

**NOVEL RESEARCH** When a political satirist decides to apply a new way of charting trends to help identify which nations will become the world's leading innovators the results are, well, less than rigorous.

# Mapping a future for the world

By P. J. O'ROURKE

**P**REDICTING innovation is something of a self-cancelling exercise: the most probable innovations are probably the least innovative. The history of humankind's development can be summed up as the story of surprise. Adam Smith failed to forecast the Industrial Revolution despite his friendship with James Watt, inventor of the steam engine that powered it. And who would have prophesied MySpace or Oprah in quantities greater than 100mls?

But even if we can't see what innovations are around the corner, maybe we can at least predict what places are likely to be the most innovative in the future. An innovative tool called Worldmapper might help.

Worldmapper was created by geographers from the University of Sheffield's Social and Spatial Inequalities Research Group (There's an innovative college major!) and by Mark Newman, a physicist at the University of Michigan. It allows them to turn all sorts of obscure statistical information into vivid pictures. Countries look skinny or fat according to their share of wealth or trade or population, but retain their familiar national boundary shapes. The results are often cartoonish, but nonetheless scientifically precise. Perhaps a decidedly unscientific tour through a few of Worldmapper's more than 200 maps will help us see which countries are best endowed with the stuff of future innovation.

## Mother is the necessity of invention

No place can be innovative without children. This is not because of the platitudinous link between youth and creativity; the children's art on my refrigerator suggests there isn't any. Ben Franklin was no kid when he invented bifocals. Henry Ford, by all accounts, seems never to have been youthful. But countries with children, demographers predict, will have adults. India, China and the nations of Africa and South Asia are in the lead, as the Total Children map shows. Note, however, that there are adequate numbers of children elsewhere, even in supposedly child-proof Europe and Japan, and plenty in the United States. And not every child will grow up to be an innovative adult.

