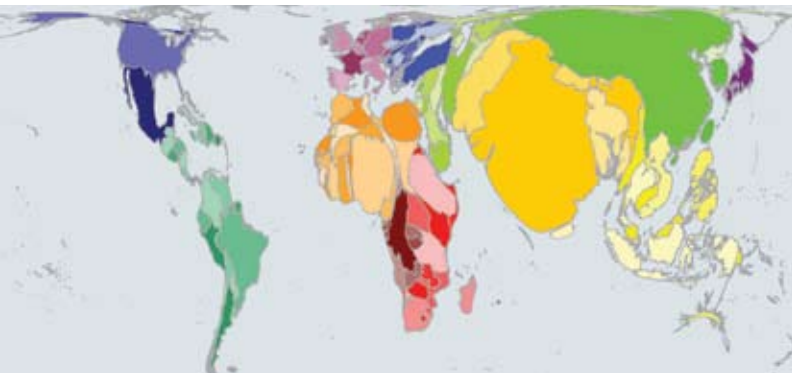


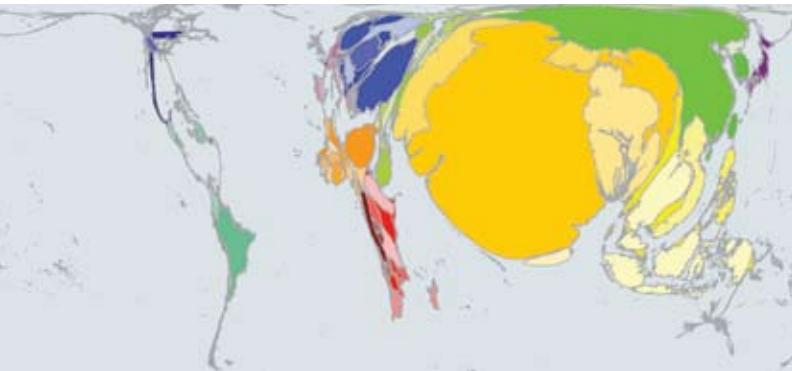
To find the next great ideas, follow
the tractors, tourists, and drinkers.

BY P. J. O'ROURKE

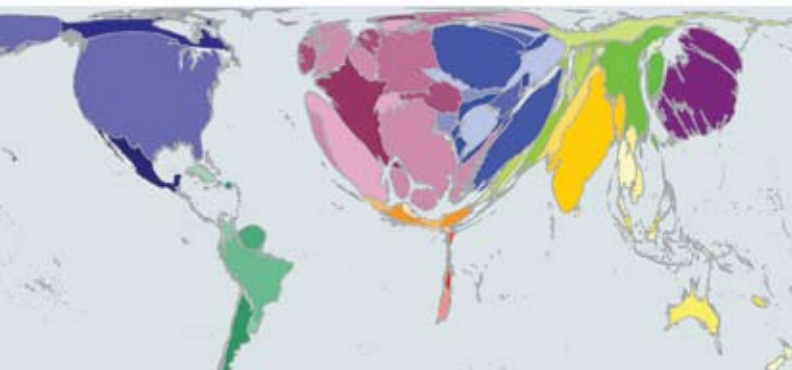
Mapping Innovation



TOTAL CHILDREN



WOMEN IN AGRICULTURE



TRACTORS WORKING

Predicting innovation is something of a self-canceling 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, Oprah, or a TSA ban on hair-styling gel in quantities greater than three ounces?

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. And 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—and whether the United States has a fat or a skinny future.

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 laborers) 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 United States and Western Europe excel in the ratio of farm machinery to women farmworkers. 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 percent of its population, instead of 50 percent, has an opportunity to innovate. Whether the girls and boys of that country are better off with executive moms is sometimes debated. But whether women should have an influence on children is not debatable, and a country with influential women is, perforce, a country with women who influence.

OBVIOUSLY INNOVATIVE

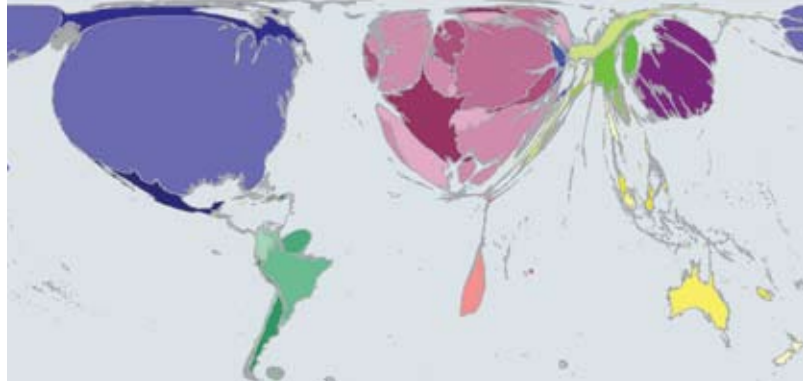
There is a kind of thinker known as a MOTO, a “Master of the Obvious.” MOTOs are hired by the hundreds as editorial writers and news commentators. Though always boring, they aren't always wrong. And it would be a violation of MOTO principles to ignore research and development as a predictor of innovation.

