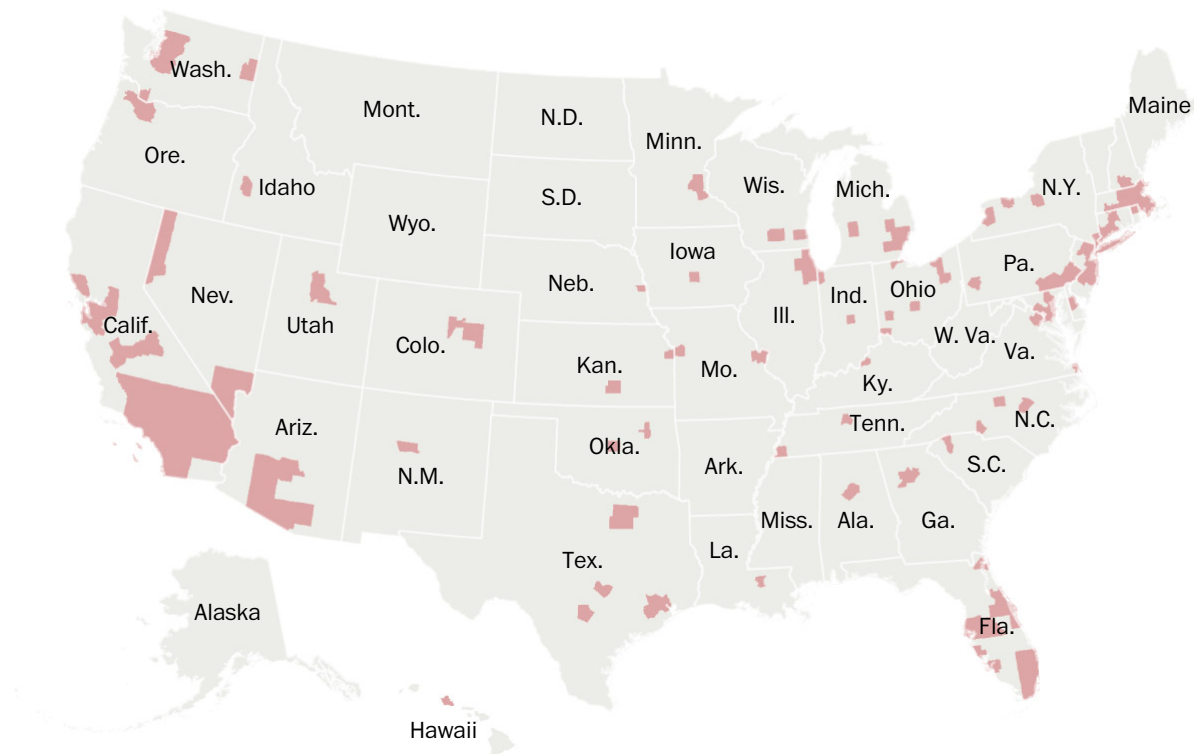**The Fix (https://www.washingtonpost.com/news/the-fix/)**

Election maps are telling you big lies about small things

In 2012, about the same number of votes were cast in ○ **these 160 counties** as were cast in the ○ **rest of the country**. But, your run-of-the-mill election map won't show you that.
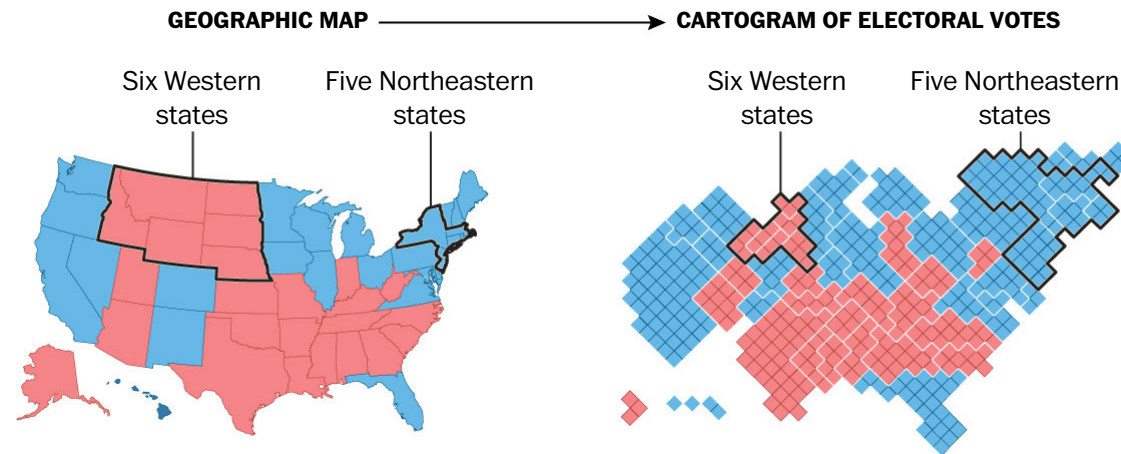
By Lazaro Gamio

Nov. 1, 2016

Nov. 8 is the Super Bowl for election maps, when red-and-blue geographical representations of the United States fill the front pages of news websites by night and are stamped into newspapers the next morning.

This kind of map is common in almost every election: 50 states (and the District), two colors, one winner. Despite its ubiquity, it is profoundly flawed.

These maps say only one thing: Some states are bigger than others. In a presidential election, how much bigger the state of Wyoming is than New Jersey isn't relevant to the outcome, which is based on how electoral votes are apportioned.

If you chart the states by electoral votes, a more accurate picture of which states will elect Donald Trump or Hillary Clinton emerges.

