WITH OVERLAID TERRAIN
NYT: 7/18 The Maps That Show That City vs. Country Is Not Our Political Fault Line

Midlands
Culturally pluralistic, founded by English Quakers. Ethnic and religious purity were never priorities; community-oriented and distrustful of government intervention.

Left Coast
New Enganders (by ship) and farmers, prospectors and fur traders from Appalachian Midwest (by wagon). Yankee utopianism meets individual self-expression and exploration.

Far West
Settlement largely controlled by corporations or government via deployment of railroads, dams, irrigation, mines; exploited as an internal colony, to the lasting resentment of its people.

Yankedorn
Puritan legacy; perfect earthy society with social engineering, individual denial for common good; assimilate outsiders; vigorous government to thwart would-be tyrants.

New Netherland
Dutch-founded; retains traits of 17th-century Amsterdam: a global trading culture; materialistic; multicultural; committed to tolerance and freedom of inquiry and conscience.

Tidewater
17th-century gentry recreated semi-feudal manorial society of English countryside. Conservative; respect for authority and tradition, not equality or political participation.

Deep South
Established by slave lords from English Barbados as a West Indies-style slave society. Modeled on slave states of the ancient world — democracy was the privilege of the few. Fights for rollbacks of federal power, taxes on capital and the wealthy, and environmental, labor and consumer protections.
Compare this with the map on the previous page and observe the correlations.
LANDMARKS & PATHS
AUTOMATIC GENERATION OF TOURIST MAPS (2008)
STREETSIDE VIEW (2010)
Illumination of two apartments (above) compared with *illumination thumbnails* (below)

The difference in lighting is apparent on the thumbnail

- the first apartment area suffers from light occlusion at around noon, and again toward the evening
- the second apartment area is occluded only toward the evening, nearing 3pm

The buyer’s daily routine and preferences will decide which apartment to choose.

CHOROPLETH MAPS

- Use colors/shadings to show data
- Based on Greek words meaning "area/region" and "multitude"
- First in 1826 (by Charles Dupin)
  - Illiteracy in France
  - Darker regions mean higher illiteracy
- Perception problems?
MORE CHOROPLETH MAPS

The Most Corrupt Nations

The index takes a number of factors into account, such as nepotism, prosecution of corrupt officials, and bribery.

Denmark has the world’s highest score on the index at 88.

Hong Kong is also ranked, with a score of 75.

The average score globally is 43.

There is a 43-point spread between neighbors Mexico and the United States.

Uruguay is South America’s least corrupt country, ranked 23rd in the world.

Botswana has the highest score on the continent of Africa.

2018 CORRUPTION PERCEPTIONS INDEX

Selected countries, by political system

THE WORLD’S POPULATION, CONCENTRATED

If the world’s 6.9 billion people lived in one city, how large would that city be if it were as dense as...

PARIS: 105,000 square miles, 338,330 square kilometers

SAN FRANCISCO: 78,680 square miles, 203,580 square kilometers

NEW YORK: 35,847 square miles, 92,991 square kilometers

LONDON: 62,150 square miles, 163,503 square kilometers

SINGAPORE: 57,000 square miles, 901,191 square kilometers

HOU: 3,700 square miles, 9,620 square kilometers
ANCESTRY MAP

WHO KNEW GERMAN ANCESTRY WAS SO PROMINENT IN THE UNITED STATES?
KERRY VS. BUSH (2004) COUNTY LEVEL BY MAJORITY
KERRY VS. BUSH (2004)

2004 Popular Vote

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Votes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
<td>62 million</td>
</tr>
<tr>
<td>Kerry</td>
<td>59 million</td>
</tr>
</tbody>
</table>

Amount of red and blue shown on map

<table>
<thead>
<tr>
<th>Candidate</th>
<th>Area (mi²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Kerry</td>
<td>525,000</td>
</tr>
</tbody>
</table>

Hence the maps do not convey voter representation well. Ideally, the amount of colors would stand for the amount of votes.
KERRY VS. BUSH (2004) COUNTY LEVEL BY % MARGIN

The deep red down the center of this map highlights the president's support in sparsely populated areas.
KERRY VS. BUSH (2004) CORRECTED FOR POPULATION DENSITY

This map removes mostly uninhabited areas, revealing Mr. Bush’s suburban and rural support in the East and South.
geographically accurate geography scaled by population gives a seemingly fairer visual representation of the “one man, one vote’ principle
KERRY VS. BUSH (2004) BY COUNTY

geographically accurate

geography scaled by population gives a seemingly fairer visual representation of the “one man, one vote” principle
KERRY VS. BUSH (2004) COUNTY LEVEL BY % MARGIN

diagram 1: geographically accurate

geography scaled by population gives a seemingly fairer visual representation of the “one man, one vote’ principle
seemingly even fairer visual in terms of ‘one man, one vote’
COLOR IS POWERFUL

