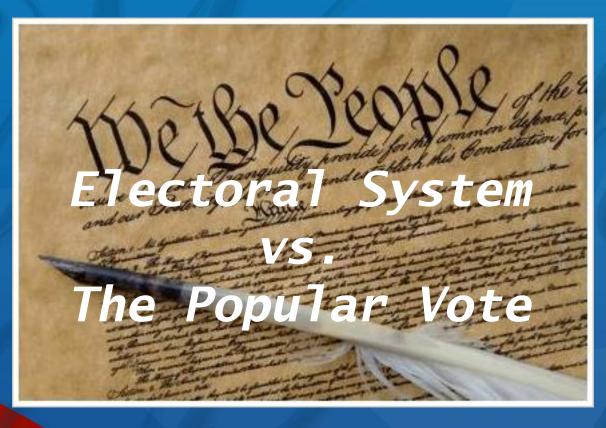
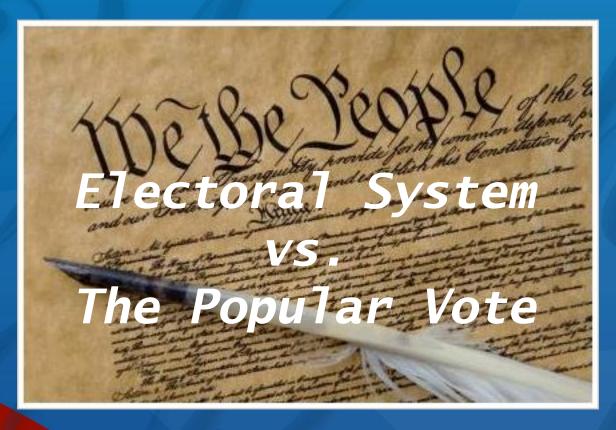


Charles M. Biles, Ph.D. nia977.wix.com/drbcap



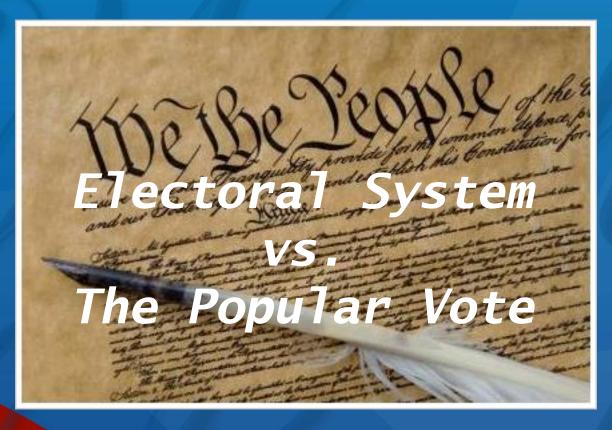
Advice

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Question

What is an election?

Question

What is the difference between a war and an election?

Question

A prime goal of democracy is to replace wars with elections by replacing bullets with ballots.

An Election

The Electorate

Voters

Suffrage: Who can vote?

An Election

Ballots

One person – one vote?

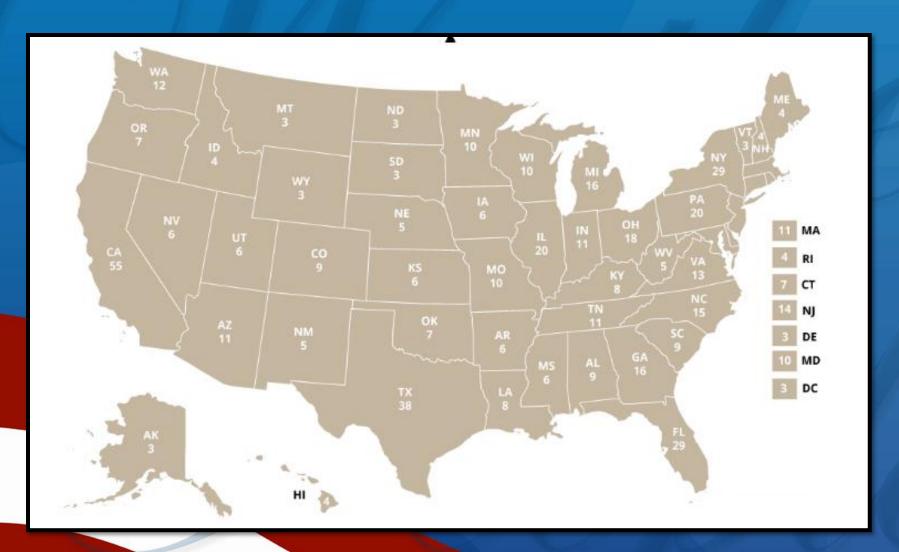
An Election

Who wins?