Six Western states   Five Northeastern states   Six Western states   Five Northeastern states

In contrast to a standard geographic map, this cartogram (http://www.geog.ucsb.edu/~kclarke/G232/ToblerCartograms.pdf) shrinks the country's expansive Republican center and exaggerates the small, electoral-vote-rich Northeast. The Post designed this cartogram for its 50-state poll (https://www.washingtonpost.com/graphics/politics/2016-election/50-state-poll/), and it's not alone (https://www.wired.com/2016/10/electoral-maps-look-little-different-heres/) in trying to solve (http://news.nationalgeographic.com/2016/10/united-states-election-map-history/) the big-being-small and small-being-big problem.

[Hate our electoral system? Here's who could have been president under other setups (https://www.washingtonpost.com/graphics/politics/2016-election/election-outcome-other-systems/)]

But this solution shows just one way of looking at the election. Each diamond in a state represents an electoral college vote in a system in which states with smaller populations are overrepresented (http://themonkeycage.org/2012/07/compared-to-national-popular-vote-the-electoral-college-favors-voters-in-small-states-on-average-not-large-states-its-because-of-those-extra-2-electoral-votes-that-each-state-gets/).

To understand where people voted, one must look at popular vote totals (http://www.fec.gov/pubrec/fe2012/2012pres.pdf) for states during the 2012 election. Take New Jersey, where 3,640,292 votes were cast in 2012, a number roughly equivalent to the number of votes cast in:

Red is built-up areas

CANADA

Montana

North Dakota

Minnesota

Idaho

South Dakota

Wyoming

Nebraska

Nevada

100 miles

Utah

N.J.

Kansas

The votes cast in these seven states total just 250,000 more votes than in New Jersey.

At the county level, the divide between area and population is magnified. Six New Jersey counties near New York City accounted for more than a third of all the votes cast in that state.
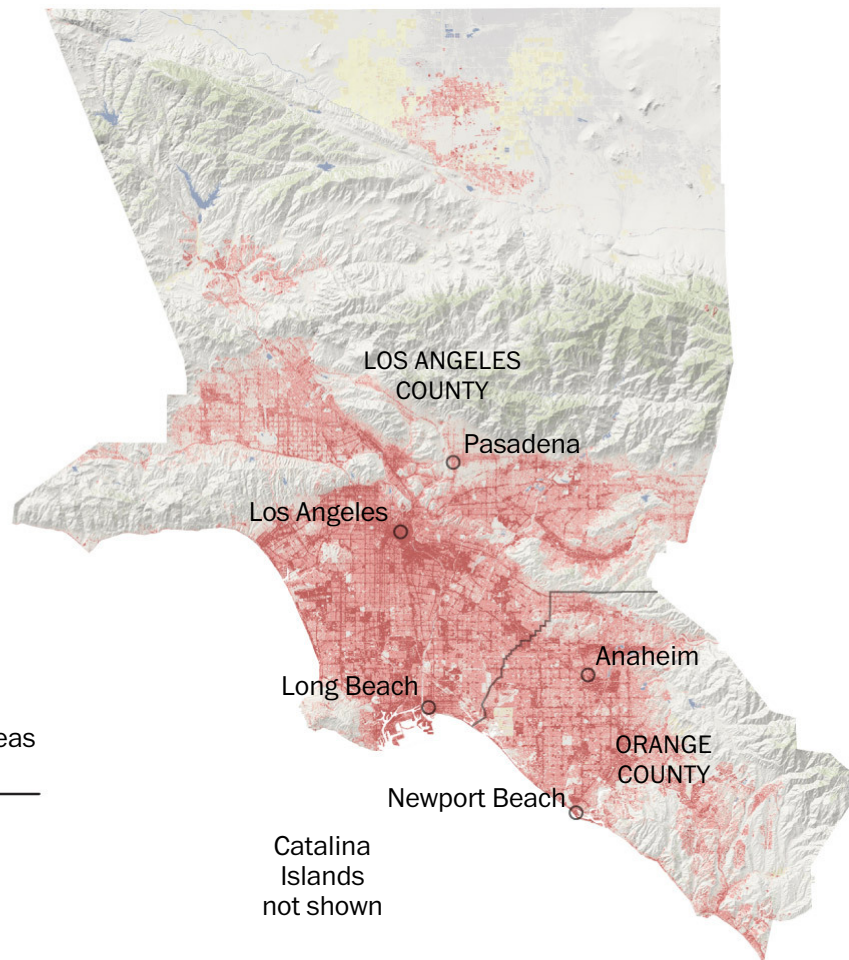
If you look at the country's two largest cities, the size imbalance from population density balloons.
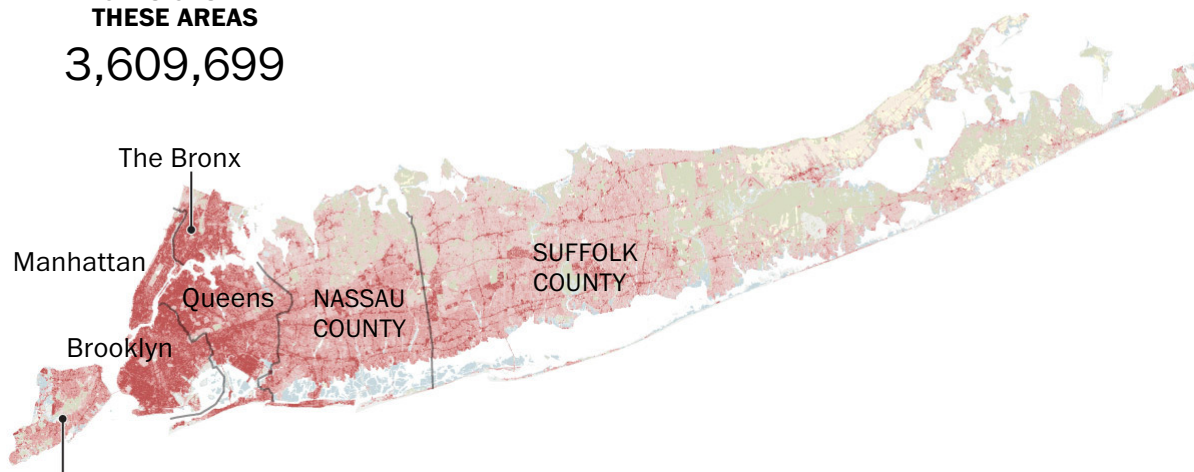
LOS ANGELES
COUNTY