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 midsized titans on otherwise rather un-innovative continents.

But what are the researchers researching and the developers developing? Cold fusion or YouTube? A cure for malaria or for 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



FEMALE MANAGERS



TOTAL R&D EXPENDITURES



ROYALTIES AND LICENSE FEE EXPORTS

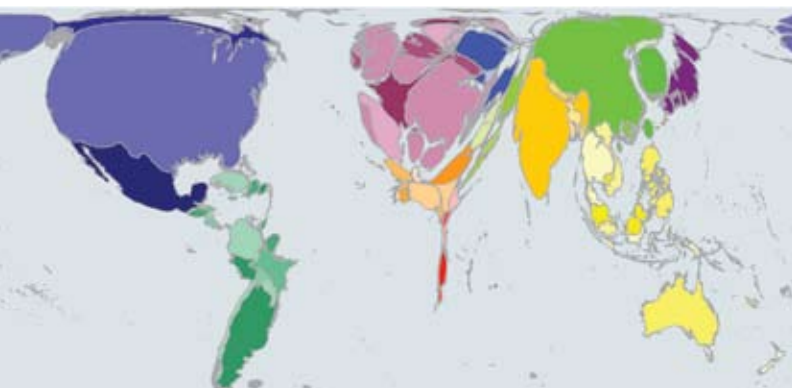
attest. Thomas Edison dropped out of school at age seven. Whoever invented the wheel had no school out of which to drop. Socrates didn't go to a university; he was one.

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 civilization.

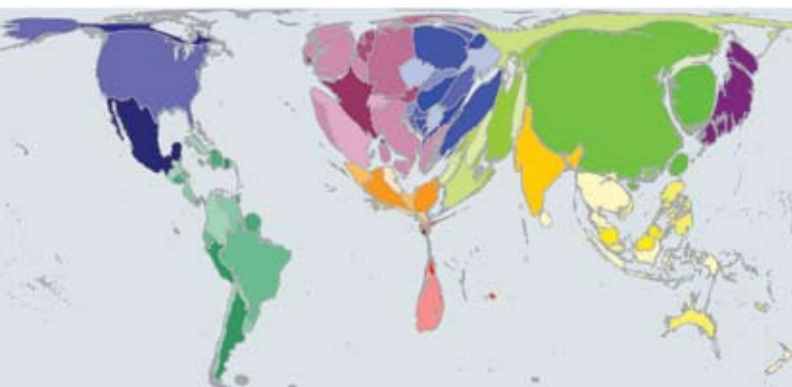
Currently, spending on education lines up about as you'd expect: rich countries spend more than poor ones. But for purposes of futurism, *growth* in educational spending may be more to the point. The **Secondary Education**



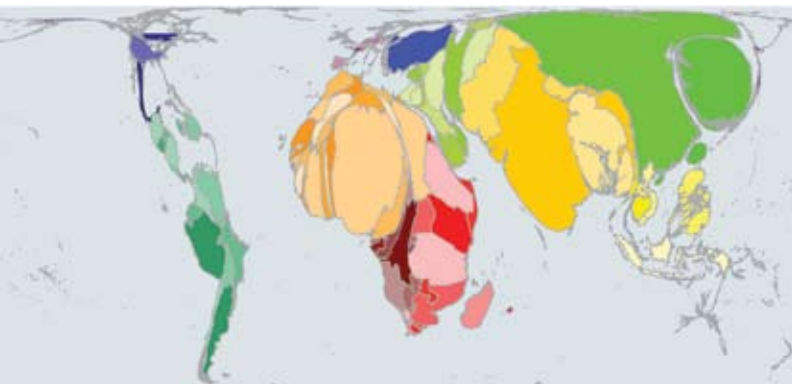
SECONDARY EDUCATION SPENDING GROWTH



PRIMARY EDUCATION SPENDING GROWTH



LIVING ON US\$20 TO \$50 A DAY



SLUM GROWTH

Spending Growth map shows total increases for children aged eleven to seventeen—the time when 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—our own—we see that the most distinctive American innovations were the products of poverty. Bluegrass, gospel, jazz, rhythm and blues, country and western, rock and 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 (\$9,973 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 \$8,229). 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 heelers and block captains of Boston's South End.

The **Living on US\$20 to \$50 a Day** map shows where people are poor but not so miserably poor that they're sunk in inertia and despair. The world is well supplied with folks of modest means even in Russia, which has previously been inconspicuous on our innovation maps. Such places as central Africa, Madagascar, Haiti, Pakistan, Bangladesh, and Burma seem too poor to harbor innovative forces. And only Scandinavia seems too rich.