Ballots



The Electorate



Two Models

- States Model
- Electoral College Model

The States Model

The *electorate* consists of the 50 states plus the District of Columbia.

Each state's ballot is weighted as indicated by the numbers.

Electoral College Model



The Electoral College

The College consists of a slate of electors from each state. The number of electors equals the number of members of Congress—the number of representatives and senators.

Amendment XXIII (ratified 1961) gives the District of Columbia three electors.

The electoral system is a process.

The electoral system is a process.

✓ National Election Day 8 November 2016.

In a presidential election when you vote for candidate X you are voting for the slate of electors pledged to candidate X.

The electoral system is a process.

- ✓ National Election Day 8 November 2016

National Conference of State Legislatures

The electoral system is a process.

- ✓ National Election Day 8 November 2016
- ✓ Electors Day 19 December 2016
- ✓ Submission Day 28 December 2016

National Conference of State Legislatures



Executive Department State of California

CERTIFICATE OF VOTE

For

PRESIDENT and VICE PRESIDENT of the UNITED STATES OF AMERICA

2016

To the President of the Senate of the United States of America:

WE THE UNDERSIGNED, Electors for President and Vice President of the United States of America, being duly appointed for the State of California as displayed in the annexed Certificate of Ascertainment made and delivered by the Governor of the State of California, with any deficiency in the number of Electors supplied by election according to law, and having met the first Monday after the second Wednesday in December pursuant to the Constitution and laws of the United States and the State of California, do hereby certify that the following candidates received the following number of votes:

FOR PRESIDENT OF THE UNITED STATES

Hillary Clinton

NUMBER OF VOTES ~ 55

FOR VICE PRESIDENT OF THE UNITED STATES

Tim Kaine

NUMBER OF VOTES - 55

IN WITNESS WHEREOF, we have hereanto set our hands at Sacramento, California, on the first Monday after the second Wednesday in December, being the nineteenth day of December, 2016. Certificates of Vote by State

The electoral system is a process.

- ✓ National Election Day 8 November 2016
- ✓ Electors Day 19 December 2016
- ✓ Submission Day 28 December 2016
- Decision Day
 6 January 2017

National Conference of State Legislatures

The electoral system is a *process*.

- ✓ National Election Day 8 November 2016
- ✓ Electors Day
- ✓ Submission Day
- Decision Day
- Inauguration Day 20 January 2017