Pasadena

Los Angeles

**VOTES CAST IN
THESE AREAS**

4,303,731

Red is built-up areas

25 miles

Long Beach

Anaheim

ORANGE
COUNTY

Newport Beach

Catalina
Islands
not shown

**VOTES CAST IN
THESE AREAS**

3,609,699

The Bronx

Manhattan

Queens

NASSAU
COUNTY

SUFFOLK
COUNTY

Brooklyn

Staten Island

Nine counties in and around New York City and Los Angeles combine to make up 7.9 million of the 129 million votes cast in 2012, just 260,000 votes short of votes cast in these states:
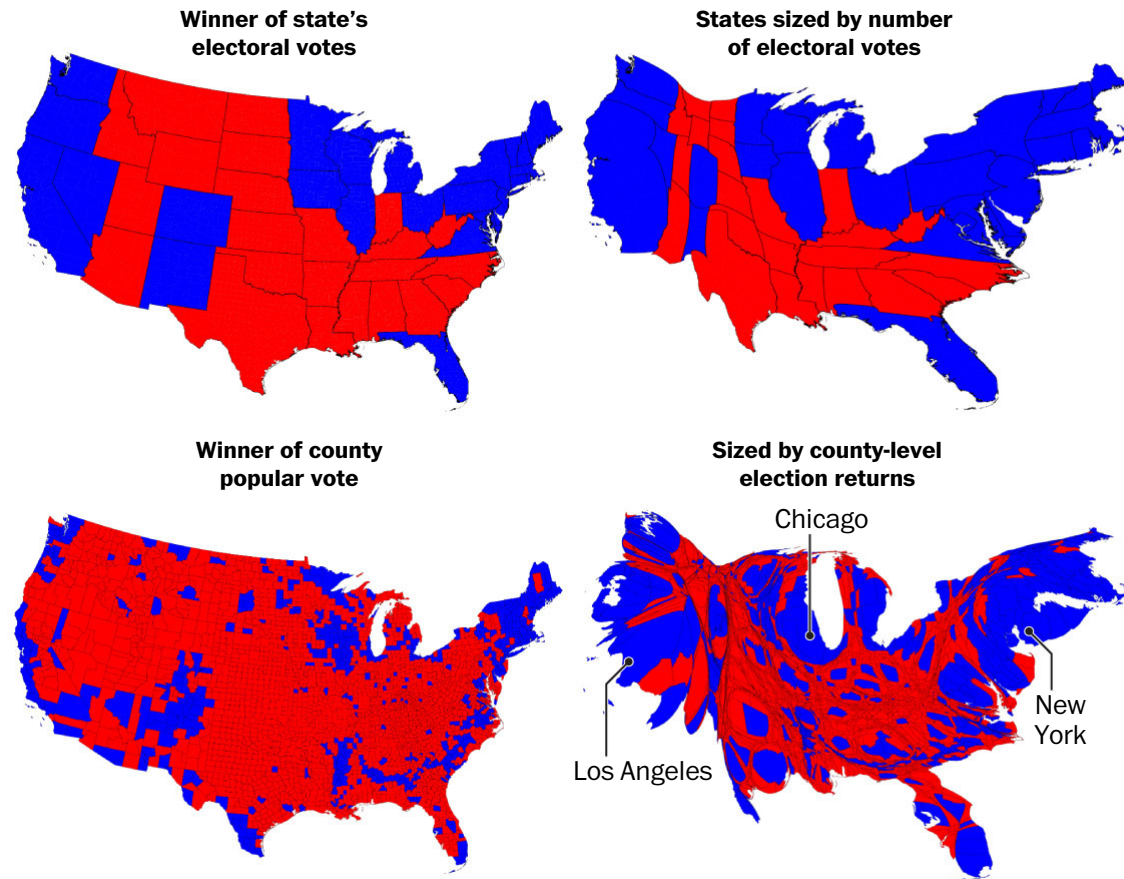

Red is built-up areas

CANADA

Washington

North Dakota

Montana

Minnesota

Oregon

South Dakota

Idaho

Wyoming

Iowa

Nebraska

Nevada

Los Angeles   New York and Long Island

Utah

Kansas

200 miles

California

Oklahoma

Arizona

Texas

New Mexico

MEXICO

Urban areas, where 80 percent (https://ask.census.gov/faq.php) of Americans live, are grossly misrepresented in a traditional election map. In fact, only 160 of the 3,000 counties nationwide were responsible for half of the votes cast in 2012. (As depicted on the map at the top of this page.)

Tackling the problem

Mark Newman (http://www-personal.umich.edu/~mejn/), a professor of physics at the University of Michigan, has found a novel solution to this problem.

He's published (http://www-personal.umich.edu/~mejn/election/2008/) cartograms (http://www-personal.umich.edu/~mejn/election/2012/) of election results since 2004 (http://www-personal.umich.edu/~mejn/election/2004/), using software (http://www-personal.umich.edu/~mejn/cart/) he wrote based on a method he co-invented (http://www.pnas.org/content/101/20/7499.abstract). His maps distort state and county geography by population, so small states and urban counties that were outweighed by a sea of red now bulge and hold their own against the more sparsely populated parts of the country.

