

“This is *the* site for learning about democracy.”  
—Zoe Weil, author of *Most Good, Least Harm*,  
president of the Institute for Humane Education.

“... a huge contribution to the democracy cause.”  
—John M. Richardson Jr., former Chairman of  
the National Endowment for Democracy.

“Congratulations on a brilliant piece of work.”—  
Robert Fuller, former President of Oberlin College,  
author of *Somebodies and Nobodies* and *All Rise*.

## See and Hear How

The best voting rules are fast, easy and fair.  
They help groups from classrooms to countries.  
The results are well centered and widely popular.

They strengthen the votes supporting  
one chairperson  
or policy and  
fair-shares of spending or seats.



## Then Act

**Share** this illustrated booklet with friends.  
**Build** support in your school, club or town.  
**Enjoy** better relations, politics, and policies,  
pages 33, 36, and 58.

ACCURATE DEMOCRACY



## Fair Share Voting Simulation

**Fair Share Voting** helps voters organize many ad hoc groups large enough to fund their favorite items. Each voter may try to help a few different groups. They spend money, labor hours or any resource, for projects or the discretionary parts of ongoing budgets.

Time: Labor, Class... **F\$V** Area: Land, Water...

This map shows the public plants proposed by voters in a village. Often, the site closest to a voter is most useful to him and is his top choice. But this case has four distinct interest groups: **Red, Yellow, Green, and Blue**. Items can be close together on the map and yet be far apart in color. So this map shows a third issue dimension as deep layers of color in the page.

Here is a proposed **blue-flower garden**.

It's far from what **red voters** want, even if it is next door.  
A voter prefers the closest item that features his favorite color.

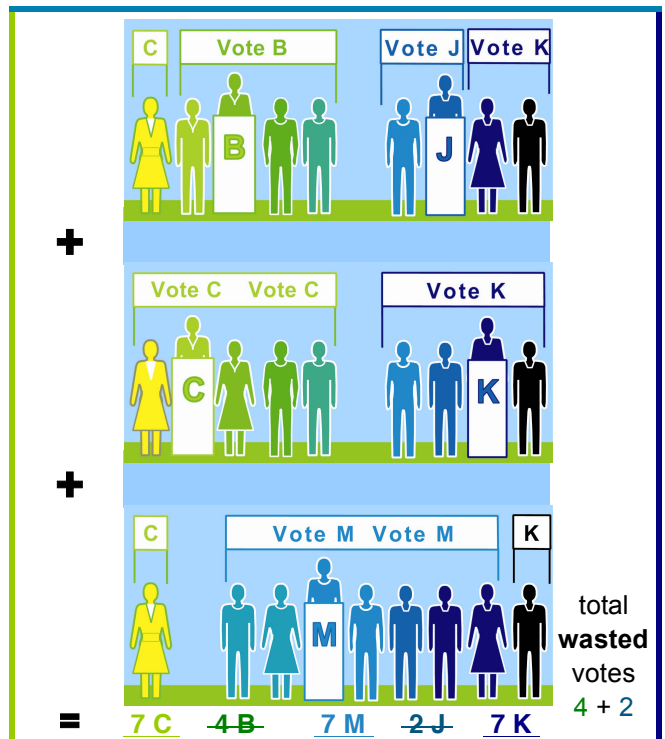


Here a garden club had \$240 for public plants, and each interest group got a quarter of the votes. So how much did each group allocate?

A blue passionflower cost \$60, a red rosebush \$30,  
two yellow sunflowers cost \$15, an evergreen bush \$20.  
A group with only a few, low-cost proposals may be able to fund them all. Did that happen here?

## One Fair-Representation District

A better suggestion says, “Keep the class whole. Change the votes needed to win a seat from 1/2 of a small seminar to 1/4 of the whole class plus one.” So three reps need 3/4 of the votes. Wasting fewer votes gives the council a **stronger mandate**.



Now a majority gets 2 reps and a minority gets 1.  
Many wasted votes may expose a gerrymander.

More Endorsements

“I like your thoughtful application of the best voting techniques to the PB process.” [Participatory Budgeting]  
—Tree Bressen, a leading author on group facilitation,  
*Group-Process Pattern Language*, groupworksdeck.org

“A very interesting site about voting procedures is:  
Accurate Democracy. Highly recommended.”  
—Prof. Arkadii Slinko, mathematical politics, NZ.

Many groups have given endorsements, editorials, or testimonials for ranked choice voting. Here are a few:

**Organizations:** cities and colleges on pages 13 and 40.  
Academy Awards (Oscars), Common Cause, Sierra Club, Church of England, Unitarian Universalist Association...

**Leagues of Women Voters:** Arizona, California, Florida, Maine, Massachusetts, Minnesota, North Carolina, Oklahoma, Oregon, South Carolina, Vermont, Washington.

**National Newspapers:** New York Times Sunday 6/10/18, USA Today, Washington Post 6/14/18; recent regional editorials: Portland Press Herald, Las Cruces Sun News...

**Journalists:** David Brooks 6/1/2018, Hendrik Hertzberg...

**Celebrities:** Jennifer Lawrence 6/5/2018, Krist Novoselic, John Cleese, Dr. James Hansen...

**US Senators:** John McCain, Barak Obama, Bernie Sanders...

**US Reps:** Abner Mikva, John Porter, Jamie Raskin, Keith Ellison, John Anderson...

**Parties:** Democrats of California, Colorado, Massachusetts, and Maine; Green Party US; Libertarian Party; Republicans in Alaska and Utah.

See many more at [fairvote.org/endorsers](https://fairvote.org/endorsers)  
[fairvote.org/editorial-board-support-for-rcv-in-2018](https://fairvote.org/editorial-board-support-for-rcv-in-2018)

About Us

**About FairVote** [info@fairvote.org](mailto:info@fairvote.org)

FairVote is a nonpartisan champion of electoral reforms that give voters greater choice, a stronger voice, and a representative democracy that works for all Americans.

FairVote has a proven record since 1992 as a trailblazer that advances and wins electoral reforms at the local, state, and national level through strategic research, communications and collaboration. Today it is the driving force behind advancing ranked choice voting and fair representation in multi-winner legislative districts that will open up our elections to better choices, fairer representation and more civil campaigns.

**About My Work** [VotingSite@gmail.com](mailto:VotingSite@gmail.com)

In 1990, John R. Chamberlin, and Samuel Merrill III each gave me permission to use their sim results to advance a Condorcet-IRV rule. Throughout the 1990s I created the *PoliticalSim™* and *SimElection* software. They compared 30 single- and multi-winner rules from around the world and were used in a few universities. Pages 46-55 show maps from the simulation games. By 1998 I'd started the *Democracy Evolves* website. Then I helped FairVote as a webmaster and librarian. For 10 years, I've cheered Dr. Robert Tupelo-Schneck, Ian Little, Adder Oaks, Kathryn Simmons and Twin Oaks Community for using Fair Share Voting (page 22). This booklet summarizes *Accurate Democracy.com*.

The goals are better group-decision results (page 59), through systemic changes (e.g. pages 34-36), through better tools between people (e.g. pages 23, 25 and 33).

The principle of **Fair Representation** is:  
**Majority rule, by representing the groups in proportion to their votes.**

That is, 60% of the vote gets you 60% of the seats, not all of them. And 20% of the vote gets you 20% of the seats, not none of them. These are **fair shares**.

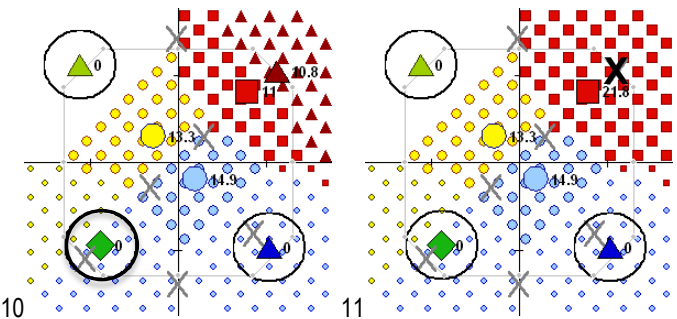
- How does it work? There are three basic ingredients:
- We elect more than one rep from an electoral district.
  - You vote for more than one; you vote for a list.  
You pick a group's list, or you list your favorites.
  - The more votes a list gets, the more reps it elects.