19 December 2016

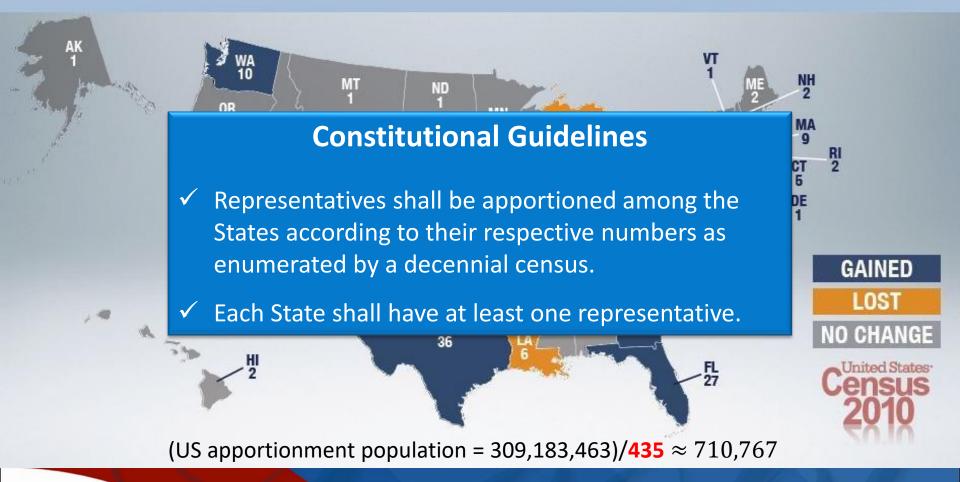
28 December 2016

6 January 2017

National Conference of State Legislatures

CONGRESSIONAL SEATS

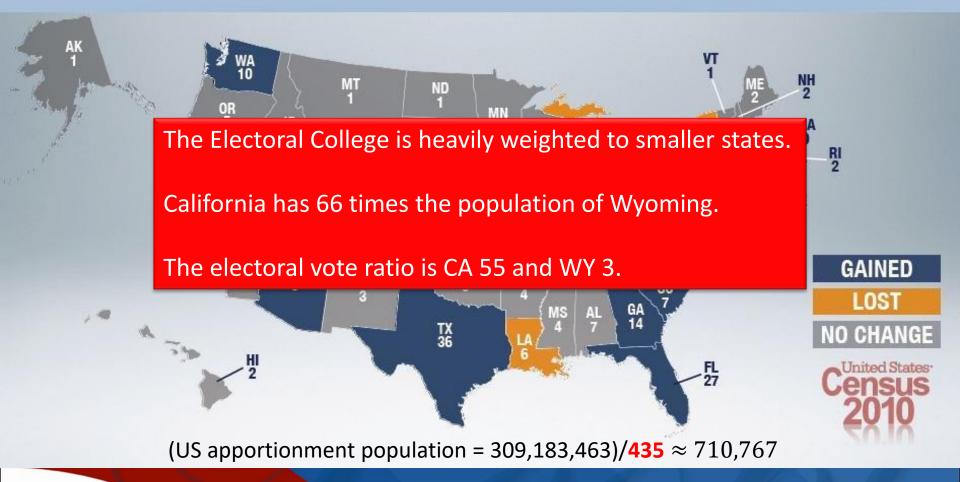
2010 OFFICIAL RESULTS



http://www.census.gov/2010census/data/apportionment-data.php

CONGRESSIONAL SEATS

2010 OFFICIAL RESULTS



http://www.census.gov/2010census/data/apportionment-data.php

Distributing 435 seats among 50 states according to their respective populations is a math problem.

A Math Skill

How do I average two nonnegative whole numbers?

What is the average of 8 and 12?

The Average

Example: ave(8,12) =

Maximum \rightarrow max(8,12) = 12

 $Minimum \qquad \qquad > min(8,12) = 8$

Arithmetic Mean \rightarrow AM(8,12) = 10

Harmonic Mean > HaM(8,12) = $\frac{2}{\frac{1}{8} + \frac{1}{12}}$ = 9.6

Geometric Mean \triangleright GeM(8,12) = $\sqrt{8 \times 12} \approx 9.8$

- Step 1. Give one seat to each state.
- Step 2. Attach a priority number to each state.
- Step 3. Award seats one at a time by priority until the desired House size is reached.

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Priority number for a state with n seats

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```
Priority number for a state with = \frac{state\ population}{ave(n,n+1)}
```

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```
Priority number for a state with = \frac{state\ population}{ave(1,2)}
```