GEOGRAPHIC MAP ⟶ CONTIGUOUS CARTOGRAM

Winner of state's electoral votes

States sized by number of electoral votes

Winner of county popular vote

Sized by county-level election returns
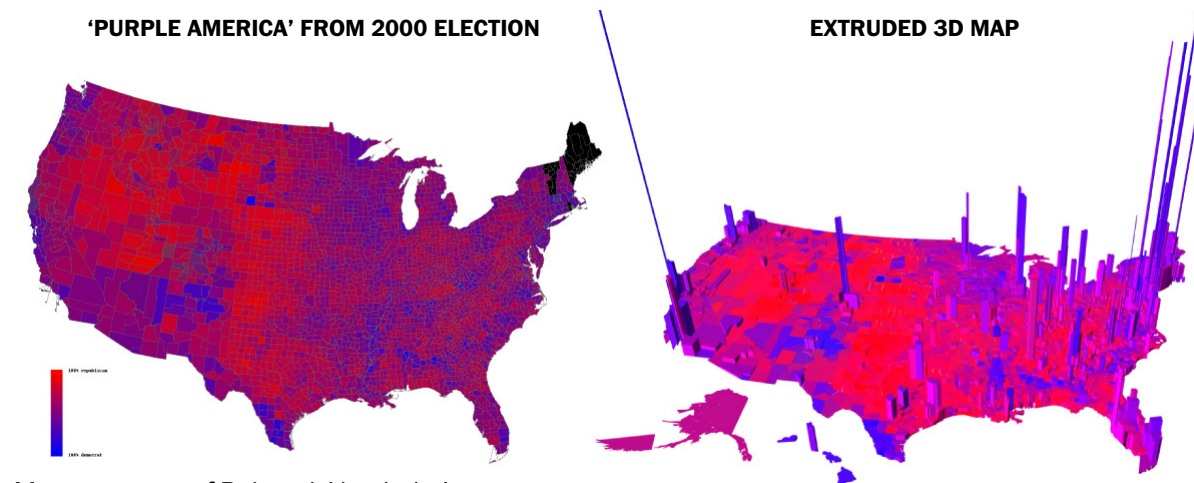
Chicago

New York

Los Angeles

Maps courtesy of Mark Newman

"Once people saw the map rescaled, they realized that it was a better representation of the outcome of the election," Newman said. He's made cartograms of this sort with other data sets, but the first set of election cartograms he published in 2004 were viewed more than a million times. "They caught people's imaginations the most," he said.

Robert J. Vanderbei (http://www.princeton.edu/~rvdb/), a professor at Princeton, has also tried different methods (http://www.princeton.edu/~rvdb/JAVA/election2012/) to show results. When he saw a county results map (http://www.esri.com/news/arcnews/spring01articles/usatoday.html) in USA Today the morning after the 2000 election, he noticed the county he lived in was shaded red. Puzzled, he looked up the original data and found that his county broke 51-49 toward Bush.

'Why not make it purple?' he said. A week after the election, he published a map (http://www.princeton.edu/~rvdb/JAVA/election2000/) called "Purple America," which shows each county in a continuous scale from blue to red. He's also taken his maps into the third dimension, extruding the counties by margin of victory.

Maps courtesy of Robert J. Vanderbei

Approaches like these provide a greater level of nuance that is lost in more binary approaches.

[Most of Trump's charts skew the data. And not always in his favor. (https://www.washingtonpost.com/graphics/politics/2016-election/trump-charts/)]

For example, nearly 900,000 people in Los Angeles County voted for Mitt Romney. That enormous number of votes amounts to just under 28 percent of vote there, and it's a detail that's glossed over when that county and the rest of the state are painted blue.

So, why don't we see more maps that accurately portray this nuance in popular media?

Things take time

Our national tradition of election maps has a rich history, dating at least to the late 1800s.