Much of America is uninhabited
THE BRITISH HAVE INVADED ALMOST EVERY COUNTRY ON EARTH

RAILWAY SYSTEMS COMPARED

USA

Europe
 MASK WEARING DISCIPLINE

Chance all five people are wearing masks in five random encounters (New York Times)
UNFOLDING THE EARTH: MYRIAHEDRAL PROJECTIONS

https://www.youtube.com/watch?v=TMKaxQvJQp4

Unfolding the Earth: Myriaahedral Projections

Jarke J. van Wijk
TU Eindhoven
The next slides use population-based distortion for various national parameters →
Spending on healthcare
Energy consumption
Greenhouse gas emission
Figure 1.8  Airlines’ view of the United States.
Maps can be scaled to units other than distance. In this case, airline fares are used instead of miles or other linear units.

(Map copyright by the author.)
RECTANGULAR CARTOGRAMS

Makes it easier to compare sizes
RECMAP (2004)

Makes it easier to compare sizes
GRID MAP

States with bans on same-sex marriage*

States that allow civil unions or broad domestic partnerships, but not marriage

Makes it easier to compare spatial entities (here states) in terms of a binary variable
GRID MAP

Hexagonal shape allows for better (state) neighborhood encoding (has more sides)
Obama: 243 electoral votes
Needs 27 to win

Romney: 206 electoral votes
Needs 64 to win

States sized by number of electoral votes

Maine and Nebraska give two electoral votes to the statewide winner and allocate the rest by congressional district.
COVID-19 DEATH RATE TRENDS
Mapping America: Every City, Every Block

Browse local data from the Census Bureau's American Community Survey, based on samples from 2005 to 2009. Because these figures are based on samples, they are subject to a margin of error, particularly in places with a low population, and are best regarded as estimates.

Distribution of racial and ethnic groups
FLOW MAPS

- First in 1837
- Transportation of Passengers in Ireland
Carte Figurative des pertes successives en hommes de l'Armée Française dans la Campagne de Russie 1812-1813.

Ouvrée par M. Minard, Ingénieur Général des Ponts et Chaussées en retraite.

Paris, le 20 Novembre 1869.

Les nombres d'hommes présentés sont représentés par des brancards des armées colorés à raison d'un millimètre pour dix mille hommes, ils sont de plus écrits en tirets des gènes. Le rouge signifie les hommes qui entrent en Russie, le noir ceux qui en sortent. Les renfortments qui ont servi à dessiner la carte ont été pris dans les ouvrages de M. M. Chlink, de Lejeuf, de Tocqueville, de Chambry, etc. Le journal militaire de Jacob, pharamine de l'Armée depuis le 23 Octobre.

Les mieux faire juger à l'œil la diminution de l'armée, je suppose que les corps du Duc Joannis et du Marshal Davoust, qui avaient été détachés sur Minsk et Mouhlev et qui se trouvaient vers Ochka et Mouhlev, avaient toujours marché avec l'armée.

**TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.**

Les Campagnes passent au golpe le Milieu, golpe.
FLOW MAP LAYOUT (2005)
TIME-VARYING MAPS

12 a.m. Sunday

- **Penn Station**
  One of the busiest train stations in the world, and the busiest cab stand in the city.

- **Columbus Circle**
  Central Park, Whole Foods and Lincoln Center nearby.

- **Lower East Side**
  Comes alive after work, and throbs until well after midnight.

- **Bloomingdale's**
  Midday center for shopping.

- **Grand Central Terminal**

- **Meatpacking District**
Some Say New Wal-Mart Intrudes on Historic Mexican Pyramids
Oct 5, 2004, Mexico

The multinational retailer is building a discount supermarket 28 miles from one of Mexico's most treasured ruins. The pre-Columbian city's mighty pyramids, dedicated to the sun and moon, tower within view of the Bodega Aurrera, a Wal-Mart subsidiary.

User location: San Jose (37.338208, -121.886328)

Seattle (47.603961, -122.329887)
100,000 GALAXIES, STRETCHING MORE THAN 500 MILLION LIGHT YEARS ACROSS
SOME MAP APIS

➢ leaflet API https://leafletjs.com/
➢ Folium API https://python-visualization.github.io/folium/