'Seeing the World as it really is'

… in at least 5 dimensions, graphically

Jeff Evans

j.evans@mdx.ac.uk

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A 'crisis in statistics' ? (ALM-24, Evans, 2018)

… threatens public discussion and policy-making e.g. Brexit, Cambridge Analytica

→ Challenge: how to respond?

… with depression or avoidance

… address where possible in our teaching, using appealing pedagogic methods

… help students learn content useful in wide range of situations

→ statistics

→ to enhance the development of numeracy, via approach both appealing pedagogically, and rooted in a positive worldview.
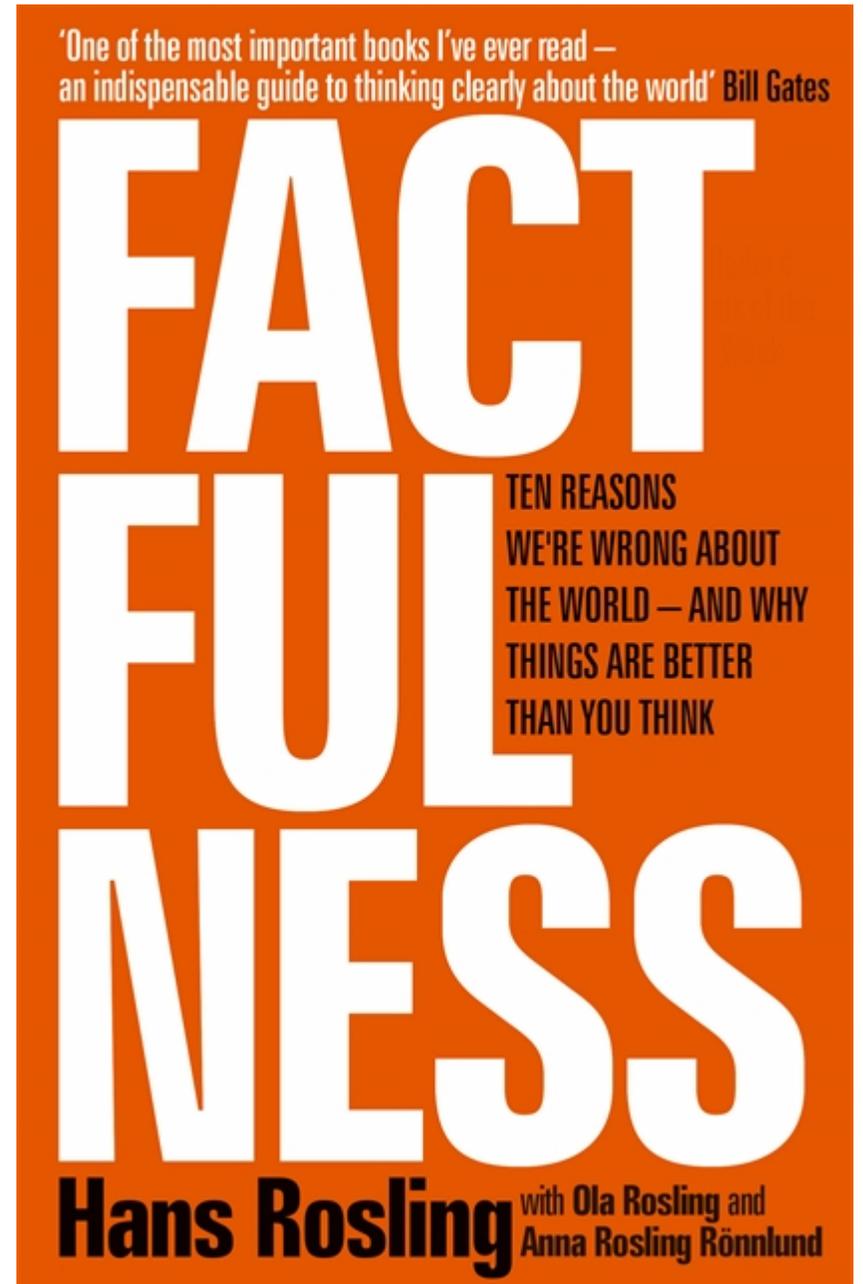
→ … the work of the late Hans Rosling and his associates in the **Gapminder project** (Rosling et al, 2018).

the gapminder project (Rosling, 2018).

Hans Rosling: 1948, Uppsala …
Bangalore – Mozambique – world 2017)
- Positive worldview: "Things
  are better than you think"
- Empowering in giving access to
  informative stats …
- Fun … and beautiful

'One of the most important books I've ever read – an indispensable guide to thinking clearly about the world' Bill Gates

FACTFULNESS

TEN REASONS WE'RE WRONG ABOUT THE WORLD – AND WHY THINGS ARE BETTER THAN YOU THINK

Hans Rosling with Ola Rosling and Anna Rosling Rönnlund

Factfulness

The stress-reducing habit of only carrying opinions for which you have strong supporting facts.

Avoid 10 misleading 'instincts'

… interfere with a clear understanding of the world 'as it really is':

- the Gap Instinct (which leads us to think e.g. that the world is naturally and permanently divided into 'Developed' and 'Developing' countries)

- the Negativity Instinct (which these researchers argue flows from the way that the brain works)

- the Destiny Instinct (which others argue flows from the supposed innate characteristics of national groups).