But the "Living on US\$20 to \$50 a Day" map needs to be correlated with the **Slum Growth** map. It then becomes clear that the greatest potential for innovation

from below is in Central America, Peru, Turkey, the Gaza Strip and the West Bank, China, South Korea, and the Philippines. Be on the lookout for an Incan/Mayan/Muslim/Confucian Manila dance craze.

INNOVATING WITH THEIR FEET

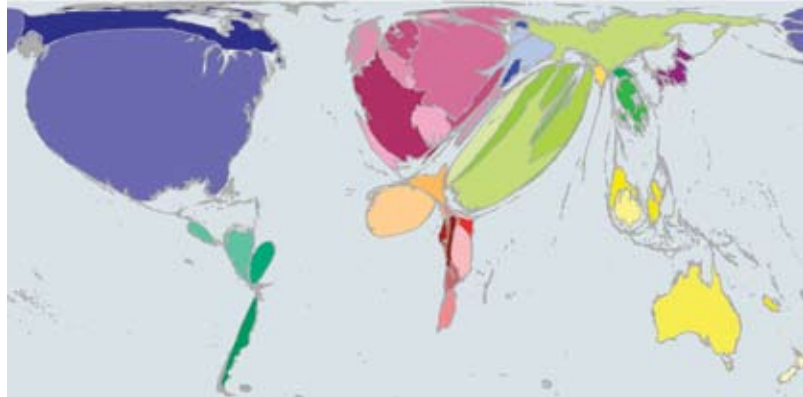
The poor are an especially important resource for innovation when they have the bravery and pluck to get out of the poor places in which they're living. Moving around may be the single most innovative thing that humans do—for good or ill. Our species spread from Africa into the cradle of civilization (a very messy crib at the moment). The scruffy hill tribes of the Tiber conquered the world. The scruffier barbarians conquered them. 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 percent 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.

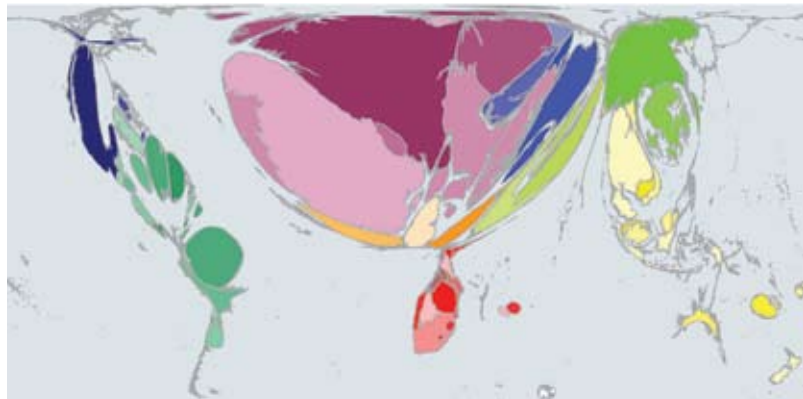
But other movements in human populations are far less innovative. These are the waves of tourists. To be a tourist is to express rank conservatism. Tourists seek the “unspoiled.” No one is as offended as a tourist when a warren of crumbling adobe is leveled to make way for a KFC or when a colorful peasant 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

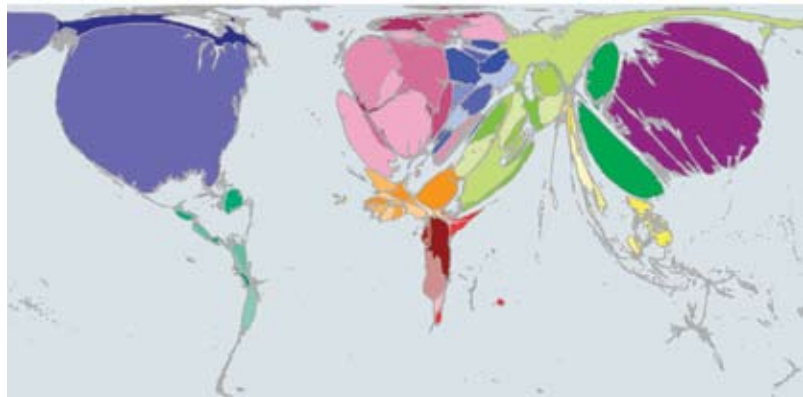
Given all the very rigorous research compiled by Worldmapper, what totally un-rigorous conclusions can we draw? A rough tally of quick impressions of arbitrarily chosen criteria indicates that only about a dozen countries or regions are likely to be innovative in the near future. Perhaps unsurprisingly, 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.



NET IMMIGRATION



NET IN-TOURISM



ALCOHOL AND CIGARETTE IMPORTS

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. ♠

P.J. O'Rourke is a correspondent for *The Atlantic*. His most recent book, *On the Wealth of Nations*, has just been published.