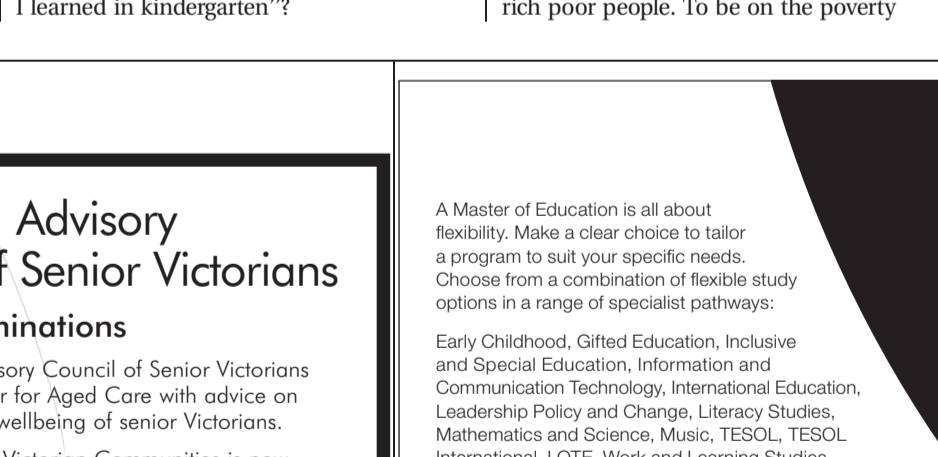
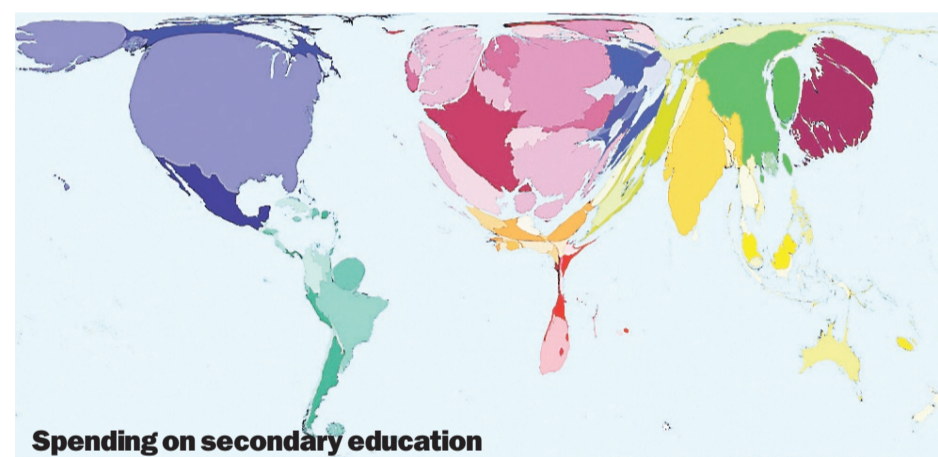
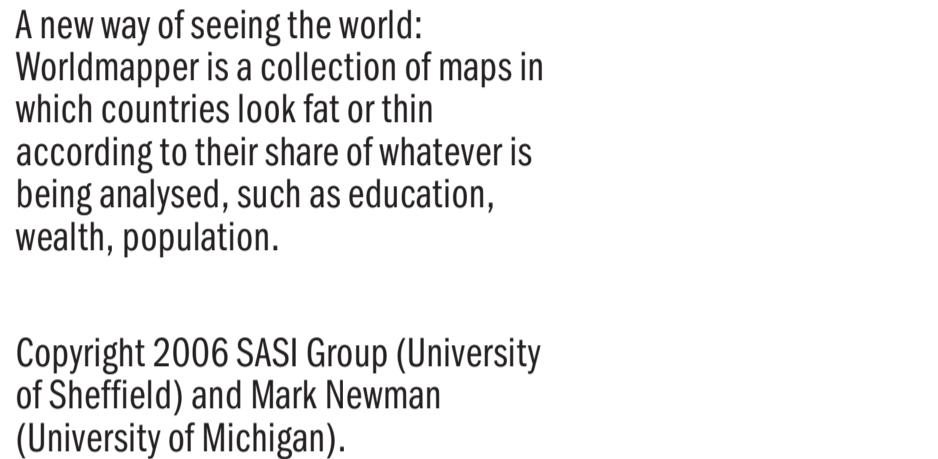
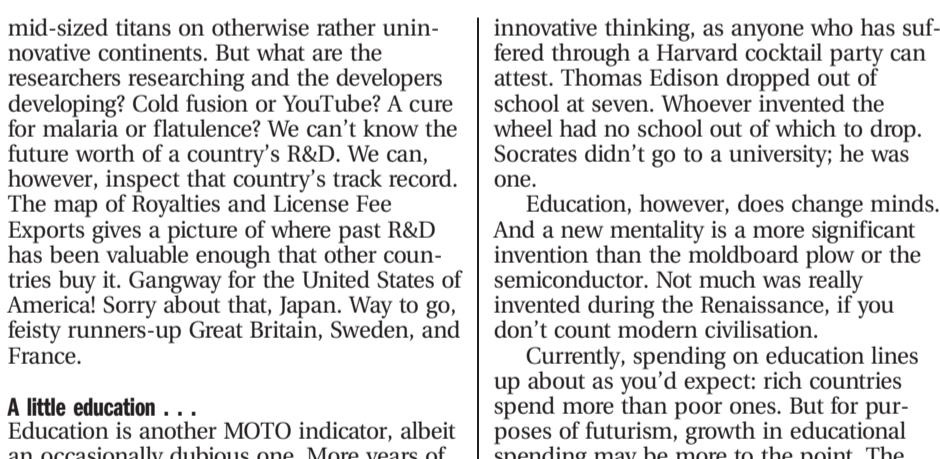
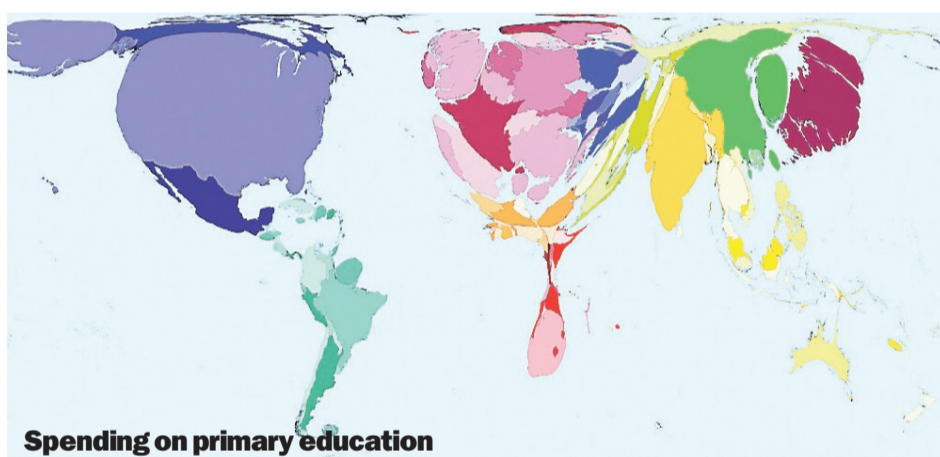
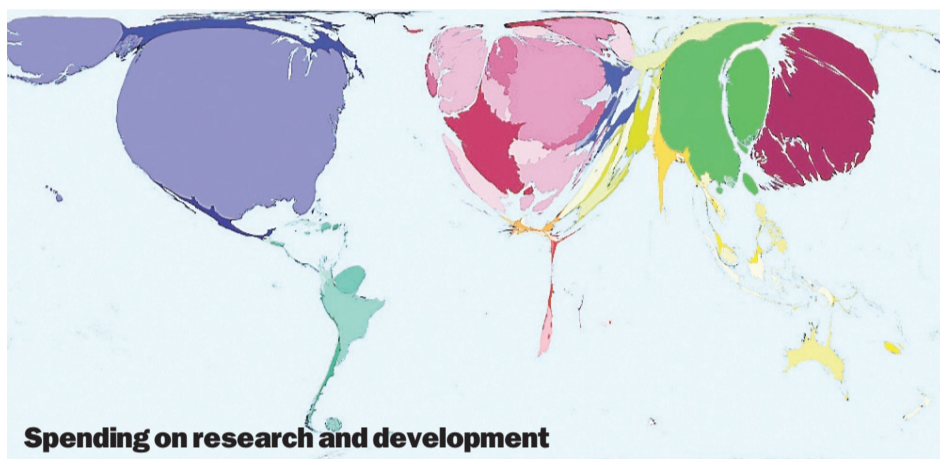
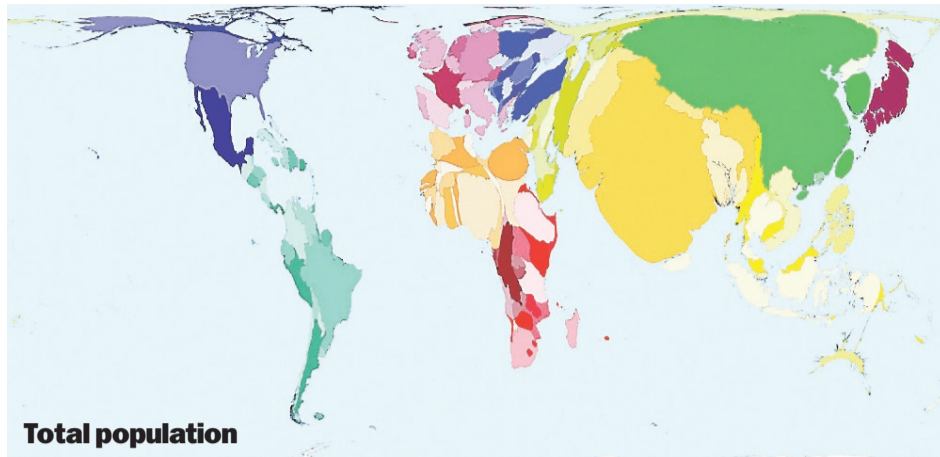
Each child is biologically required to have a mother. Fatherhood is a well-regarded theory, but motherhood is a fact. What kind of woman is best at lovingly fostering the potential in children? Let us sidestep sociological, economic and feminist arguments and posit simply a woman who is herself beloved. Quantification of that is difficult, and Worldmapper hasn't tried. But two of its maps, one almost the exact inverse of the other, are nonetheless telling: Women in Agriculture (the number of female farm labourers) and Tractors Working. It's good when a society values women, not so good when it values women because they are cheaper than a John Deere.