Why Support Fair Representation (Fair Rep)

- **Fair shares** of reps go to the rival groups so **Diverse candidates** have real chances to win so Voters have **real choices** and **effective votes** so **Voter turnout** is stronger.<sup>1</sup>
- **Women win** two or three times more often<sup>2</sup> so **Accurate majorities** win—also due to real choices, more turnout, effective votes, and equal votes per rep so **Policies match** public opinion better.<sup>3</sup>

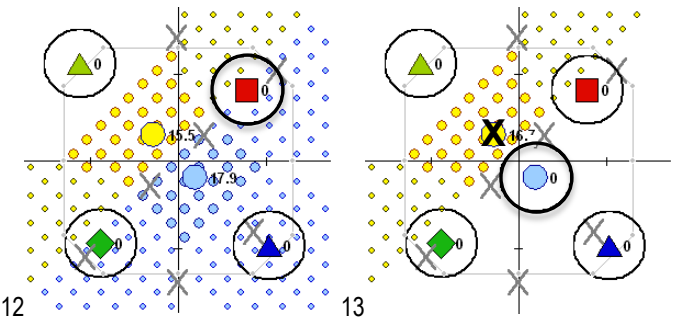
16 This is often called Proportional Representation.

A Diverse and Balanced Council



This pattern of voters makes their choices easy to see. SimElection™ also created uniform, random, custom and normal bell-curve patterns for games and research.  
To learn about life, use a normal lifelike pattern.<sup>1</sup>

In 13, the box holds half the voters and all but one rep. Does STV tend to favor and elect fringe candidates? What percentage of votes is needed to elect five reps? Are the reps diverse? Balanced fairly? Well centered?



No. Over 83%. Yes. Yes. Yes.

Glossary and Index

**Accurate democracy** gives fair shares of seats and spending. It cuts scams and enacts a policy that tops all rivals. *4 goals*

a **Mandate** is the legitimacy that effective votes loan to a winner; contrast a wasted vote. *basic goal* .....9-15, 35

a **Majority** is more than half of the votes. ....9, 12, 28-, 54

a **Plurality** has the most votes—often not a majority.

" **rule** has yes-no voting; contrast RCV. ....4, 9, 21, 29-, 59

a **Ranked Choice Vote** lets you rank a 1<sup>st</sup> choice and backups. *a tool for effective votes and fair shares.* ..... 12, 38-, 46-

a **Threshold** to win, quota or finish line is the percentage of votes a rule requires. ....4, 12, 15, 38- 46

a **Wasted vote** went to a loser, a surplus or a powerless rep; *measures weakness in a voting result.* .....10-, 21, 25

a **Wrecking amendment** ruins a bill's chances or effects.

a **Free rider** " doesn't relate to the main bill. ....28, 31, 36

See also the **Index of Merits** on page 36.

Acronyms and Synonyms	Pages
Consensus process	31-33, 55-
CT Condorcet Tally, Pairwise Tally	26-28-, 43, 52-56
EC Ensemble Council	New ..... 6-, 52-54
FSV Fair Share Voting	New .....20, 22-, 41-, 50-, 55-
FR Fair Rep, Fair Representation (US), PR	
Proportional Representation; see also STV	..... 5, 14-16-, 59
RCV Ranked Choice Voting, Choice Voting (US) includes:	
STV Single Transferable Vote for FR	..... 40, 46-49, 52-54
IRV Instant Runoff Vote (US) Majority Preferential (Aus)	
Alternative Vote (UK) or Hare for SMD	..... 12-, 38-40, 54
SMD Single-Member District elects one rep.	.....4, 14, 17

Accurate  
Democracy

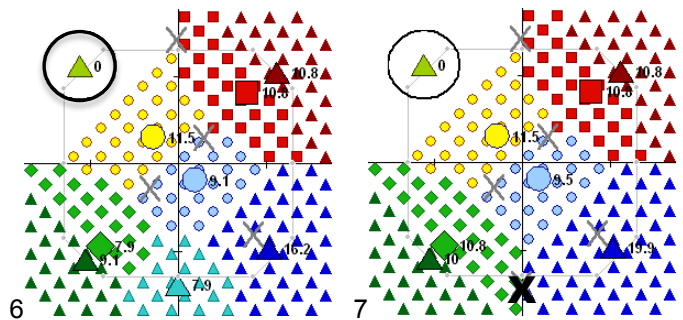
4 Decision Tools  
with Pictures & Games

Robert Loring



FairVote

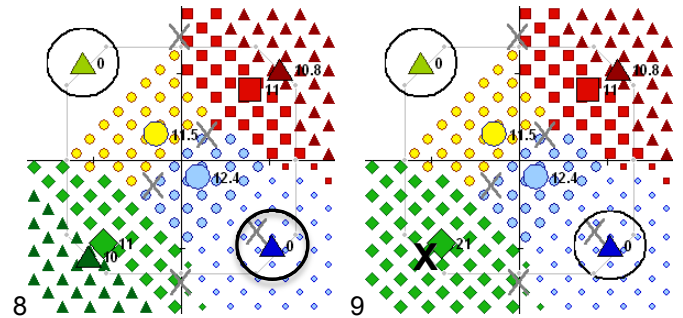
Votes Transfer, Elect Reps



In 6, a candidate has just enough votes to win a seat.

In 8, a winner has **surplus votes**; a fair share goes to each supporter's next choice. ♦ ● ■

The charts show only two issue dimensions. But a five seat election can form decisions in 3D, if the reps are diverse. More issues and positions get represented in campaigns and debates, then in policies and budgets—all in 3D!



Fair Shares and Moderates

**Chicago** elects no Republicans to the State Congress, even though they win up to a third of the city's votes. But for over a century it elected reps from both parties. The state used a fair rule to elect 3 reps in each district. Most gave the majority party 2 reps and the minority 1; so both parties courted voters in all districts.

Those Chicago Republicans were usually moderates. So were Democratic reps from Republican strongholds. Even the biggest party in a district tended to elect more **independent**-minded reps. So they could work together and make moderate policies.<sup>4</sup>



**New Zealand** switched in 1996 from Single-Member Districts to a layer of SMDs within Fair Representation. This is called Mixed-Member Proportional or MMP. A small, one-seat district focuses more on local issues. Fair Rep frees us to elect reps with widespread appeal.

The seats won by **women** rose from 21% to 29%. The native Maoris reps increased from 7% to 16%, which is almost proportional to the Maori population. Voters also elected 3 Polynesian reps and 1 Asian rep.<sup>5</sup>

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voting in your clubs, schools, city and state.  
What will you do or give to live in an  
educated and accurate democracy?

Please consider helping **FairVote**  
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www.accuratedemocracy.com/z\_prints.htm

Updated 2.19.19

4 Jon A. Krosnick, In the Voting Booth, Bias Starts at the Top,  
nytimes.com/2006/11/04/opinion/04krosnick.html  
5 youtube.com/watch?v=oHRPMJmzBBw v=\_5SLQXNpzsks

**Sim Charts**, compare rules d\_stv2d.htm, p\_tools.htm,

1 Robert Loring, SimElection™, 1996, http://simelection.com  
https://www.accuratedemocracy.com/d\_stv2d.htm  
See Chamberlin et al, or Merrill, or Green-Armytage above.  
99 Henry E. Brady, "Dimensional Analysis of Ranking Data",  
*American Journal of Political Science*. 34 (11/90).

### From Classes and Co-ops to Countries

1 Lawrence Susskind and Jeffrey L. Cruikshank,  
Breaking Robert's Rules; (Oxford University Press, 2006)  
LiquidFeedback.org Free software to help group decisions.  
Diana Leafe Christian; "Radical Governance Changes in Two  
North American Ecovillages"; IC.org; Oct. 31, 2014  
https://www.theatlantic.com/politics/archive/2018/02/a-better-  
way-to-look-at-most-every-political-issue/552752/  
2 A group-process pattern language, groupworkdeck.org  
3 Corrine McConaughy, *The Woman Suffrage Movement in  
America: A Reassessment*; Cambridge Univ. Press, 2013  
4 Does your group routinely use critical ways of thinking?  
learnweb.harvard.edu/alps/thinking/docs/dispositions.htm  
5 https://cyber.harvard.edu/sites/cyber.harvard.edu/files/2018-  
01-10-Pricing\_Study\_.pdf On Solar Streets ilsr.org  
6 *Egalitarian versus Authoritarian Values* @ a\_quotes.htm  
7 Thomas Piketty, Arthur Goldhammer; *Capital in the 21st  
Century*, Cambridge MA: The Belknap Press of Harvard  
University Press, 2014.