Using the software

www.gapminder.org

Take the Gapminder test:

Check your perceptions of the world with the 'facts'

And follow up some FAQs:

How did babies per woman change the world?
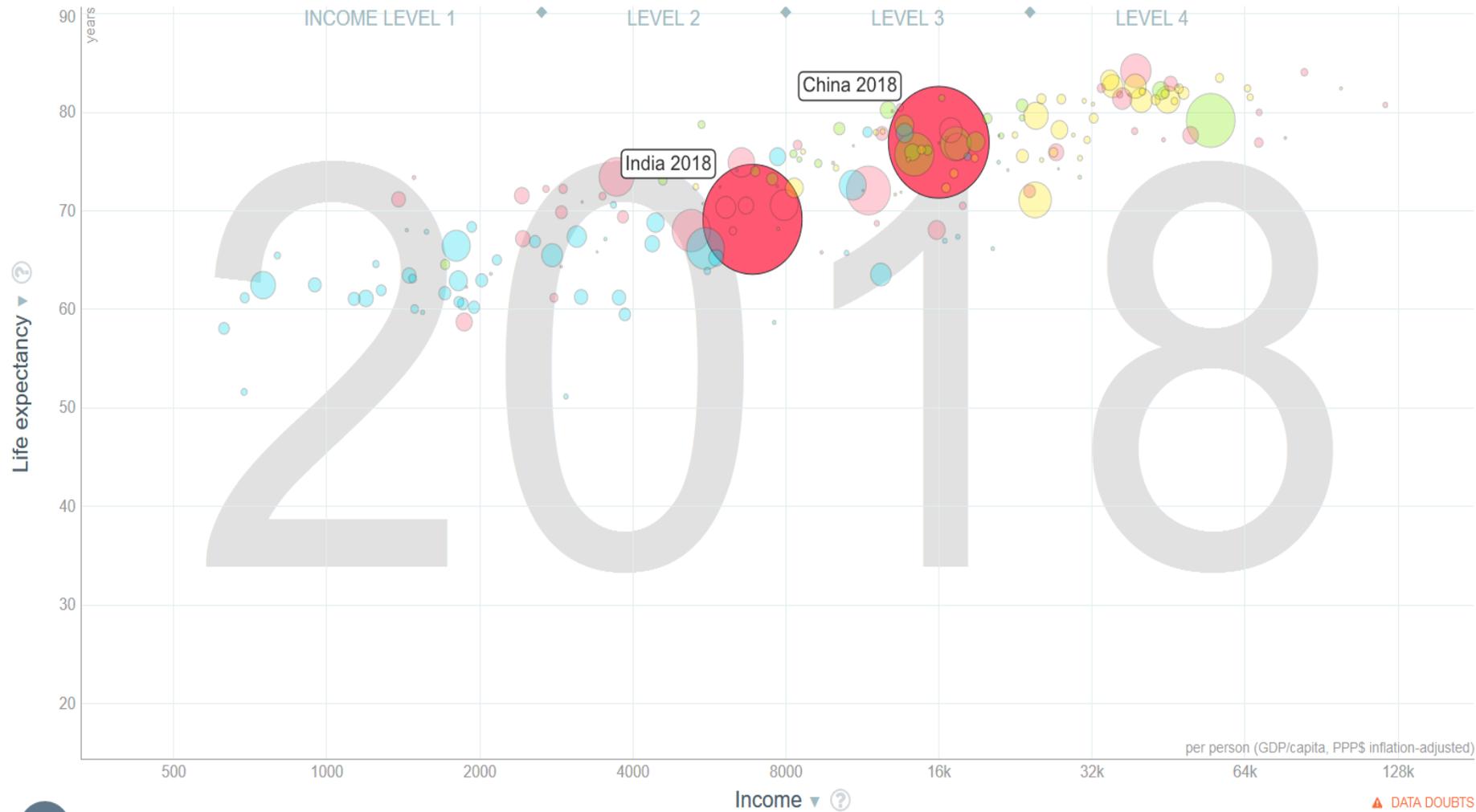
https://www.gapminder.org/answers/how-did-babies-per-woman-change-in-the-world/

Can you see 3 dimensions?

... where are the 4ᵗʰ and 5ᵗʰ?

Gapminder's basic approach

Indicators, usually one or two variables at a time

At aggregate level for "all" countries, e.g. national average life expectancy

For all years from 1800 to the present

So now look more closely at Life Expectancy *vs.* Income (GDP)

https://www.gapminder.org/

… Use the tools

Summary

- Tremendous effort to produce the resource (Thanks!)

- Fun to use

- Useful for teaching: easy to access, instructive, worthwhile

- Viewpoint: "Optimism where optimism is due"

Thank you!

William Davies, "Have statistics lost their power in policy discussions? – and why we should fear what comes next … " *Guardian*, 19 Jan 2017.

J. Evans, S. Ruane, H. Southall (eds.), *Data in Society: Challenging Statistics in an age of globalisation*, Policy Press, 2019

John Naughton, *95 Theses about technology: Triggers for conversations about our networked world*, 2017. Online: 95theses.co.uk

Radical Statistics. http://www.radstats.org.uk/

Hans Rosling et al: https://www.gapminder.org