"We think we've invented the election map, but it's been done before," said Susan Schulten, chair of the history department at the University of Denver. She discovered what may be the earliest example (http://www.mappingthenation.com/blog/the-nations-first-electoral-map/) of a county-level map showing election results, published in 1883.
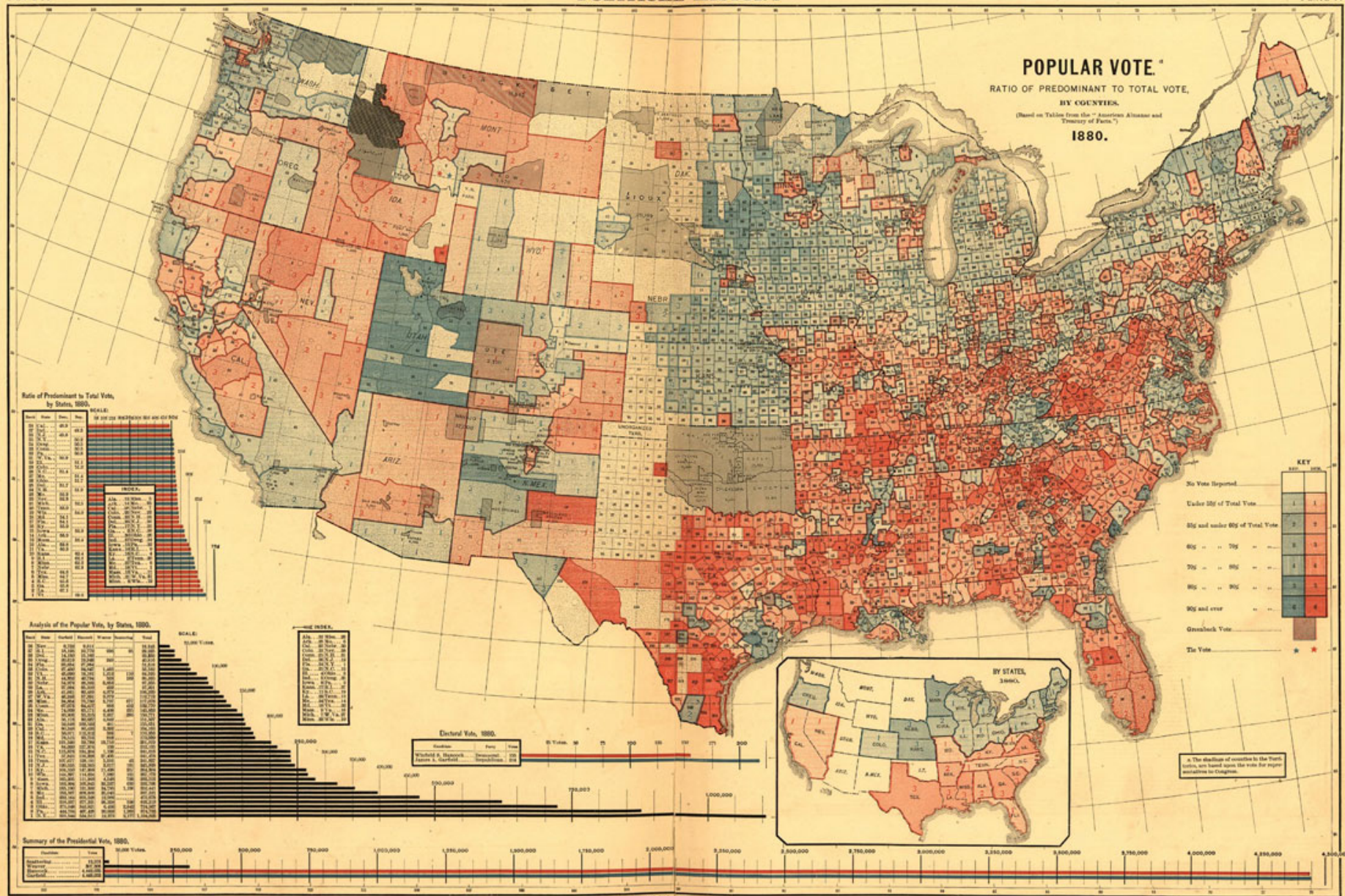
Plate 11 from Scribner's statistical atlas of the United States, published in 1883.

This example comes from a statistical atlas (https://www.loc.gov/item/a40001834/) and shows the result of the 1880 election using the familiar red and blue color scheme with different shades for margin of victory. One thing you will notice: The colors are flipped. Republicans are in blue and Democrats are in red.

The color convention (https://www.washingtonpost.com/news/the-fix/wp/2015/04/10/red-vs-blue-a-brief-history-of-how-we-use-political-colors/) we know today began to be worked out in the unlikeliest of places: television (http://www.smithsonianmag.com/history/when-republicans-were-blue-and-democrats-were-red-104176297/). The increasing prevalence of color television gave us the first iterations of the maps that are so common today. In fact, it wasn't until 2000 (http://washingtonmonthly.com/2004/11/14/red-states-and-blue-states-explained/) that commonly used colors were red for Republican and blue for Democrat.

Even though cartograms are a more accurate way to show election results, it's difficult to escape the need to preserve geography. "Part of the goal is to keep a map that is recognizable," Newman said, "but map the area to the value you're interested in."

While cartograms have been around since at least 1870 and have enjoyed a recent burst in popularity (http://news.nationalgeographic.com/2016/10/improved-election-map-cartograms/), maps in general date back thousands of years

(https://www.math.rutgers.edu/~cherlin/History/Papers2000/sullivan.html).
And like most deep-rooted traditions, they tend to change very
slowly. Consider this: The map projection
(http://mathworld.wolfram.com/MercatorProjection.html) used for maps
on most phones (https://www.wired.com/2013/07/projection-
mercator/) is based on a map created for navigation
(http://www.math.ubc.ca/~israel/m103/mercator/mercator.html) in
1569 (https://www.britannica.com/science/Mercator-projection).

Changing that won't be easy, but it has to start somewhere.

Additional mapping work by Laris Karklis.

Cartograms from the Post

How the world is heeding the call to 'build that wall'
(https://www.washingtonpost.com/graphics/world/border-

barriers/global-illegal-immigration-prevention/)

The world now has more border barriers than at any time in modern history, an increase driven by war, waves of migration and the threat of terrorism.
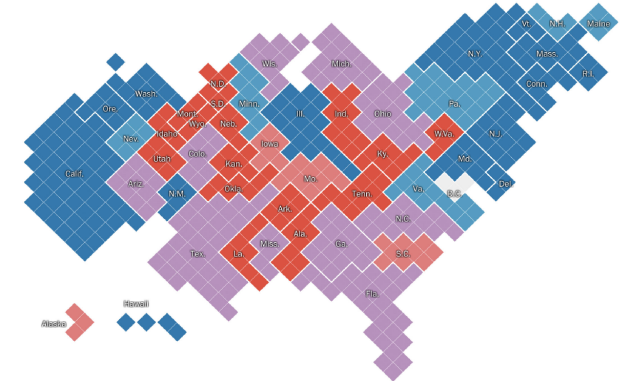

(https://www.washingtonpost.com/graphics/world/border-barriers/global-illegal-immigration-prevention/)

Poll shows how Trump-Clinton matchup is redrawing the electoral map (http://www.washingtonpost.com/graphics/politics/2016-election/50-state-poll/)

A Washington Post poll of all 50 states indicates some states may make historic flips from red to blue.