See progressive taxes in Wikipedia pages on: Carbon\_tax,  
Consumption\_tax#Expenditure\_tax, Georgism (land),  
Financial\_transaction\_tax (speculation), and Wealth\_tax. 65

## Why Elect Women

Does Fair Representation elect more women?

**New Zealand and Germany** elect half of their MPs  
in single-member districts and half from Fair Rep lists.  
The SMDs elect few women; but in the same election,  
the party lists elect two or three times more women.

In every one-seat district, a party's **safest nominee** is  
likely to be a member of the dominant sex, race, etc.  
That adds up to very poor representation of all others.

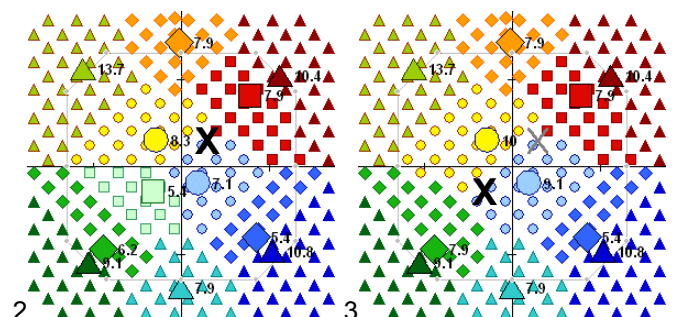
Fair Rep leads a party to nominate a **balanced team**  
of candidates to attract voters. This promotes women.<sup>6</sup>  
A team can have class, ethnic and religious diversity.  
And that gives us diverse reps to approach for help.

*more: competition, real choices,  
voter turnout, effective votes,  
strong mandates, diverse reps,  
women reps, popular policies*

Some leading women spoke of **starting a new party**  
in **Sweden**, which uses Fair Rep. Under plurality rule,  
a big new party splits their own side, so it loses. But  
Fair Rep gives every big party its share of seats.

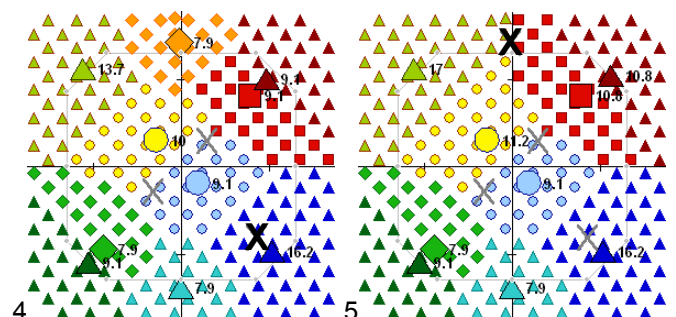
This credible threat made some parties decide that  
job experience was not as important as **gender balance**.  
So they dropped some experienced men to make more  
room for women on the party list. And they won. Now  
they are incumbents with experience, power and allies.<sup>7</sup>

## The Weakest Lose, One at a Time



In chart 2, the first loser gets an X. Her voters change  
color as each **transfers** to his next choice, a close rival.  
So the nearest fields of color grow. ● ● ●

In 1, the gray box holds half the voters. The candidates  
outside it lead their close rivals on the first ballot count.  
But in 2 and 3, as weak candidates lose, most ballots  
transfer to **moderates** and centrists inside that box.



Cost and Benefits @ a\_goals.htm z\_review.htm

1 [https://www accuratedemocracy.com/l\\_motion.htm](https://www accuratedemocracy.com/l_motion.htm)  
[https://en.wikipedia.org/wiki/Committee\\_of\\_the\\_whole](https://en.wikipedia.org/wiki/Committee_of_the_whole)  
2 Meredith Bennett-Smith, *World's Happiest Countries 2013*,  
[http://www.huffingtonpost.com/2013/05/28/worlds-happiest-countries-2013-australia\\_n\\_3347347.html](http://www.huffingtonpost.com/2013/05/28/worlds-happiest-countries-2013-australia_n_3347347.html); Cites UN, OECD.  
<https://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25120>  
*OECD Better Life Index* <http://www.oecdbetterlifeindex.org/>  
3 [https://en.wikipedia.org/wiki/Democracy\\_voucher](https://en.wikipedia.org/wiki/Democracy_voucher)  
Bruce Ackerman and Ian Ayres, *Voting with Dollars: A New Paradigm for Campaign Finance*; (New Haven: Yale, 2002).  
4 <https://www.nature.com/articles/nature25139>.  
<https://www.nytimes.com/2018/06/23/opinion/sunday/james-hansen-climate-global-warming.html>  
5 "Democracy Through Multi-Body Sortition: Athenian Lessons for the Modern Day", Terrill G. Bouricius, New Democracy Institute, *Journal of Public Deliberation*, Vol.9 | #1; 4/30/13  
The People Trying to Save Democracy From Itself, P Chalmers  
<https://www.theguardian.com/world/2016/jul/02/democracy-tarnished-brand-desperate-need-reinvention>  
7 The statistics on panel 59 compare stable democracies.

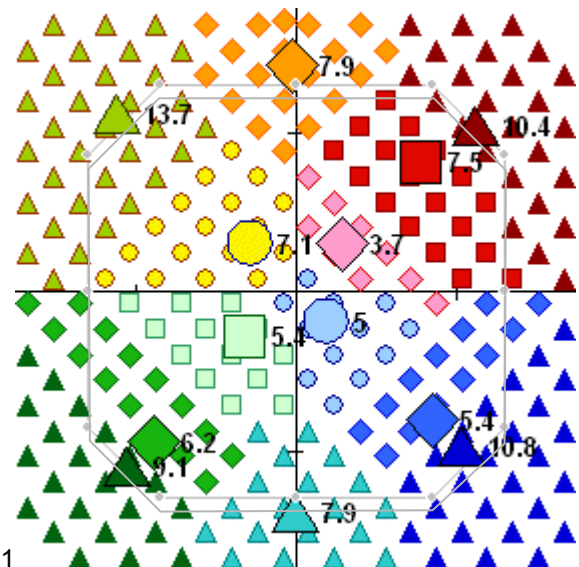
Workshop Games, hold a vote @ a\_workshop.htm

1 Ballot by an inventor of FSV [tupelo-schneck.org:8080/tag/](http://tupelo-schneck.org:8080/tag/)  
2 Ranked Voting and Questions About Election Integrity, 09/12/13, FairVote. <http://www.fairvote.org/ranked-voting-and-questions-about-election-integrity/>  
Election Audits [electionaudits.org](http://electionaudits.org) [verifiedvoting.org](http://verifiedvoting.org)  
3 <http://www.fairvote.org/assets/NewFolder-3/Portland-ME-Exit-Survey-11-3-11.pdf>  
64

III. SimElection Charts

Watch Full Rep Balancing a Council

SimElection™ made these charts of an STV tally. The small shapes are voters; the big ones are candidates. Each voter has the same color and shape as his current top choice, the closest remaining candidate.<sup>1</sup>



Sim players position their candidates to get votes. In chart 1, the first count shows each candidate's current share of the votes; getting 16.7% will win a seat and halo! After this round of counting, the weakest candidate will lose and get an X. Which one will be the first to lose?



Contents



Here are **three ways** to learn **four** voting tools  
They are inclusive, yet centered, quick and easy

I. Voting Primer tells the stories of the best tools

Tragedies, Eras and Progress of Democracy .....	2
Instant Runoff Voting Elects a Strong <b>Leader</b> .....	8
Fair Representation Elects a Balanced <b>Council</b> .....	14
Fair Share Voting Sets Many <b>Budgets</b> ..... <i>New</i> .....	20
Condorcet Tally Enacts a Balanced <b>Policy</b> ..... "	26
How to Try One, <b>These Reforms Aid Others</b> .....	32

II. Workshop Games let us be inside the **four** tallies and maybe eat the winners!

<b>Leader, Reps, Budgets, Policy</b> ..... <i>New!</i> .....	37
--	----

III. SimElection™ maps make tally patterns visible

<b>Reps, Budgets, Policy, Council</b> ..... <i>New</i> .....	46
--	----

IV. Co-ops and Countries gain with these tools

<b>Consensus</b> on a <b>Policy</b> , and on <b>Budgets</b> .....	55
Countries with Plurality, <b>Runoffs</b> , or <b>Fair Rep</b> .....	57

V. Endnotes, Index and Glossary, About .....

Voting Rules and Policy Results

A woman in a multi-winner race is not so much running against a man or an incumbent. She is more often seen as **running for her issues**.

