

# Development redraws the map

They are maps, but not as we know them. A new series of global cartograms depict not the physical size of countries but their wealth, health and income. And a range of other development-related subjects.

"You can say it, you can prove it, you can tabulate it, but it is only when you show it that it hits home," said Prof Danny Dorling, of the University of Sheffield, one of the developers of Worldmapper, a collection of cartograms that rescale the size of territories in proportion to the value being represented.

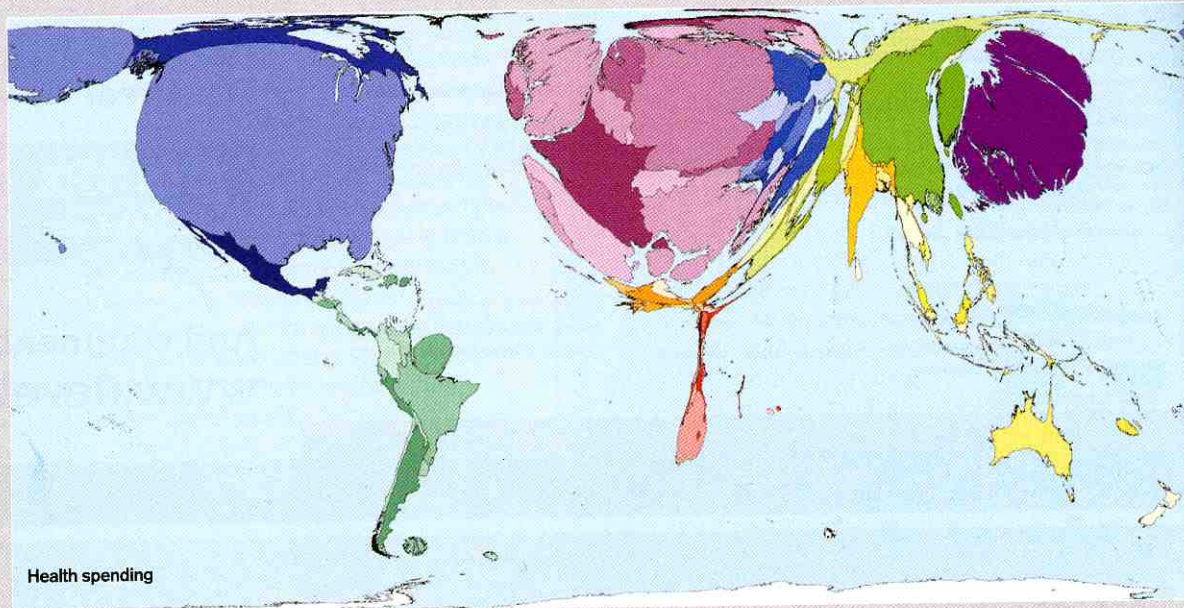
For example, on maps of public health spending, research expenditure and wealth, Africa appears tiny – whereas on maps which illustrate malaria or deaths from drought, the continent appears enormous.

The maps reveal changes – or not – over history, such as in global wealth. In 1500 the regions with the largest figures for gross domestic product (GDP) were eastern and southern Asia. Those with the lowest GDP were central and southeastern Africa. In 2002 they had an even smaller proportion of the world's total GDP.

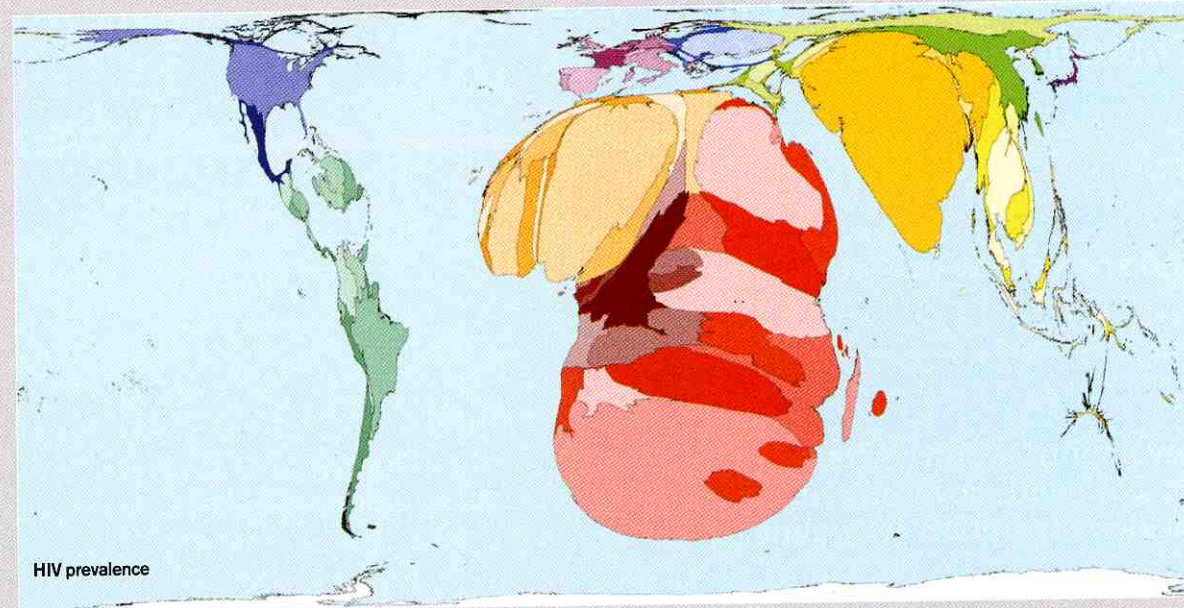
One series of 16 maps, entitled "Violence" shows the world according to different factors of conflict: nuclear weapons, land-mine casualties and war deaths over various periods. The cartograms reveal staggering differences between the effects of war and the amount of money spent on it.

Maps which reveal insect infestation and the elderly show how China is ballooning in dominance. When it comes to illiterate young women, India is huge. Measuring alcohol, the Middle East is a speck on the map compared to Western Europe, where the average person drinks over a third more than people in any other region.

The Worldmapper project has involved researchers at the Social and Spatial Inequalities Research Group of the University of Sheffield and Mark Newman, from the Center for the Study of Complex Systems at the University of Michigan in the United States.



Health spending



HIV prevalence

"The map of HIV prevalence is striking," said Mr Newman. "And compare that with the map of public health spending, which is almost the exact reverse."

Over the last year, the project has created hundreds of new world maps from transport and food, to fuel and housing, from health and disease to pollution and communication.

"What I think matters most," says Prof Dorling, "are the new ways of thinking that we foster as we redraw the images of the human anatomy of our planet in these ways. What do we need to be able to see – so that we can act?"

Worldmapper shows what are called equal area cartograms, where territories are redrawn according to a particular variable.

The sea is always the same proportion of the map. The colour and shade for each territory is the same on every map and the territory shape and relative positions are also preserved.

MORE INFORMATION

[www.worldmapper.org](http://www.worldmapper.org)