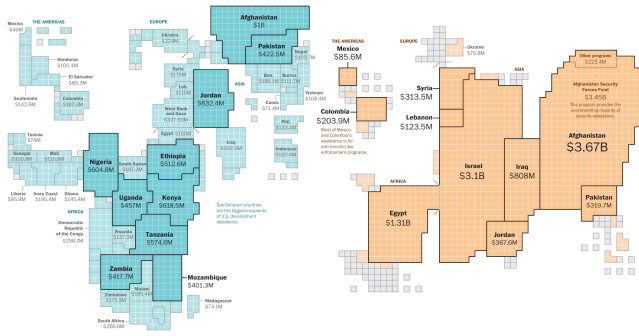(http://www.washingtonpost.com/graphics/politics/2016-election/50-state-poll/)

Everything you ever wanted to know about the U.S. foreign assistance budget (https://www.washingtonpost.com/graphics/world/which-countries-get-the-most-foreign-aid/)

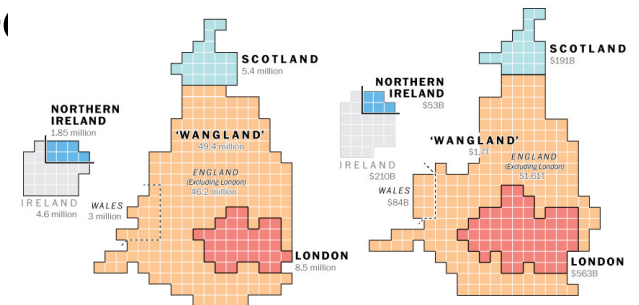From building wells to building armies.

(https://www.washingtonpost.com/graphics/world/which-countries-get-the-most-foreign-aid/)

What a real 'Brexit Britain' would look like (https://www.washingtonpost.com/news/worldviews/wp/2016/0(a-real-brexit-britain-would-look-like/)
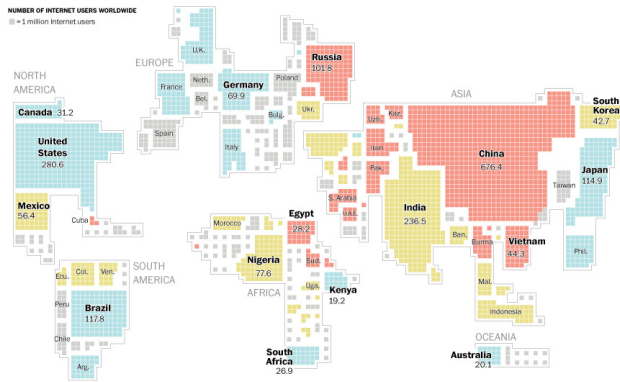
Britain voted to leave the European Union. Well, at least part of it did.

(https://www.washingtonpost.com/news/worldviews/wp/2016/a-real-brexit-britain-would-look-like/)

China's scary lesson to the world: Censoring the Internet works (https://www.washingtonpost.com/world/asia_pacific/chinas-scary-lesson-to-the-world-censoring-the-internet-works/2016/05/23/413afe78-fff3-11e5-8bb1-f124a43f84dc_story.html)

First there was the Berlin Wall. Now there is the Great Firewall of China.

NUMBER OF INTERNET USERS WORLDWIDE
▪ = 1 million internet users

(https://www.washingtonpost.com/world/asia_pacific/chinas-
scary-lesson-to-the-world-censoring-the-internet-
works/2016/05/23/413afe78-fff3-11e5-8bb1-
f124a43f84dc_story.html)

180 Comments

Your profile is incomplete. Please **update it in order to comment ()**.

All Comments

Newest First ▼

Pause live updates ⏸

> ### faustianbargain
> 1:02 PM EDT
>
> The evil irony of American elections is this – the educated blue states have to financially support the uneducated masses in the red states and on
> top of that have to pay for the stupidity of the people in the red states voting against their own economic interests.
>
> Like　Reply　Share

wmtcook

1:02 PM EDT

Its less a cartography problem than a representation problem.

Like   Reply   Share

centerright11
12:59 PM EDT

so what the electoral college is all that matters

Like   Reply   Share

carolinajoe
12:59 PM EDT [Edited]

The intention of founders was for the Presidency to represent most people, for Senate to represent all States, and for the House the represent all the people. It has worked fine except for the House that now seems to represent the minority of people.

Like   Reply   Share

HankC_57
1:03 PM EDT

the founders want the president to have broad support and prevent the rise of a tyrant. better to win many states by small margins than the aggregate.

The electoral college forces the candidates to meet in the middle, battle ground states. Otherwise Hillary would just campaign in California and New York for more votes and Trump in Texas and Georgia.

Like   Reply

TrueObserver
12:58 PM EDT

Golly.

Didn't know.

So the banks are where the money is.

BaltimoreBuc

1:03 PM EDT

Willie Sutton knew that

Don Ritchie

12:56 PM EDT [Edited]

Half of the country's votes are collected in 160 counties. Very easy for a few Democratic county clerks to tweak a few numbers and cheat an election.

realityboy

12:57 PM EDT

Yep, I guess your vote won't count. Crawl back under your rock.

Iwillnotcomply

12:59 PM EDT

When the U.S. Government halts cleaning up the voting rolls and allows over 4 million ineligible voters to remain, only invites the cheating and illegal activities, that take away legitimate voters votes. And that is pathetic. Why hasn't the Obama administration continued with the cleanup process that has been in effect from previous administrations???? There is no valid reason and it is harmful to our Nation.

realityboy

1:01 PM EDT

I wish you guys would quit making things up - and quoting sources like Breitbart that just make things up.