SMDs elect reps with a wide range of vote totals. So a majority of reps might *not* represent most voters. Fair Rep requires more equal votes per rep (page 15). So each majority of reps *does* represent most voters. It leads to policies **matching public opinion** better.<sup>3</sup>

~~less: wasted votes~~  
~~gerrymandered districts,~~  
~~monopoly politics,~~  
~~dubious democracy~~

Councils with fewer women tend to do less for health care, childcare, education, and other social needs.<sup>8</sup> Then the poorest schools and clinics are a blight, as are citizens and workers hurt by poor education or health.

If such urgent needs overwhelm us, we neglect the essential need to reform their **structural source**: We often get poor results from poor policies, due to poor representation largely due to poor voting rules.

The countries with the best voting rules give the best **quality of life**, as measured in the scores on page 58. We would all like better quality-of-life results for our country, and for our towns, schools, clubs, and co-ops. So help friends talk about and try these voting rules.

# I. Voting Primer

## Two of Many Tragedies

**Old ways of adding up votes fail** to represent large groups in many places. In the USA, North Carolina had enough black voters to fill up two election districts. But they were a minority spread out over eight districts. So for over 100 years, they won no voice in Congress. As voters, they were silenced – with tragic results.<sup>1</sup>

The Northwest tore itself apart for many years as forestry policies were reversed again and again. Hasty logging in times of weak regulation wasted resources. Sudden limits on logging bankrupted some workers and small businesses. If the **policy pendulum** swings far, it cuts down forests and species, families and towns.<sup>2</sup>



What can big swings in other policies do?

2

## Setting Budgets, Fair Share Voting @ p\_intro.htm

1 Anwar Shah, ed., *Participatory Budgeting*; The World Bank; [siteresources.worldbank.org/PSGLP/Resources/ParticipatoryBudgeting.pdf](http://siteresources.worldbank.org/PSGLP/Resources/ParticipatoryBudgeting.pdf)

2 Joe Moore, *Participatory Budgeting in the 49th Ward*, <http://participatorybudgeting49.wordpress.com/>  
In 2014, voters in Cambridge, MA saw a similar pattern.

3 Robert Tupelo-Schneck, Rob Loring, *Fair Share Voting*, for Participatory Budgeting Conference **slideshows**, NYC, 2012. [http://accuratedemocracy.com/p\\_intro.htm](http://accuratedemocracy.com/p_intro.htm)

4 News of the Oaks, *Leaves of Twin Oaks*, Louisa, Va; 1995.

5 Adder Oaks; “Participatory Budgeting”, *Communities: Life in Cooperative Culture*; #175, 6/2017.

*Leaves of Twin Oaks*, 2013. One year, the base of support to cut a budget was 55% of the voters; managers did not protest.

FSV=STV if \$# = voters#, 1 share = \$1, 1 seat costs \$# / seats+1

## Enact a Policy, Condorcet @l\_intro.htm, l\_motion.htm

1 James Green-Armytage, "Four Condorcet-Hare Hybrid Methods for single-winner elections"; *Voting Matters*; 2011.

James Green-Armytage, "Strategic Voting and Nomination"; *Social Choice and Welfare*; 2014.

James Green-Armytage, T. Nicolaus Tideman & Rafael Cosman, "Statistical Evaluation of Voting Rules"; 2014.

Nicolaus Tideman; *Collective Decisions and Voting*; (Ashgate Publishing Ltd., Hampshire, England; 2006) page 232.

1b These follow from Later-no-harm and Later-no-help criteria.

2, 4 See Chamberlin et al, or Merrill. @ c\_data.htm l\_data.htm

3 [https://en.wikipedia.org/wiki/Primary\\_challenge](https://en.wikipedia.org/wiki/Primary_challenge)

4 [https://www.accuratedemocracy.com/c\\_maps.htm](https://www.accuratedemocracy.com/c_maps.htm)

5 [https://www.accuratedemocracy.com/l\\_motion.htm](https://www.accuratedemocracy.com/l_motion.htm)

63

[democraticrules.com/tips.html](https://www.accuratedemocracy.com/tips.html)

## Setting Budgets

### Fair Shares to Buy Shared Goods

Electing reps is the most obvious use of voting rules. Rules to set policies and budgets are also important. These votes occur more often than elections and occur even in groups that don't hold elections.

Fair Representation distributes council seats **fairly**. Voting can also distribute some spending power **fairly**.

**Democratic rights progress:** Each step makes a democracy more fair, thus accurate, popular and strong.

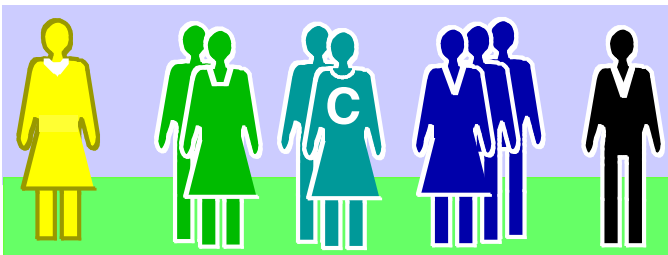
✓ Voting by rich men, poor men, colored men, women

🌈 Fair Representation of big political minorities

🌈 Fair Share Voting by big groups of voters or reps

*Counties, co-ops and colleges*

*can gain by Fair Share Voting*



All big groups have a right to allocate some funds.

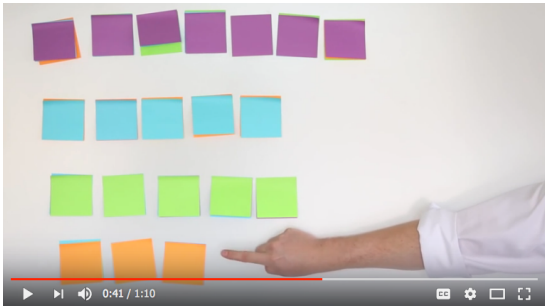
20

## Workshop Finale Notes

Our ballots from page 43 let us compare some rules. Which won by plurality? Hints: 5 chocolates vs. 1 nut, and the first name on a ballot gets a 2% to 9% boost.<sup>4</sup>

Which treat wins by **Condorcet**, or by **IRV**? Which are the top 2 by those rules, **STV**, or **FSV**? Which rule is best if the items vary in cost?

**Eat the winners!** as you plan how to take a poll for the central majority or fair shares in a group you know. What qualities do you want in this poll? (See page 36.)



**It's easy to host a workshop** in a class or a club.<sup>5</sup> In an hour, 20 voters can review plurality, try **IRV**, then try **STV** with colors as shown above or **FSV** with treats.

The primer and workshop webpages say a bit more. A teacher's page has handouts, ballots and voting cards. [https://AccurateDemocracy.com/a\\_teach.htm](https://AccurateDemocracy.com/a_teach.htm)

Physical games and rewards make strong memories of how each tool *works*. Next, realistic simulations and national statistics will reveal each tool's *effects*.

45

Electing a Council, Fair Rep @ d\_intro.htm

1 Refs 1, 2, 4, 10 Statistics on page 59 compare democracies.

3 John D. Huber and G. Bingham Powell, Jr., "Congruence Between Citizens and Policymakers in Two Visions of Liberal Democracy," *World Politics* v46 #3 (April 1994), p. 291-326

4 *Illinois Assembly on Political Representation and Alternative Electoral Systems*, IGPA University of Illinois, Spring 2001. [http://archive.fairvote.org/op\\_ed/execsum.pdf](http://archive.fairvote.org/op_ed/execsum.pdf)

*History of cumulative voting, 1870-1970: Three is better than one* <http://www.lib.niu.edu/1982/iisr04.html>

5 Nigel Roberts, *NEW ZEALAND: A Long-Established Westminster Democracy Switches to PR*, (Stockholm, IDEA) [www.nigel-roberts.info/NSR-in-Reynolds-&-Reilly-1997.pdf](http://www.nigel-roberts.info/NSR-in-Reynolds-&-Reilly-1997.pdf)

<http://www.greens.org.nz/speeches/proportional-representation-nz-how-people-let-themselves-part-ii>

6 Rob Richie and Andrew Spenser; "The Right Choice for Elections" *University of Richmond Law Review*; v. 47 #3, March 2013. <http://lawreview.richmond.edu/wp/wp-content/uploads/2013/03/Richie-473.pdf>

<http://www.representation2020.com/>

7 Mona Lena Krook; *Quotas for Women in Politics: Gender and Candidate Selection Reform Worldwide*; Oxford: Oxford University Press 2009, 123.

