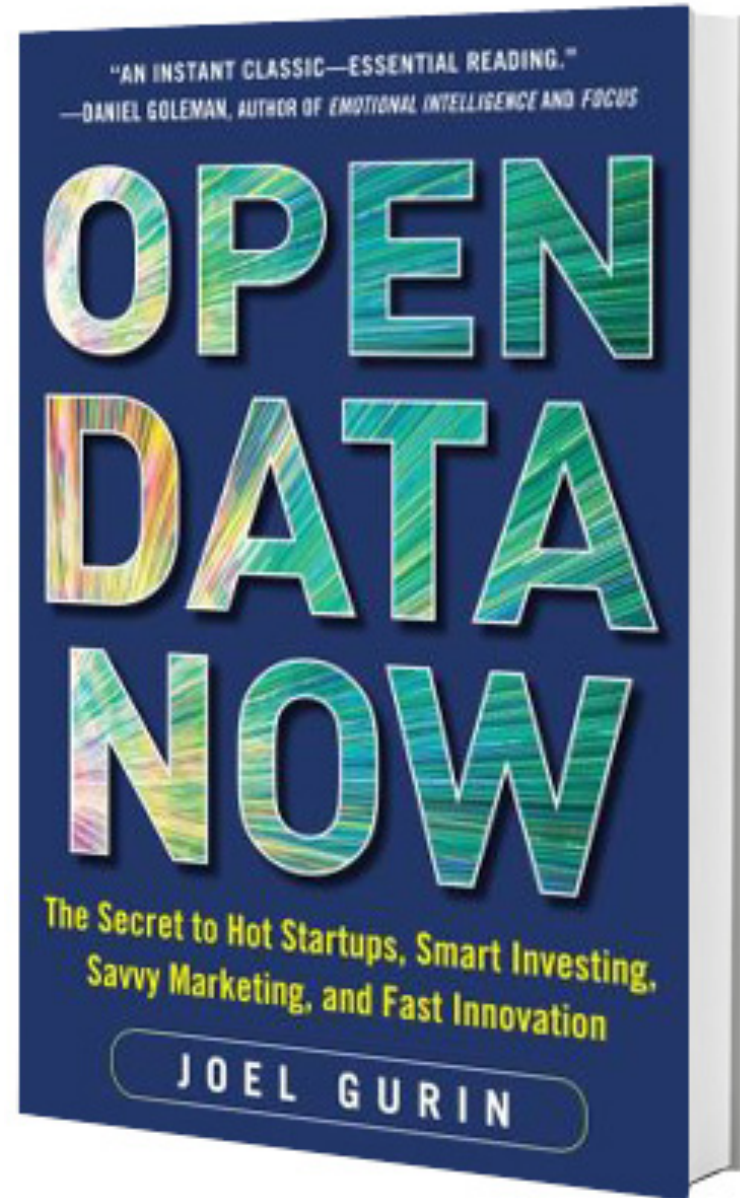
- Don't Panic: The truth about the population! ([gapminder.org](http://gapminder.org))



# Open Data Now

Lots of examples of consuming and making money from government data.

Some examples are not open data (beware)

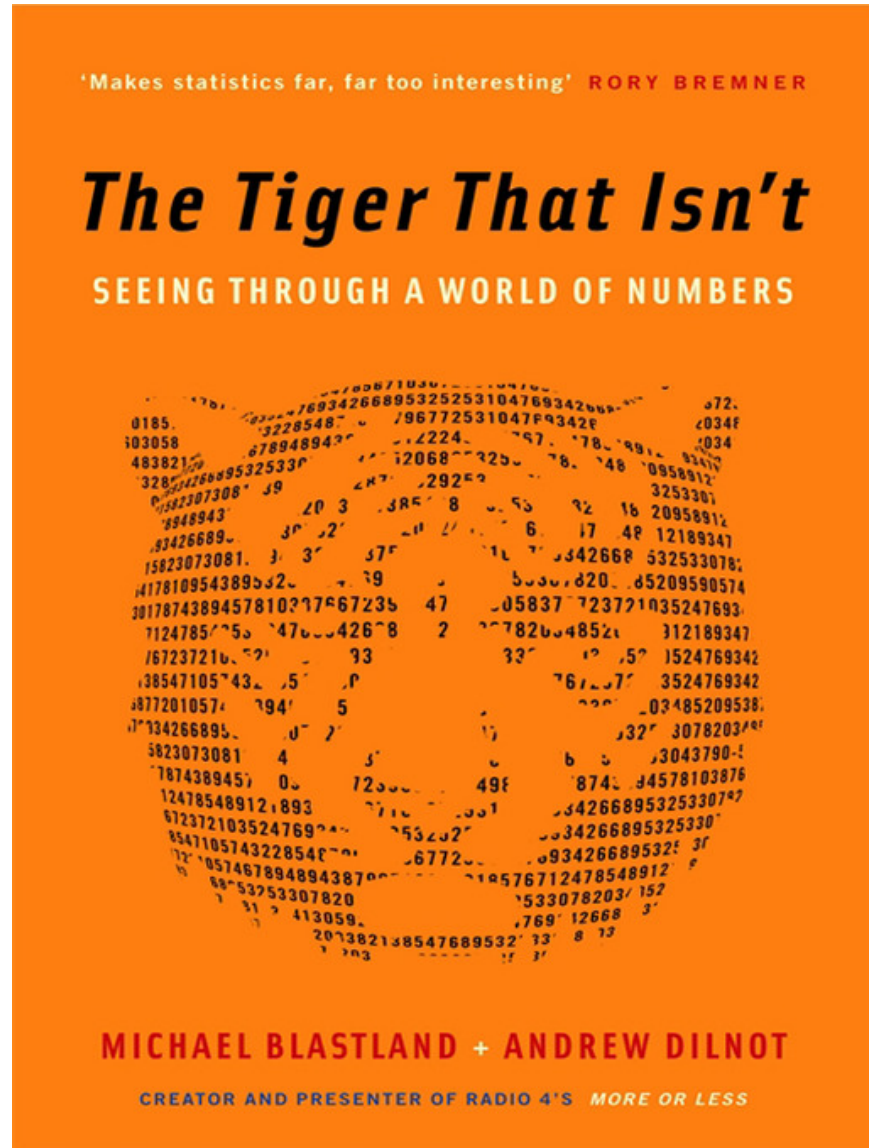




# Hidden Tiger

Ruin your ability to take headlines seriously.

Learn how to count...  
again.



# Talking of counting...



Remember what headlines get written about the results and what affect this might have on your future career.

Data != Knowledge



Thank you