GabsDaD

1:02 PM EDT [Edited]

The federal government cannot stop states from cleaning their voting rolls. They can only sue if they suspect a civil rights violation in the process. Most states don't take the effort or provide adequate funding. It is an ongoing process because people die or move away all the time.

Like

BaltimoreBuc

12:59 PM EDT

Cows don't vote

too bad for you

Like   Reply

carolinajoe

1:01 PM EDT

House Districts have been tweaked to overrepresent GOP.
That is the rigging par excellence!

Like   Reply

Jose Can You See

1:02 PM EDT

And many have been tweaked to favor Democrats, of course.

Like

Nici75

12:49 PM EDT

I love cartograms, but that extruded 3D map is awesome. Would be more so if it came with a live-updated viewer that enabled panning and rotation. Or major wishful thinking: if it could be live-updated in Blender, maybe in the game engine? (note to fellow Blenderheads: I've never used

the game engine and am just wondering at the possibility).

Like   Reply   Share

Jose Can You See
12:48 PM EDT

"All states are not equal ..." wrote a poster below ... wholly missing the point of the Union.

3 ·   Like   Reply   Share

realityboy
12:52 PM EDT

Yes, very true, like it or not.

Like   Reply

Jose Can You See
12:55 PM EDT [Edited]

I guess you are correct ... some have coast lines whereas some are landlocked. Some are arid, whereas some are verdant. Some are flat, whereas others are mountainous. Some are older than others. Some have larger land masses than others. Some are on the Atlantic coast whereas some are on the Pacific coast.

I see your point ... and those differences are some of the reason why I love America.

2 ·   Like

realityboy
12:56 PM EDT

Some have people and some don't.

Like

Jose Can You See
12:57 PM EDT

They all have people. They would not be a state without people.

Like

Jeroboam

12:54 PM EDT [Edited]

Right. They are all equal: they're all states.

2 ·   Like   Reply

camasca

12:47 PM EDT

The maps are great. It does provide a better perspective, to see things differently. I know the small population states might not like it, but they're still cool for the different angle.

It makes me think of how arbitrary the state lines are anyways. We just sort of settled the country, there was no deep thought put into the shape of the states, like a master plan, it just sort of happened. Every state could look completely different on a different historical timeline, or not exist at all.

Like   Reply   Share

Iwillnotcomply

12:53 PM EDT

The same goes with every country on earth.

Like   Reply

Jeroboam

12:56 PM EDT

Not true. There are often linguistic, cultural, and ethnic boundaries that are mirrored in political borders. Not here though, or not really.

Like

Iwillnotcomply

12:57 PM EDT

Yes its true. You can apply the same to any country on earth today, with camasca's second paragraph. Every Country could look completely different on a different historical timeline, or not exist at all.

BaltimoreBuc

1:00 PM EDT [Edited]

well, until livestock get the vote………. them's the breaks

it's bad enough they get two Senators

Like   Reply

Jose Can You See

12:44 PM EDT

"In 2014 House Republicans only won 51% of the popular vote, but won 57% of the seats."

And that is what a poster considers a valid argument that something is amiss.

4 ·   Like   Reply   Share

pressF2

12:41 PM EDT

Does anybody know of a serious, reasonable justification for the Electoral College in the modern USA? I understand why they created it in 1889. But is it any good at all any more?

On the face of it, a system where the loser of the popular vote can be elected President is just a terrible idea. So what's the big advantage that outweighs that huge, obvious down side?

2 ·   Like   Reply   Share

camasca

12:44 PM EDT

The Founders created it with a candidate like Donald Trump in mind. Might win the vote, but would be a disaster as leader. It was a final check against a bad decision. That was their thinking.

Like   Reply

realityboy

12:48 PM EDT

Unless of course, he was popular in low population states...

Like

Jose Can You See
12:45 PM EDT

It may help a reply to understand why you deem it to a "terrible idea".

Like   Reply

Jeroboam
12:46 PM EDT

Because it's supposed to be the United States of America, not the United People of America. You simply take it for granted that the more weight the popular vote has, the better. That itself is an assumption that is chosen, not self-evident.

4 ·   Like   Reply

View More Replies ∨

Jose Can You See
12:38 PM EDT

The posters who argue tat the Senate's composition should be based on a state's population either wish it to be a second House, or would prefer that the Senate be abolished.

They understand not the nature and reason for the Senate ... and they exhibit the passions and thought processes that led to the genius creation of 2 chambers to temper such passion and thought process

5 ·   Like   Reply   Share

realityboy
12:40 PM EDT

Keep the six year terms but base composition on population.

Like   Reply

Jose Can You See

12:43 PM EDT

As I wrote above, that proposal goes against the reason as to why there is a Senate.

5 · Like

rjcat1
12:43 PM EDT

Jose, correct; but you have to consider that the founding fathers were undemocratic. Being mostly aristocrats, they feared the common people. Original senators were appointed by the respective state legislatures.

Like   Reply

Jose Can You See
12:46 PM EDT

And we have changed the US Constitution to allow for direct elections of Senators.

Now, that idea is still to prove itself as a wise one.

3 · Like

Jeroboam
12:47 PM EDT

One man's "democratic" is another man's mob rule.

3 · Like

realityboy
12:49 PM EDT

See Donald Trump.

Like

View More Replies ∨

mustquestion

12:46 PM EDT

We should eliminate state based senate election and instead create 50 national "regions" with approx equal regions for electing senators. That provides the broader view of the senate without giving disproportionate representation of the low population states.

Like   Reply

Hoos2013

12:49 PM EDT

that defeats the purpose of the Senate entirely though. The whole reason we have a bicameral legislature was so that the concerns of the smaller states weren't ignored. You're essentially arguing that it should just be the House on a smaller scale.