Andrew Healy and Jennifer Pate. 2011. "Can Teams Help to Close the Gender Competition Gap?" *Economics Journal*, 121: 1192-1204

[myweb.lmu.edu/ahealy/papers/healy\\_pate\\_2011.pdf](http://myweb.lmu.edu/ahealy/papers/healy_pate_2011.pdf)

8 <http://www.nytimes.com/2016/11/10/upshot/women-actually-do-govern-differently.html>

Idem 1; Pages 58-59, Statistics of Nations. @ d\_stats.htm

62

What's Wrong

We all know how to take a vote when there are only two candidates: Each of us votes for one or the other. For such a contest, yes or no votes say enough.

But as soon as three candidates run for one office, the situation becomes more complicated. Then that old yea or nay type of voting is no longer suitable.<sup>3</sup>

It's even worse at giving fair shares of council **seats**, setting many **budgets**, or finding a balanced **policy**. Our use of **defective voting rules** as tools comes from the failure to realize this:

There are different uses for voting, and some need different types of voting.



Will their votes be effective?

Condorcet Tally Centers a Policy

For a Condorcet tally, the winner must top all rivals, **one-against-one**. Two games show how it works.

1) 🚩 Flag C stands at our **center**, by the median voter. Three flags surround C, about 2m or yards from it.

🚩 We ask: "Are you closer to flag A than to flag B? If so, please raise a hand." Then test A vs C, etc. We put each total in the **Condorcet table** below.

against	A	B	C	D
for A	—	2	4	4
for B	7	—	3	4
for C	5	6	—	5
for D	5	5	4	—

**Nine voters finding C tops all rivals.**

2) 🚩 Flag C has a short **Red** ribbon and a long **Blue** one.

🚩 If the **Red** ribbon gets to you, the **Red** policy gets your vote with its narrow appeal.

🚩 But if the **Red** cannot touch you, the **wide appeal** of the **Blue** policy gets your vote. Which one wins?

If the flags are places for **a heater** in an icy cold room:

1. Do we put it at our center or in the biggest group?
2. Do we turn on its fan to spread the heat wide?
3. Do voters on the fringes have any influence?
4. Can the median voter enact any policy alone?
5. Do we get a balanced or a one-sided policy?

44 Usually: Blue. Center. Yes. Yes. No. Balanced.

Patterns of Unfair Spending

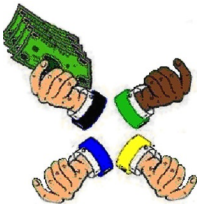
**Participatory Budgeting**, PB, lets neighbors research, discuss and vote how to spend part of a city's budget. It's a big step up for democracy. In South America, it spread from one city in 1989 to several hundred today. The World Bank reports that PB may reduce corruption and it tends to raise a city's health and education.<sup>1</sup>

A top Chicago alderman first gave his discretionary fund to PB in 2010.<sup>2</sup> But a plurality rule made the votes and **voters unequal**. Each vote for the park won \$501. But if given to fund the bike racks, each won only \$31. That's too unfair. Even worse, more than half the votes were wasted on losers.<sup>3</sup>

**A costly winner makes many lose.**

A bad election rule gets worse when setting budgets. It is **not cost aware**, so it often funds a very costly item and cuts a bunch that get many more votes per dollar. To win this bad tally, load various proposals into one. Keep raising its cost if that attracts more votes.

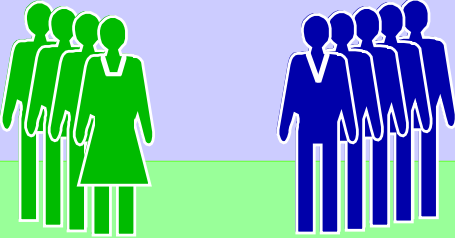
One year, a scholarship fund got many **surplus votes**. These were wasted votes because they had no effect. So the next year, many supporters chose not to waste a vote on this "sure winner." It lost! They saw the need for a voting rule that would not waste surplus votes.<sup>4</sup>



Eras, Rules and Councils

In the 19<sup>th</sup> Century

Winner-Take-All Districts = Off-Center Councils



\$\$\$ Policies \$\$\$

Typical Council Elected By Plurality Rule

Some English-speaking countries still count votes by England's old **plurality rule**. It elects only one rep from each district – and winning does not require a majority. It merely elects the one who gets the most yes votes.

A district with only one rep tends to develop only two big parties.<sup>4</sup> It gets worse: a district's bias often makes it a “safe seat” for *one* party. So the voters are given either a very limited choice or **no real choice**.<sup>5</sup>

A few who do get choices can make a council swerve from side to side. Its majority ( ↑ above) sets all budgets and policies—in another battle of **winner takes all**.

The principle of Fair Share Voting is:

Spending power for all,  
in proportion to their votes.

That is, 60% of the voters spend 60% of the money, not all of it. A project needs grants offered by many voters to prove it's a common good worth group funds. So a voter's grant is a small share of a project's price.

Voting is easy. Simply rank your choices, like in IRV. Your civic duty to vote is done.

Then your ballot offers a grant to each of your top choices—as many as it can afford. A tally of all the ballots drops the project with the fewest offers. This repeats 'til all projects still in the tally are fully funded.<sup>3</sup>

Some Merits of Fair Share Voting (FSV)

- FSV is fair to a project of any price, and to its voters. It takes a costly offer to vote for a costly project so A ballot's money can help more low-cost projects.
- This motivates a voter to give his top ranks to the projects he feels give the most joy per dollar.
- Votes can move from losers to backup choices so: Voters split by similar proposals can unite on one And the set of winners gets stronger support because the ballots leave few wasted votes.

Electing a Leader, Instant Runoff @ c\_irv.htm c\_data.htm

1 John R. Chamberlin, et al; "Social Choice Observed: Five Presidential Elections of the American Psychological Association" *Journal of Politics*. 46 (1984), p 479-502. and "An Investigation into the Relative Manipulability of Four Voting Systems", *Behavioral Science*; 30:4 (1985), 195-203.

Samuel Merrill III, *Making Multi-candidate Elections More Democratic*. (Princeton, NJ: Princeton University Press, 1988).

2 “Voter Turnout in Runoff Elections”, Stephen G. Wright, *The Journal of Politics*, Vol. 51, No. 2 (May, 1989), p. 385-396  
[http://www.fairvote.org/ranked\\_choice\\_voting\\_outperforms\\_runoffs\\_in\\_upholding\\_majority\\_rule](http://www.fairvote.org/ranked_choice_voting_outperforms_runoffs_in_upholding_majority_rule)

3 Ranked Choice Voting Civility Project, FairVote  
[http://www.fairvote.org/rcv\\_civility\\_project](http://www.fairvote.org/rcv_civility_project)

Benjamin Reilly, *Democracy in Divided Societies: Electoral Engineering for Conflict Management*, 2001, Cambridge U.

Papua New Guinea: Electoral Incentives for Inter-Ethnic Accommodation, [web.archive.org/web/20080611065753/aceproject.org/ace-en/topics/es/esy/esy\\_pg](http://web.archive.org/web/20080611065753/aceproject.org/ace-en/topics/es/esy/esy_pg)

4 Korean election [http://en.wikipedia.org/wiki/Roh\\_Tae-woo](http://en.wikipedia.org/wiki/Roh_Tae-woo)  
<http://nimbus.ocis.temple.edu/~jhurewit/history.html>  
[tradecompass.com/library/books/armyh/b/CHAPT04.04SK.html](http://tradecompass.com/library/books/armyh/b/CHAPT04.04SK.html)

5 [http://www.fairvote.org/rcv\\_in\\_campus\\_elections](http://www.fairvote.org/rcv_in_campus_elections)  
[http://www.fairvote.org/where\\_is\\_ranked\\_choice\\_voting\\_used](http://www.fairvote.org/where_is_ranked_choice_voting_used)

FairVote.org has model ballots, bylaws, editorials, research reports, voter-education videos, stories and more.  
[http://www.fairvote.org/rcv\\_activist\\_toolkit](http://www.fairvote.org/rcv_activist_toolkit).



