

# STATISTICS REVELATION

Katie Chicot and Hilary Holmes confess that they never really liked statistics.

Earlier this year I was sent the link to the best maths clip I've ever seen. It was something of a revelation to me because I have a guilty secret - despite being a mathematician, I don't much like statistics. All that changed when I began watching Professor Hans Rosling's *The Joy of Stats*. The clip I was sent showed 200 years of history of 200 countries in four minutes. The history is shown in the form of a dynamic graph plotted to show life expectancy versus average wealth for 200 countries. Now I pass the clip on to everyone I speak to, and so here is the link:

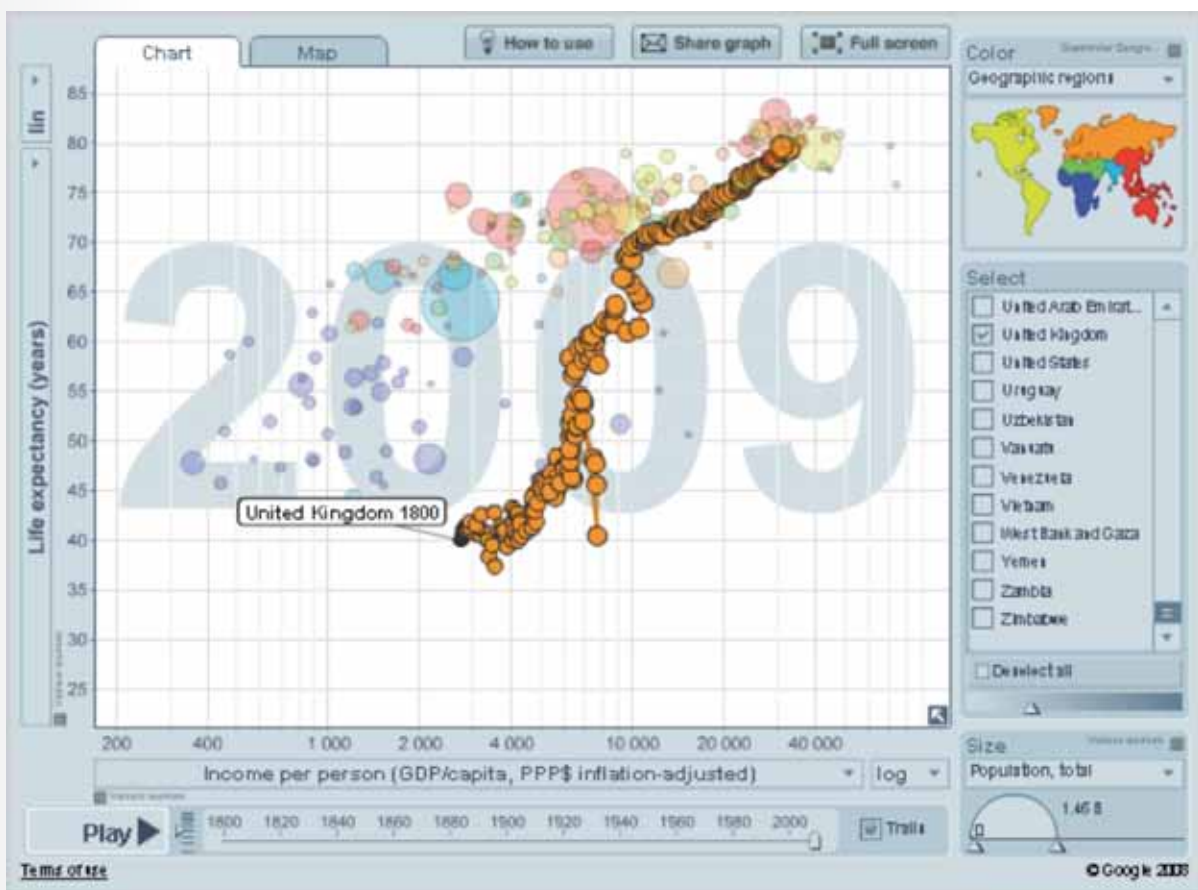
<http://www.open.ac.uk/openlearn/science-maths-technology/mathematics-and-statistics/statistics/the-joy-stats-200-countries-200-years-4-minutes>

The clip is intriguing and I immediately wanted to explore the data involved. Watching the life expectancy of the Chinese soaring then crashing sparked question after question in me.

So I was thrilled to learn that the mind bogglingly large dataset, which the 200-year clip is based on, is available to play with using the software 'Gapminder', available at <http://www.gapminder.org/>. Now I could track the life expectancy in individual countries, watch the impact of the world wars and the industrial revolution.

Gapminder shows international trends with a strong slant on beautiful presentation and social justice and there is so much to explore. The next dynamic graph I watched was the HIV epidemic 1980 to 2009. Watching the globe become enveloped with rapidly spreading bubbles brought home to me how we have sleep walked into a global disaster. I don't think any other way of showing the information could have made the point as strongly.

Suddenly statistics is interesting.



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No of Adults with HIV in 1980



No of Adults with HIV in 2009

Having had a good play with *Gapminder*, I began to watch other Hans Rosling clips and became an all round fan. In the clip linked below he talks about how good sharing of data has affected the policing of crime in San Francisco:



<http://www.open.ac.uk/openlearn/society/the-law/criminology/the-joy-stats-why-you-might-go-hill-come-down-crime-victim>

We have our own crime maps in the UK too (<http://www.police.uk/data>) so I immediately popped in my postcode and delved into the crime in my local area. It's well worth a look. As well as the usual round of break-ins it turns out there is a hot spot of gate thieving just down the road.

By this point, I was becoming hooked. The next story was to me pure science fiction.

<http://www.open.ac.uk/openlearn/science-maths-technology/mathematics-and-statistics/statistics/the-joy-stats-how-statistics-make-understanding-foreign-words-sim>

Google have been heaping innovation upon innovation. Not content with being the portal of all the world's information, Google have embedded invention in their working practice by giving engineers 20% of their time to spend on creative projects. This has resulted in many of the spin off programs that you may be familiar with like GoogleEarth and GoogleBooks. Now we are on the cusp of a real 'Babelfish'. Using massive statistical analysis GoogleTranslate can make an excellent 'guess' at the correct translation of what you are typing almost instantly. In the not too distant future this will expand to devices, which you

can speak into; the translation can be played in real time to your conversant and when they reply it can be translated back to you almost simultaneously. Google doesn't need to know what any of us are saying. It can just run an enormous analysis of the words you are using and statistics does all the work.

Now converted to the virtues of data, my radar picked up on the next data project of Sir Tim Berners-Lee. Since one of his earlier projects was the invention of the World Wide Web, I am sure this project will also be of merit.

[http://www.ted.com/talks/lang/eng/tim\\_berners\\_lee\\_the\\_year\\_open\\_data\\_went\\_worldwide.html](http://www.ted.com/talks/lang/eng/tim_berners_lee_the_year_open_data_went_worldwide.html)

A short description of the project is that it aims to share datasets on the web as easily as we currently share text documents. We can all share text easily on the web as we have a Hypertext Markup Language (HTML) protocol. All web pages are put up 'in the same way'. If we can do the same with data, then the web takes a leap forward in power and usefulness. Sir Tim shows examples of how this helped rescue workers in Haiti and how it helped show up breathtaking injustice in the USA.

It may not be my kind of maths but, I now appreciate that statistics can tell riveting stories, and some stories can't be told without statistics.



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[go to www.atm.org.uk/mt227](http://www.atm.org.uk/mt227)

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