The US and Western Europe excel in the ratio of farm machinery to women farm workers. They also excel — as do Japan, South Korea, and South Africa — in another statistic: Female Managers. A country is more likely to be innovative when 100 per cent of its population, instead of 50 per cent, has an opportunity to innovate.

## Obviously innovative

There is a kind of thinker known as a MOTO, a "Master of the Obvious". MOTOs are hired by the hundreds as editorial writers and news commentators. Though always boring, they aren't always wrong. And it would be a violation of MOTO principles to ignore research and development as a predictor of innovation.

In per capita R&D spending, the United States, the wealthier Western European nations, Israel, Japan, and South Korea are giants. In gross spending (see Total R&D Expenditures), China is Brobdingnagian enough, and Brazil and South Africa are



A new way of seeing the world: Worldmapper is a collection of maps in which countries look fat or thin according to their share of whatever is being analysed, such as education, wealth, population.

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mid-sized titans on otherwise rather uninnovative continents. But what are the researchers researching and the developers developing? Cold fusion or YouTube? A cure for malaria or flatulence? We can't know the future worth of a country's R&D. We can, however, inspect that country's track record. The map of Royalties and License Fee Exports gives a picture of where past R&D has been valuable enough that other countries buy it. Gangway for the United States of America! Sorry about that, Japan. Way to go, feisty runners-up Great Britain, Sweden, and France.

**A little education . . .** Education is another MOTO indicator, albeit an occasionally dubious one. More years of education do not always yield more

innovative thinking, as anyone who has suffered through a Harvard cocktail party can attest. Thomas Edison dropped out of school at seven. Whoever invented the wheel had no school out of which to drop. Socrates didn't go to a university; he was one.

Education, however, does change minds. And a new mentality is a more significant invention than the moldboard plow or the semiconductor. Not much was really invented during the Renaissance, if you don't count modern civilisation.

Currently, spending on education lines up about as you'd expect: rich countries spend more than poor ones. But for purposes of futurism, growth in educational spending may be more to the point. The Secondary Education Spending Growth map

shows total increases for children aged 11 to 17 — the time kids start getting a mind of their own (necessary to innovation, however annoying it is to parents). Here the future seems to belong to Western Europe, South Korea, Thailand, Malaysia, China, Latin America, the northern and southern (but not the central) parts of Africa, and New Zealand. By comparison, America and Australia are idling or stalled.

But another map, Primary Education Spending Growth, gives Yanks and Aussies some hope. Expenditures shown here include preschool programs. Some educators claim that that's when the mind is truly formed. But do you want to hear the engineers building your high-speed particle accelerator say, "Everything I need to know I learned in kindergarten"?

## Blessed are the innovative in spirit

Innovation is necessary to progress, and progress is, we tend to think, necessarily linked to prosperity. But if we look at the most innovative nation in history to date — the USA — we see that the most distinctive American innovations were the products of poverty. Bluegrass, gospel, jazz, rhythm and blues, country and western, rock 'n' roll, and hip-hop are the music of poor people. American slang, American style, American fashions and fads have their sources among the least affluent. America's car culture, teen culture, sports culture (and drug culture and gun culture) were shaped by what, in other countries, would be called the lower classes.

One secret to this sort of innovation is rich poor people. To be on the poverty

threshold in the United States (\$US9973 per year for a single adult) is to be richer than most people in the rest of the world (per capita global average GDP is \$8229). A nation's poor can't be innovative if they're famished. Famine takes too much time and energy.