RCV Resources <https://www.rankedchoicevoting.org/>

Ranked Choice Ballots

A simple tally board can serve about thirty voters. Big groups use paper ballots, or screens and printouts, then tally on computer. Risk-limiting audits need well-protected paper ballots to catch frauds and errors.<sup>2</sup>

☑ **Yes-or-no ballots** badly oversimplify most issues. They often highlight only two factions: “us versus them.” They tend to **polarize** and harden conflicts.

🌸 **Ranked choice ballots** reduce those problems. They let you rank your 1<sup>st</sup> choice, 2<sup>nd</sup> choice, 3<sup>rd</sup> etc. Ranks can reveal a great variety of opinions. Surveys find most voters like the **power** to rank candidates.<sup>3</sup>



Party Menu

Fill only one 'O' on each line.

Treats Ballot #2	Best Ranks Worst					
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>
1 Fruit & Nut Platter	☺	O	O	O	O	O
6 Chocolate Brownies	O	O	O	O	O	O
6 Choc. Chip Muffins	O	O	O	O	O	O
3 Choc. Fudge FroYos	O	O	O	O	O	O
3 " Cheesecake Slices	O	O	O	O	O	O
3 Choc. Mousse Hearts	O	O	O	O	O	O

All are extra large orders for group discounts.

## V. End Matter

### Endnotes by Chapter

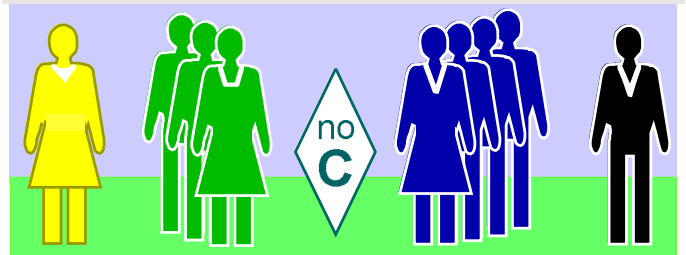
The endnote numbers restart at 1 for each chapter. Almost all of the sources use real data (or realistic sims) which is essential for realistic research.

This is the first book about **Ensemble Councils**, **Fair Share Voting**, and rules of order for **Condorcet Policies**. It covers some [Accuratedemocracy.com](http://Accuratedemocracy.com) (@/) pages such as @/a\_primer.htm @/a\_workshop.htm and @/d\_stats.htm. They add links, videos and voting software! [z\\_tools.htm](http://z_tools.htm)

#### Introduction, Tragedies, Eras and Progress

- 1 Douglas J. Amy, *Proportional Representation: The Case for a Better Election System*. North Carolina is on page 30; <http://archive.fairvote.org/?page=1606>
  - 2 Kathy Durbin, *Tree Huggers: Victory, Defeat & Renewal...*, (Seattle, The Mountaineers, 1996)
  - 3 Clarence Hoag and George Hallett, *Proportional Representation*, (NYC, The Macmillan Company, 1926).
  - 4 Maurice Duverger, "Factors in a Two-Party and Multiparty System," in *Party Politics and Pressure Groups* (New York: Thomas Y. Crowell, 1972), pages 23-32.
  - 5 [http://fairvote.org/monopolypoly\\_politics#overview](http://fairvote.org/monopolypoly_politics#overview)
  - 6 Arend Lijphart, *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies* (Oxford U. Press, 1994)
  - 7 See pages 28, 29 and 52-54.
  - 8 Statistics on pages 58-59 compare stable democracies.
- 60

### In the 20<sup>th</sup> Century Fair-Share Elections = One-Sided Majorities



\$ \$ \$ Policies \$ \$ \$

Council Elected By Fair Representation

**Fair Representation** was developed around 1900 to end some major problems caused by plurality rule. Most democracies now use "Fair Rep". It elects several reps from each election district. It gives a group that earns say, 20% of the votes, 20% of the council seats. Thus Fair Rep delivers **fair shares** of representation.<sup>6</sup> It's often called Proportional Representation or PR.

It leads to broad representation of issues and views. But usually there is no central party (**C** above) and the two biggest parties normally refuse to work together. So the side with the most seats forms a ruling majority. Then they enact **policies skewed toward their side**.

5

### Fair Shares Set Budget Levels

Each **budget level** needs enough **cards** to pay its cost. So a \$4 bottle of OJ needs its voters to fill one **column**, and the \$8 size needs them to fill one more column.

Voters who want *only* the \$8 size may fill that column first. But if the \$4 column loses, so does the \$8.

One at a time, the weakest levels lose and voters **move** their cards to help treats still on the table.

1. Should we let each member fund private items?
2. Should a member who pays more taxes or dues get more power to spend the group's money?
3. Could ranking lower choices hurt your first choice?



A **tricky agenda** with several similar favorites can split an interest group so they lose by plurality rule. FSV avoids such scams and lets favorites win!

We can vote for a party menu, a dance playlist, a ... Caution: long ballots lead some voters to give up. Smart ballot design cuts voter errors and exhaustion.<sup>1</sup>

42 No. Not if each has an equal membership. Optional.

### Fair Share Voting Works This Way

In a citywide vote, each **neighborhood** or interest group funds a few school, park or road improvements. The city's taxes then pay for the projects as the School, Park and Road Departments manage the contracts.

FSV does not give political minorities too much power: A **majority** spends a majority of a fair share fund, and perhaps sets policies to direct or end each program.



✓ Fair shares  
spread the joy and opportunities.

✚ If a majority spends all the money, the last thing they buy adds little to their **happiness**; it is a low priority. But that money could buy a high priority for another big interest group; it could make them happier.

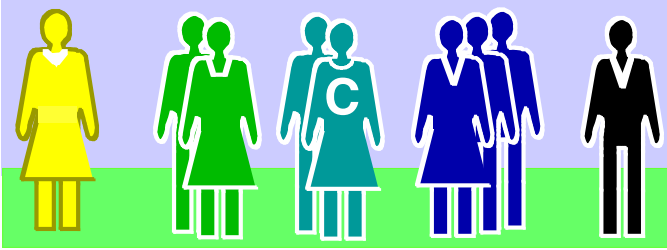
✚ **In economic terms:** The *social utility* of the money and winners tends to rise if we each allocate a share. Fair, cost-aware voting gives *more* voters *more* of what they want at the same cost = more satisfied voters. Shares also spread good opportunities and incentives.

✚ **In political terms:** The total spending has a wider *base of support*: It appeals to more voters because more see their high priorities get funding.

23

In the 21<sup>st</sup> Century

Ensemble Councils = Balanced Majorities



\$

\$

\$

Policies

\$

\$

\$

Council Elected By Central And Fair-Share Rules

**Ensemble rules** will elect most reps by Fair Representation, and elect a few by a central rule (**C** above). So the political views on the council will have a spread and a midpoint like the whole voting public.

Later pages will show how a rule can elect reps with wide support and views near the middle of the voters.<sup>7</sup> So winners will be at the center of a Fair Rep council. So they'll be the council's **powerful swing votes**.

Most voters in that wide base of support won't want averaged or centrist policies. They'll want policies to **combine the best suggestions from all groups**.

