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 Englanders (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.

Yankedom
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.

El Norte
Borderlands of Spanish-American empire, far enough from Mexico City and Madrid to develop their own characteristics: independent, self-sufficient, adaptable and work-centered.

Greater Appalachia
Settlers from war-ravaged Ulster, northern England, lowland Scotland. Deep commitment to personal sovereignty and individual liberty; intense suspicion of external authority.

New France
Folkways of French peasantry blended with traditions of Algonquin-speaking people of what is now Eastern Canada. Down-to-earth, egalitarian, consensus-driven.

Spanish Caribbean
Legacy of the maritime component of Spain’s New World empire with hub in Havana. Includes Puerto Rico and other territories in Caribbean basin.
Compare this with the map on the previous page and observe the correlations.
LANDMARKS & PATHS
LINEDRIVE (2001)
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.

Elevation (topographic) map
CHOROPLETH MAPS

➤ Use colors/shadings to show data
➤ First in 1826
  ➤ Illiteracy in France
  ➤ Perception problems?
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.
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

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

seemingly even fairer visual in terms of ‘one man, one vote’

Michael Gastner, Cosma Shalizi, and Mark Newman
University of Michigan

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
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.

Geographic View
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.

Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les longueurs des gares colorées à raison d'une millième pour dix mille hommes, ils sont de plus écrits en lettres des gènes. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent; les renforts qui ont pu être dessinés sur la carte on été pris dans les envois de M. M. Chéret, de Léger, de Faconnier, de Chembrey au journal militaire de L'Écho; prélèvement de l'Armée depuis le 23 Octobre.

Parmi ceux qui ont juré de l'église de la garnison, j'ai supposé que les corps du Prince Marie et du Maréchal Davoust, qui avaient été détachés sur Mindeh, et qui revinrent vers Petche, se joignirent à l'armée. La ligne continue de France (car de M. de Roquaine)
FLOW MAP LAYOUT (2005)
## TIME-VARYING MAPS

**12 a.m. Sunday**

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Penn Station</strong></td>
<td>One of the busiest train stations in the world, and the busiest cab stand in the city.</td>
</tr>
<tr>
<td><strong>Columbus Circle</strong></td>
<td>Central Park, Whole Foods and Lincoln Center nearby.</td>
</tr>
<tr>
<td><strong>Lower East Side</strong></td>
<td>Comes alive after work, and throbs until well after midnight.</td>
</tr>
<tr>
<td><strong>Bloomingdale's</strong></td>
<td>Midday center for shopping.</td>
</tr>
<tr>
<td><strong>Grand Central Terminal</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Meatpacking District</strong></td>
<td></td>
</tr>
</tbody>
</table>
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)
THIS ALWAYS BUGGED ME.
BIG FIVE PERSONALITY TRAITS

Fig. 1 Capturing the ISDAC dataset. (a) The single particle mass spectrometer (SPLAT II) operated by the collaborating scientist in-flight in the Arctic aboard a Convair-580 research aircraft. (b) Various sensor probes mounted on the aircraft wing. The aircraft flew various missions over Alaska to measure concentrations, size distributions, shape, density, and compositions of millions of particles in clear atmosphere to establish a large and highly resolved data set of Arctic aerosol particles. Other environmental variables, such as cloud density, pressure, and density were also sampled. (c) Overview of the flight path. (d) Profile as seen from the side, both captured with Google Earth.
CONNECTING MAPS WITH AN INFOVIS DISPLAY

Selection

All data
Response
Abstracted
Fig. 3  Dual-domain analytics. (a) The analyst first uses the PCP brushing handles to select the normal ocean data points (salinity from 32 to 40). (b) The GE display responds by showing only these remaining data points. (c) Next the analyst uses mouse clicks to outline some interesting regions in the GE display (Mediterranean shown in green and Gulf of St Lawrence shown in red). (d) The points inside the selection polygon appear highlighted in the PCP display. (e) Correlation-enhanced PCP display.

An Interactive Visual Analytics Framework for Multi-Field Data in a Geo-Spatial Context