The other secret is what sociologists would call agglomeration and what we'd call a ghetto, inner city, or slum. Poor people are creative by themselves, but put a lot of them together and the result is brilliant — African-American artistic genius in the Harlem Renaissance, Jewish intellectual genius on New York's Lower East Side, Irish political genius among the ward heeleders and block captains of Boston's South End.

## Innovating with their feet

The poor are an especially important resource for innovation when they have the bravery and pluck to get out of the poor places in which they're living. Our species spread from Africa into the cradle of civilisation (a very messy crib at the moment). Mongols with nothing but a few horses to their name swept across Asia. Hungry mammoth-hunters migrated to America from one end of the Earth, and their gold-hungry cousins "discovered" it from the other. The results have been innovative in the extreme.

The Net Immigration map gives a fairly predictable prediction of future innovation. People are moving to places that have the good life from places where life is not so good. The United States, Canada, Western Europe, Israel, and the posher and more peaceful areas of the Arabian Peninsula account for almost 80 per cent of the world's net immigration. Hong Kong, Singapore and Australia are also gainers.

And certain unprepossessing countries in even less prepossessing regions — Venezuela, Costa Rica, Russia, South Africa and Tanzania — are acquiring brave, plucky innovators.

But other movements in human populations are far less innovative. These are the waves of tourists. To be a tourist is to express rank conservatism. Tourists seek the "unspoiled".

No one is as offended as a tourist when a warren of crumbling adobe is levelled to make way for a KFC or when a colourful peasant woman is replaced by a working tractor. The Net In-Tourism map shows places where visits from tourists exceed the tourist travel of the residents. Thus is sapped the innovative potential of France, Spain, Austria, Italy, Mexico, the Caribbean, southern Africa, Thailand, Hong Kong, Singapore, the United Arab Emirates, and China.

## Attitude-adjustment hour

Given all the very rigorous research compiled by Worldmapper, what totally unrigorous conclusions can we draw? A rough tally of quick impressions of arbitrarily chosen criteria indicates that only about a dozen countries or regions are likely to be innovative in the near future. Perhaps unsurprisingly, the United States and Europe loom largest. But South Korea and South Africa keep popping up strongly as well, and so do Japan, Australia, New Zealand, and a few other places.

All of which is mirrored, at least tolerably closely, by the Alcohol and Cigarette Imports map. That's one more thing about innovation: it's very stressful. And who, among the world's innovators, are so stressed that they have to bring in stress relief from overseas? That would be the Americans, the Japanese, the Taiwanese, the South Koreans, and the Continentals in Western Europe.

You folks look like you need a drink. Innovation is a damn big job. Congratulations. Have a cigar. ATLANTIC MONTHLY

P. J. O'Rourke is an American political satirist.

## LINK

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

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## Ministerial Advisory Council of Senior Victorians Call For Nominations

The Ministerial Advisory Council of Senior Victorians provides the Minister for Aged Care with advice on issues affecting the wellbeing of senior Victorians.

The Department for Victorian Communities is now seeking nominations for appointment as members of the council. Members must be Victorian residents and will be expected to have the capacity to consult effectively, analyse issues and represent a wide range of views, including the needs of senior Victorians from diverse backgrounds.

The Department is seeking to maintain a balance of experience and skills on the council and encourages seniors from rural and regional areas, culturally diverse backgrounds and Indigenous elders to nominate.

Nominations are encouraged from seniors who can bring to the council varied life experiences, which may include different family and housing circumstances, health status, sexual orientation, occupation, income and education.

Appointments to the Ministerial Advisory Council are for a three-year term. Members are appointed as individuals and not as representatives of specific organisations.

More information, including council terms of reference, key selection criteria and a nomination form, is available from the website [www.seniors.vic.gov.au](http://www.seniors.vic.gov.au) or contact Heather Birch on 03 93208 3877, email [macsv@seniors.vic.gov.au](mailto:macsv@seniors.vic.gov.au)

Nominations close on **Tuesday 13 March 2007.**

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