6

Country	Seats	Women	Health	Poverty%	Murder		
		%	Turnout	Math			
<b>Fair Rep</b> page 14		37%	75%	15	503	13%	12
Sweden	14	44	86	23	502	8	7
Finland	13	42	67	31	548	4	28
Spain	6.7	41	69	7	480	20	12
Norway	8.7	40	76	11	490	5	11
Belgium	8.4	39	89	21	520	13	16
Denmark	15	38	88	34	513	4	11
Netherlands	150	37	80	17	528	10	11
Austria	19	28	82	9	505	8	9
Switzerland	7.8	28	49	20	530	10	9
Costa Rica	21, 4	19	81	36	407	-	85
Uruguay	30, 2	13	90	65	409	-	79
<b>Mixed, MMP</b> p 17		36%	71%	26	505	9%	12
Germany	19, 1	39, 13	72	25	514	16	12
New Zealand	50, 1	45, 15	77	41	500	15	11
<b>STV</b> pages 12, 40		34%	89%	29	517	14%	11
Australia <sup>◊</sup>	6, 1	38, 25	93	32	520	15	11
Ireland	4	15	70	19	501	10	12
<b>Runoff</b> page 10		27%	60%	1	496	11%	11
France	1	27	60	1	496	11	11
<b>Plurality</b> page 4		21%	58%	34	486	19%	35
Canada	1	26	68	30	527	15	15
United Kingdom	1	29	66	18	495	10	14
United States, 2018	1	19, 23	55, 49	37	474	21	42

<sup>◊</sup>An Australian state elects 6 senators at a time, by STV. An Australian House district elects 1 member, by IRV.  
\*U.S. turnout often drops ~15% in non-presidential years.  
AccurateDemocracy.com/d\_stats.htm has more. 59

### Adjusting Budgets, optional

You may write-in and rank **budget levels** for an item. Your ballot may pay only one share of a budget level. Often, it can afford to help many of your favorite items.

A budget level needs to get a **base** number of votes. It gets a vote when a ballot offers to share the cost up to that level or higher. cost / base = 1 offer = 1 vote. If more ballots divide the cost, each of them offers less.<sup>3</sup> You only pay up to a level you voted for and can afford.

The item with the weakest top level, loses that level. Any money you offered to it moves down your ballot to your highest ranks that lack your support. This repeats until the top level of each item is fully funded by its own supporters.

A large base of support must agree, this item is a high priority for our money.

A group with 100 members set our **base** number at 25 votes.<sup>5</sup> My first choice got just enough votes, so my ballot paid 4% of the cost. 100% / 25 votes = 4%.

My second choice lost; did it waste any of my power?

My third choice got 50 votes, so my ballot paid only 2% of the cost. Was there any surplus? Did I waste much power by voting for this sure winner?

24 None. None. Not much.

### Fair Shares to Buy Shared Goods

For our tabletop tally of **Fair Share Voting (FSV)**

- ✚ We each get four 50¢ voting **cards** to buy treats.
- ✚ We decided an item needs modest support from eight of us to prove it is a *shared* good worth shared funding. So the **finish line** marks the height of eight cards, and
- ✚ You may put only one card in a **column**.
- ✚ A costly item must fill several **columns**. A column here holds \$4, so an \$8 item must fill two columns.

(Version B gives you two 50¢ cards, plus a tall \$1 card. The tall cards let four eager voters fund a \$4 item.)

- ✚ When an item wins, the treasurer hides its cards. We **drop** items that cost more than all the cards left. Then, one at a time, we drop the least popular item, the one with the lowest level of cards in its columns.
- ✚ **Move** your cards from a loser to your next choice.
- ✚ We **stop** when all items still on the table are paid up. Only a few items can win, but all voters can win !

If your favorite is about to lose, consider briefly taking your cards off some of your lower choices so one of them might lose first—if your group allows this extra step. 41

Better Voting, Better Living

This data suggests: to elect a good government that enacts superb health, education, tax<sup>6</sup> and other policies, a country needs effective, not wasted votes.

Does Fair Representation elect more women? p.18  
Do they tend to raise health and education results?  
Can these raise low incomes and reduce violent crime?

Do voter turnouts or seats won by women tend to be lower in countries with more: population? diversity? religion? corruption? militarism? hot weather?!

Are those harder to change than the voting rules?



Data Definitions and Sources

Measures of respectable power and policies, circa 2016

- Seats avg. per election district; Inter-Parliamentary Union
  - Women % of main legislature; Inter-Parliamentary Union
  - Turnout % Int'l. Inst for Democracy & Electoral Assistance
  - Health Rank first is best; World Health Organization
  - Math Score Program for Int'l Student Assessment, OECD
  - Poverty % of children below half of median income; OECD
  - Murder Rate per million; 7<sup>th</sup> UN Survey of Crime Trends
- Averages for voting rules are weighted by population.

58 The table's worst numbers are in bold.



A centrist policy enacts a narrow point of view; it excludes other opinions and needs. A one-sided policy also blocks rival ideas.

A compromise policy tries to negotiate rival plans; but contrary plans forced together often work poorly.

A balanced policy unites compatible ideas from all sides. This process needs advocates for diverse ideas. And more than that, it needs powerful moderators.

A broad, balanced majority works to enact broad, balanced policies. These tend to give the greatest chance for happiness to the greatest number of people.

Excellent policies are a goal of accurate democracy. Their success is measured in a typical voter's education and income, freedom and safety, health and leisure.<sup>8</sup>

Older rules often skew results and hurt democracy. An ensemble is inclusive, yet centered and decisive—to make the council popular, yet stable and quick. We'll see these qualities again as graphics and games show the best ways to set budgets and policies.

7

Instant Runoff Quiz

- 1. How can your group use this voting rule?
- 2. A card we move counts just like others: True, False
- 3. Ranking a backup choice can't hurt your 1<sup>st</sup>: T, F
- 4. Only one candidate can reach 50% plus a vote: T, F
- 5. Name four cities or schools that use IRV. page 13
- 6. What benefits does IRV give them? page 12

Answer questions one through three for each voting rule.  
2) True, we count each card once in each round.  
3) True, a backup doesn't count unless your 1<sup>st</sup> has lost.  
4) True, more reps would need over 100% of the votes.

Ranked Choice Voting includes IRV and STV

Fair Rep by Single Transferable Vote

- A tabletop tally to elect three reps works like STV.
- The finish line is set at 1/4 of the cards plus one. Don't put your card in a column that is full.
  - Drop the weakest candidates one at a time, and
  - Move (transfer) those cards; repeat until three win!

Users include Australian and Irish voters, Cambridge, Harvard, MIT, Oberlin, Oxford, Princeton, UC Berkeley, UC Davis, UCSB, Vassar, and the Church of England. Some of their ballots look like those on pages 31 or 43.

- 1. What benefits does Fair Rep by STV give them?
- 2. Can only three candidates each win 25% plus a vote?
- 3. What total percentage must three STV reps win?

40 Page 16. Yes. 75% + 3 votes.

More Merits of Fair Share Voting

- After discussion, one quick poll can set many budgets. It reduces agenda effects such as leaving no money for the last items or going into debt for them.
- It lets subgroups pick projects; so it's like federalism but without new layers of laws, taxes and bureaucracy. And it funds a big group even if they're scattered.
- Each big group controls only its share of the money. This reduces their means and motives for fighting.
- Fairness builds trust in spending by subgroups and can raise support for more. This can cut spending at the extremes of individual and central control.



Merits of FSV for an Elected Council

- FSV gives some power to reps in the opposition so Electing them is more effective, less of a wasted vote.
- They ease starvation budgets that damage programs. This makes program management more efficient.
- A voter can see grants by his rep to each program, tax cut or debt reduction and hold her accountable.

The FSV games will let us eat the winning treats!

25

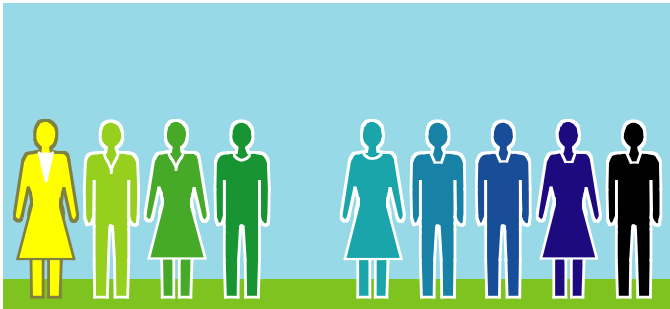
Electing a Leader

Nine Voters

Let’s think about an election with nine voters whose opinions range from left to right. The figures in this picture mark the positions of voters on the political left, right or center. It is as though we asked them, “If you want high-quality public services and taxes like Sweden or Denmark, please stand here. Like Canada? Stand here please. Like the USA? Stand here. Stand over there for Mexico's low taxes and government services.”

Throughout this booklet, we're going to show political positions in this compelling graphical way.

Nine voters spread out along an issue.