- Step 1. Give one seat to each state.
- Step 2. Attach a priority number to each state.
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```
Priority number for a state with = state population ave(1,2)
```

Priority number for a state with = $\frac{state\ population}{ave(2,3)}$

Five Averages

ave

- Greatest Divisors max
- Harmonic Means HaM
- Equal Proportions GeM
- Major Fractions AM
- Smallest Divisors min

U.S. Census Bureau PRIORITY VALUES FOR 2010 CENSUS

HOUSE	PRIORITY	STATE	STATE
SEAT	VALUE	ABBREVIATION	SEAT
51	26404774	CA	2
52	17867470	TX	2
53	15244803	CA	3
54	13732760	NY	2
55	13364865	FL	2
56	10779704	CA	4
57	10315788	TX	3
58	9096490	IL.	2
59	9004938	PA	2
59	9004938	PA	2

https://www.census.gov/population/apportionment/files/Priority%20Values%202010.pdf

The Last Seat

Who got the 435th seat?

		ave	435
•	Greatest Divisors	max	IL /
•/	Harmonic Means	HaM	MN
•	Equal Proportions	GeM	MN
•	Major Fractions	AM	NC
•	Smallest Divisors	min	WA

The Last Seat

Who gets the 436th seat?

		ave	435	436
•	Greatest Divisors	max	IL	WA
•	nic Means	HaM	MN	CA
	portions	GeM	MN	NC
	ractions	AM	NC	МО

Smallest Divisors min WA PA

The distribution of seats in the House and thus the Electoral College depends on Congress's choice of averaging two numbers.

The Last Seat

Who gets the 436th seat?

		ave	435	436
•	Greatest Divisors	max	IL	WA
•	Harmonic Means	HaM	MN	CA
	Equal Proportions	GeM	MN	NC
•	Major Fractions	AM	NC	MO
•	Smallest Divisors	min	WA	PA

The popular vote:

Hillary Clinton: 65,853,516 48.18%

Donald Trump: 62,984,825 46.09%

Others: 7,850,896 5.73%

<u>Federal Election Commission</u>
<u>Official 2016 Presidential General Election Results</u>

The popular vote:

Hillary Clinton: 65,853,516 48.18%

Donald Trump: 62,984,825 46.09%

Others: 7,850,896 5.73%

The Electoral College vote:

Hillary Clinton: 227

Donald Trump: 304

Others: 7

Flips can happen because of the winner-take-all feature states have in selecting their electoral slates.

https://en.wikipedia.org/wiki/United States presidential election, 2016

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Hillary Clinton 8 Colin Powell 3 Faith Spotted Eagle 1

https://en.wikipedia.org/wiki/United States presidential election, 2016

The Popular Vote

Arguably, on 4 other occasions in U. S. history the electoral and popular systems produced different results.

- 1. John Quincy Adams vs. Andrew Jackson 1824
- 2. Rutherford B. Hayes vs. Samuel Tilden 1876
- 3. Benjamin Harrison vs. Grover Cleveland 1888
- 4. George Bush vs. Al Gore 2000

Source: http://www.factcheck.org/2008/03/presidents-winning-without-popular-vote/

1876

Cand	idate	Party	Popular Vote	Electoral Vote
Ruth	. Hayes (OH)	Republican	4,034,142	185
9 0.7	en (NY)	Democratic	4,286,808	184
Telu Sope	Y)	Greenback	83,726	

Lesson: Hayes's Electoral College win was an artifact of the method used for House apportionment.

The original apportionment from the 1870 census used one method. The 1872 supplement act added nine seats but used a different method. The methods agreed except for two seats.

Original method: IL and NY;

Supplement method: NH and FL.

2000

Candidate	Party	Popular Vote	Electoral Vote
George W. Bush (TX)	Republican	50,456,062	271
Albert Gore (TN)	Democratic	50,996,582	266
Ralph Nader (DC)	Green	250,017	 -
Patrick Buchanan (VA)	Reform	149,115	

Lesson: Bush's Electoral College win was an artifact of the size of the House.

Source: https://www.archives.gov/federal-register/electoral-college/2000/popular_vote.html

House Size Effects

Consider the Electoral College vote based on House sizes 50 - 1000 using the current method of congressional apportionment:

smaller than 492 Bush wins, larger than 597 except 655 Gore wins.

Between 492-597 there are 24 ties, Bush wins 53 times, and Gore wins 29 times.

http://www.thirty-thousand.org/pages/Neubauer-Zeitlin.htm

2000