2 ·   Like

Iwillnotcomply

12:38 PM EDT [Edited]

How Election maps don't lie.

Some of the worst cess pools of high unemployment, run down neighborhoods, highly government dependent groups of people live in the 160 Counties that are predominately Democrat governed, than any other location on the map.

1 ·   Like Reply Share

NatsFan2004

12:45 PM EDT

The fact is that, on average, Red States take in far more Federal money than Blue States. And the Blue states pay far more into the Federal system than do Red States. So, who exactly are the takers

1 ·   Like Reply

Iwillnotcomply

12:47 PM EDT

Taking in more money has nothing to do with handouts. Separate all money obtained by each state, and look solely at generational dependents and areas that take in welfare, food stamps, obamacare, and the highest percentages live in the 160

counties noted. If you try to muddy the water with grants for infrastructure, or other items, it is just a pathetic attempt to distort reality.

1 ·   Like

Iwillnotcomply
12:51 PM EDT [Edited]

Also the progressive whiner likes to cry about Farm subsidies, when Farms actually create food and fuel for the entire nation and world. A farm subsidy for a group of producers is entirely different than handouts to people, that if they took a little initiative, could get on their own.

1 ·   Like

realityboy
12:47 PM EDT

While the most meth-addicted, blighted highly subsidized rural areas are represented by Republicans. The 160 counties are the economic engines that keep this country going. The "red" counties take more than they give.

Like   Reply

Iwillnotcomply
12:48 PM EDT

Yeah. There is no meth, crack, oxy, or other drugs in the utopian progressive Democrat inner cities. We got it.

1 ·   Like

realityboy
12:50 PM EDT

Right back attcha with unemployment, run-down housing, and takers. You can't have it both ways.

Like

Iwillnotcomply
12:52 PM EDT [Edited]

Right back attcha - And many of them, that happen to live Predominately Republican Counties, still vote Democrat.

Raymond Ghiutz Murdock
12:37 PM EDT

Part Two
////guarantees sustainable defense environmental protection, legalization and respect over territory indigenous peoples as self determination and legitimate, prevention and strict controls on food rights medicine,
Privileges of a superb woman and subtleties, to hide with lie any deception, sexual assault, perversion, and death (Monica Lewinsky and others, mischief perversion of Williams Jefferson and the tragedy of J.C.Stevens and six with national) handling and fraud using Foundation and loss of millionaires funds as Secretary of State, treason and conspiracy for Bernie Sanders elected by the people , as a candidate for presidential election? American justice accomplice along with more than one public official; where perjury and lack of patriotism are some failures more serious and embarrassing from the beginning of the 21ST century to today..!!!!!!!

Like   Reply   Share

Raymond Ghiutz Murdock
12:36 PM EDT

Part One
STRONGER TOGETHER " Hard Choise" " Continue to escape" " Science of Political deception". "keys of Hillary Clinton for success" The Books and memories by Hillary Clinton
Clinton campaign accuses FBI director of 'double standard' in email probe
But, your run-of-the-mill election map won't show you that.
This kind of map is common in almost every election: 50 states (and the District), two colors, one winner. Despite its ubiquity, it is profoundly flawed.
But this solution shows just one way of looking at the election.
Election maps are telling you big lies about small things.

They show no lies, conspiracy, the betrayals, the lack of patriotism, crime, illegal invasion, sexual assault, corruption, basic needs and elementary that the Americans people claims, housing, work, student grants, full health system and civil security, guarantees social resources veterans, credits to agriculture, livestock, medium-sized company, work for young graduates with qualifying titles pension insurance and containment for old age, protection and safety in schools, resources for police forces, defence of the national guard at borders, justice law and coherent order, organized balanced sustainable economy, protection resources vital eco system,////

realityboy

12:38 PM EDT [Edited]

...

Like   Reply

Owkrender

12:35 PM EDT

Do Red State voters wonder why only ONE major newspaper editor from among scores located in Red States has endorsed Trump? (It is because, partisanship aside, they think he is a terrible candidate and would make a terrible president.)

Like   Reply   Share

Jeroboam

12:44 PM EDT

Why are "newspaper editors" especially likely to be repositories of wisdom that the rest of us should take as models? The factors that determine who becomes one of them are sociological, not intellectual.

Like   Reply

independent1VA

12:56 PM EDT

Better them, than say, radio host flamethrowers, online bloggers, mobs, etc....

Most papers and editorial boards are reflections of their constituents/customers. They are daily taking the pulse of their communities and whose whole existence depends on watching the stories big and small over decades and history in general.

It's their jobs to observe and report.

Like

Jeroboam

1:01 PM EDT

"Most papers and editorial boards are reflections of their constituents/customers."

I would dispute that. Have you never encountered the editor and/or editorial board that overtly speaks of educating readers (i.e. to think more as they do)?

Like

SchmidtOnIt

12:33 PM EDT

So what? Almost all the voters in the entire country get brainwashed by the MSM propaganda, including this site, into making a false choice out of fear for the lesser of two evil Duopoly Party candidates.

Why is it that the two candidates who will only represent the oligarchy are the only two who are electable, while third party candidates who are qualified to represent the people are unelectable?

Oops! I just answered my own question.

Jill Stein 2016, Not electable by the oligarchy

1 ·   Like   Reply   Share

SUPERB OWL

12:35 PM EDT

SchmidtOnIt = too immature to pick between the candidates who can win

1 ·   Like   Reply

realityboy

12:37 PM EDT [Edited]

Jill Stein is an anti-vaxxer. Enuf said as far as I'm concerned.

1 ·   Like   Reply

Hoos2013

12:52 PM EDT

Jill Stein: not electable to about 90% of the population. "The Oligarchy" has nothing to do with her being a nutjob.

Like   Reply

More

___
More coverage