The 2000 election showed another potential problem. The number of electoral votes each state gets is tied to the decennial census. Although the election was in 2000, apportionment of the House was based on the 1990 census.

An election held in a census year is based on a population that is ten years old.

What would have been the result of Bush vs. Gore if the Electoral College were based on the 2000 census?

2000

In comparison with the 1990 census the 2000 census shifted 12 House seats affecting 18 states.

Accordingly, the electoral vote would have changed from

Bush 271 and Gore 266

to

Bush 278 and Gore 259.

Reform

Over the past 200 years, over 700 proposals have been introduced in Congress to reform or eliminate the Electoral College. There have been more proposals for Constitutional amendments on changing the Electoral College than on any other subject.

https://www.archives.gov/federal-register/electoral-college/faq.html#whyec

Today's Debate

Resolved: The electoral system should be replaced by a popular vote system.

What's a Popular Vote System? 51

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Fairness

Individual Sovereignty:

Each voter gets the same ballot with the same instructions and is free to vote as they choose within these constraints.

One Person — One Vote

Should there be a uniform national presidential ballot?

Ballots differ among states. GA, IN, OK listed 3 candidates; CA 5; TN 7; UT 10; CO 22.

http://www.politico.com/2016-election/results/map/president

Should there be a write-in provision?

Today 9 states do not allow a write-in.

https://ballotpedia.org/Ballot access for presidential candidates

Should there be uniform suffrage for a national popular vote?

Should there be uniform suffrage for a national popular vote?

Should all American citizens "in goodstanding" be allowed to vote in the national popular election for President?

http://felonvoting.procon.org/view.resource.php?resourceID=000286

Should there be uniform suffrage for a national popular vote?

- Should all American citizens "in goodstanding" be allowed to vote in the national popular election for President?
- What about American citizens who live in a U.S. territory but are not citizens of a state or residents of D. C.?

What should be the structure of the ballot in a national presidential election?

What should be the structure of the ballot in a national presidential election?

Vote for One.

What should be the structure of the ballot in a national presidential election?

- Vote for One.
- Approval.

What should be the structure of the ballot in a national presidential election?

- Vote for One.
- Approval.
- Ranked Choice.

An election must feature a ballot. Assume the ballot is the same for each voter; further, one person/one ballot.

The structure of the ballot determines your voice in an election.

During the Stalin era of the Soviet Union, a ballot looked like this:

During the Stalin era of the Soviet Union, a ballot looked like this:

District Commisar Vote for One

☐ Alesander Kolnovic

A two-option ballot looks like this:

Vote for One

- ☐ Option A
- ☐ Option B

A multi-option ballot looks like this:

Instruction

- Option A
- ☐ Option B
- Option C
- ☐ Option D
- ☐ Option E

A multi-option ballot looks like this:

Vote for One

- Option A
- ☐ Option B
- Option C
- ☐ Option D
- ☐ Option E

A multi-option ballot looks like this:

Vote for One

- ☐ Option A
- ☐ Option B
- ☐ Option C
- Option D
- Option E

Notice how restricted the voter's voice is.

A multi-option ballot looks like this:

Vote for One

- Option A
- ☐ Option B
- ☐ Option C
- Option D
- ☐ Option E

Notice how restricted the voter's voice is.

Many voters vote strategically rather than honestly.

Approval Voting

A multi-option ballot looks like this:

Approval List

- ☐ Option A
- ☐ Option B
- ☐ Option C
- ☐ Option D
- ☐ Option E

Vote for all options that you approve.

Which Ballot?

Vote for One Party ☐ Hillary Clinton and Tim Kaine Democratic ☐ Gloria Estela La Riva and Dennis J. Banks Peace and Freedom ☐ Donald J. Trump and Michael R. Pence Republican, American Independent ☐ Gary Johnson and Bill Weld Libertarian ☐ Jill Stein and Ajamu Baraka Green

Which Ballot?

Vote for One Party Vote for all Approved ☐ Hillary Clinton ☐ Hillary Clinton and Tim Kaine and Tim Kaine **Democratic** Democratic Gloria Estela La Riva ☐ Gloria Estela La Riva and Dennis J. Banks and Dennis J. Banks Peace and Freedom Peace and Freedom ☐ Donald J. Trump Donald J. Trump and Michael R. Pence and Michael R. Pence Republican, American Independent Republican, American Independent Gary Johnson ☐ Gary Johnson and Bill Weld and Bill Weld Libertarian Libertarian Jill Stein ☐ Jill Stein and Ajamu Baraka and Ajamu Baraka Green Green

Ranked Choice Voting

In a ranked choice ballot the voter ranks some or all of the candidates.

In a full ranked system, if the ballot displays five choices, then you rank those choices 1 though 5.

News Flash In the 2016 election Maine approved a full ranked system for statewide offices.

https://ballotpedia.org/Maine Ranked Choice Voting Initiative, Question 5 (2016)

A National Popular Vote

- Abolishing the electoral system requires a constitutional amendment.
- A uniform national vote procedure requires federal legislation concerning ballot access, suffrage, ballot structure, and election mechanics.



State Sovereignty

Keep voting as a state's rights matter.

Suffrage, ballot access, ballot structure, voting mechanics are left up to each state. Then count the certified popular vote in each state as is currently done.

State Sovereignty

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Suffrage, ballot access, ballot structure, voting mechanics are left up to each state. Then count the certified popular vote in each state as is currently done.

This is the approach of the National Popular Vote Bill.

National Popular Vote Bill

A *State* Act in which a state joins an interstate compact to elect the President and Vice-President of the United States by national popular vote.

- A state's slate of electors will be awarded to the candidate with a plurality of the national (instead of statewide) popular vote.
- The law takes effect in each state in the compact when the compact reaches 270 electoral votes.

Should the electoral system be replaced by a popular vote system?

Should the U. S. move to a national popular vote for President and Vice-President?

Democracy

What is an Election?

One Person — One Vote

We the People of the United States, . . .

http://www.theconstitutionproject.com/portfolio/one-person-one-vote/



Imported From Firefo 🕒 U. S. Electoral College

One Touch Copy - D

Charles M. Biles, Ph.D.

Congressional Apportionment

BIO NEWS & EVENTS

RESOURCES CONTACT



Constitutional Congregressional Apportionment P

How many seats in the U.S. House of Representatives does each state get?

An answer is presented as an historical narrative with relevant and timely applications a recent book, The History of Congressional Apportionment

Chapter 1. Congressional Apportionment Based on the Census: 1790.

Chapter 2. Congressional Apportionment Based on the Census: 1800-1840.

Chapter 3. Congressional Apportionment Based on the Census: 1850-1890.

Chapter 4. Congressional Apportionment Based on the Census: 1900-1930.

Chapter 5. Congressional Apportionment Based on the Census: 1940-2010.

Chapter 6. An Historical Overture.





The History of Congressional Apportionment

Second Printing (1 November 2017) Errata and Updates for First Printing

HSU Press

Last update: 5 August 2017.

Cover insprired by a graphic courtesy of The West Virginia Record

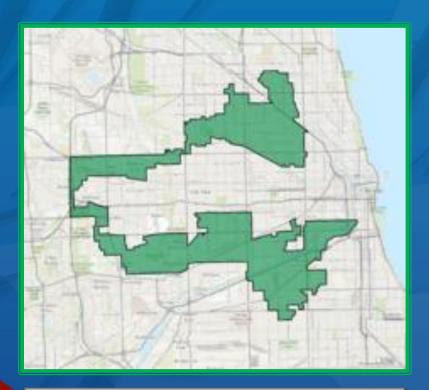
... no political problem is less susceptible of a precise



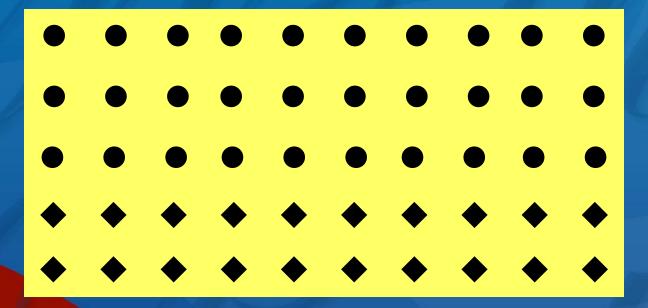
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Thank You

http://www.nia977.wix.com/drbcap



Illinois 4th congressional district.



Apportion into five districts.