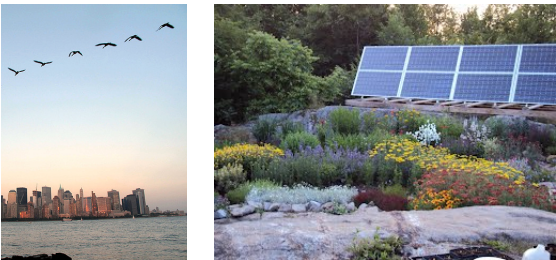
High taxes buying great gov. services                      Low taxes buying poor gov. services

Civil Society for Democracy

Merchants and workers in medieval guilds won some rights by building **group skills**, unity and allies. Now town councils, co-ops and schools can build skills.

A big need for workers often raised their pay and political strength, thus the **political equality** of society. Now more progressive taxes<sup>6</sup> can help political equality.

Critical, skeptical, **empirical thinking** from the Age of Enlightenment led to revolutions for **human rights**.<sup>3</sup> Now rights can include Fair Rep and Fair Share Voting.



Move to a more democratic place (or .org)

To get good policies quickly, go where they are used. For example, do you want the democratic control and long-term savings of county or **co-op owned** utilities?<sup>5</sup>

CEOs need to be assertive—but not authoritarian corrupting commerce, democracy and human rights.<sup>6</sup> How can voting tools **fight abuses of power**?

Often: *RCV rivals act nicer* p.12. *Swing-voting reps moderate* p.52. *Fair Representation* p.49, and *Fair Share Voting* p.22, spread-out power. So do all the related reforms on page 34. A winner-takes-all tally sets a bad example. 57

Enacting a Policy

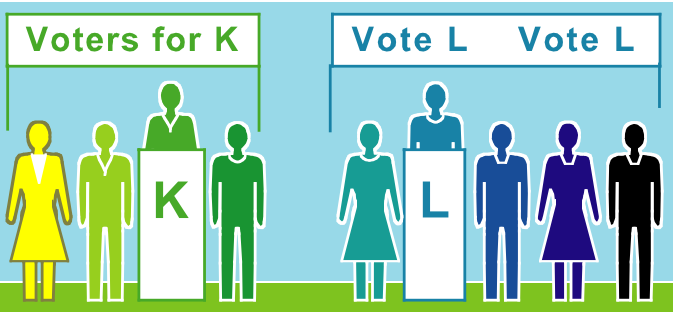
Condorcet Test Number Two

The Runoff on page 10 was a one-against-one contest between the positions of candidates **M** and **K**. Five voters preferred **M's** policy position over **K's**.

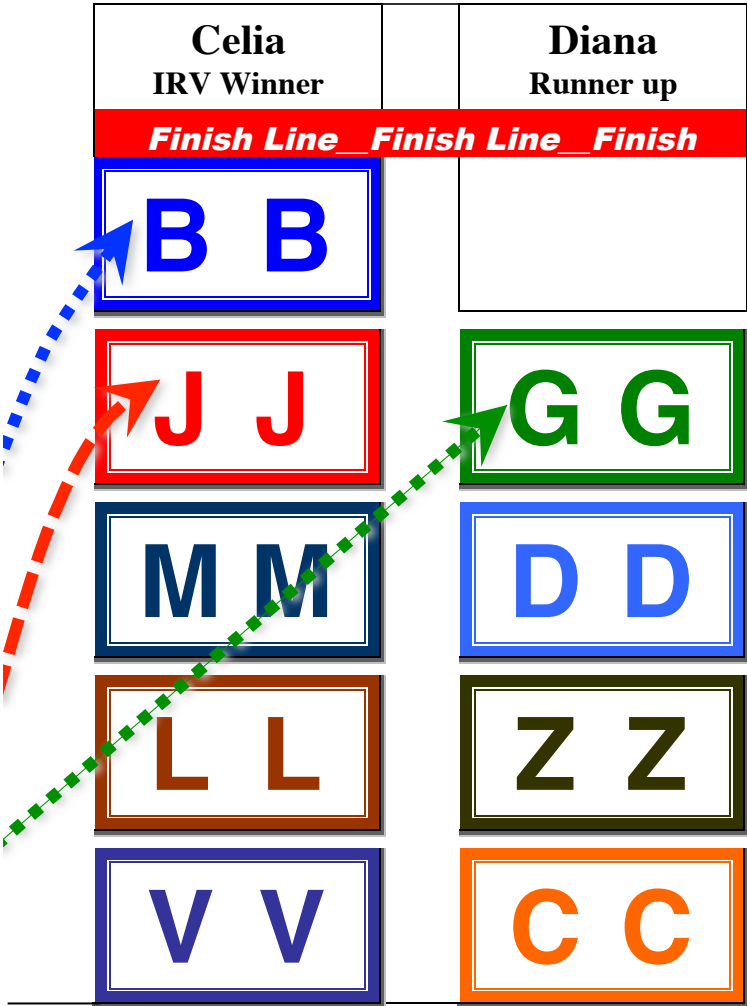
Here is a second test with the same voters: **K's** position loses this one-against-one test. **L** wins by five votes to four.

Each person votes once with a ranked choice ballot. Pages 31 and 43 show two kinds of ballots. A workshop page shows a Condorcet tally table. And the sim maps show Condorcet voters with more issue dimensions.

People often struggle to find a group’s center of opinion



K is nearest four voters.                      L is nearest five voters.



Complementing Consensus

Groups that seek consensus on basic agreements may vote on other issues, such as choosing a minor detail like a color or funding a few optional projects.

Fair Share Voting gives fair shares of power. Inclusive yet fast, it won't let one person block action. Cooperative, not consensual or adversarial, it is less about blocking rivals, more about attracting allies. Its ballot guides a voter to limit and prioritize budgets. Its tally weighs dozens of desires, of varied cost and priority, from dozens of overlapping groups. We may modify our FSV results through our usual process.

All majorities prefer the Condorcet winner. A proposal needs to top each rival by 50% plus one; and we may require it to win 60% or even 100% over the status quo on issues that involve basic agreements. So 41%, or even one voter, may block a Condorcet winner by writing-in a basic concern about it.

Carpentry Analogy

The nice consensus methods are like nice hand tools, and these nice voting methods are like nice power tools. (Unlike power tools, nice voting tools are free and easy.) The power tools speed cutting through piles of boards or issues and cutting through a hardened board or issue. But high-touch tools help us appreciate our options and develop insights.<sup>2</sup> So most of us use both kinds of tools.

Plurality Election

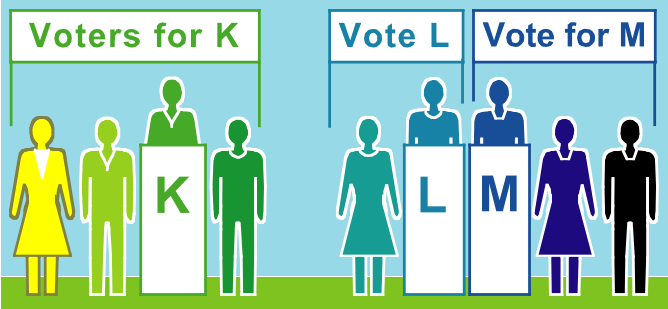
Here we see three rivals up for election. Each voter prefers the one with the closest political position. So voters on the left vote yes for the candidate on the left.

Ms. K is the candidate nearest four voters. L is nearest two and M is nearest three. Candidates L and M split the voters on the right.

Does anyone get a majority (over half)? Yes, No  
Who gets the plurality (the largest number)? K, L, M  
Who gets the second-largest number of votes? K, L, M

A mere plurality gives the winner a weak mandate. That is the legitimacy effective votes loan to a winner. Strong mandates are a goal of accurate democracy.

By plurality rule, the one with the most votes wins.



K is nearest four voters. M is nearest three. L is nearest two.

Instant Runoff Voting Elects One

- Tabletop tallies make Ranked Choice Voting lively.
- The finish line is the height of half the cards + one. That is how many votes a candidate needs to win.
  - If no one wins, eliminate the weakest candidate. Draw names from a hat to break ties.
  - If your favorite loses, move your Post-it, card or token. Give it to your next backup choice.
  - Repeat until one candidate reaches the finish line!

This chart shows four columns on a tally board. The rule dropped Anna, so voter JJ moved his card. Then Bianca lost, so BB and GG moved their cards.

Anna Eliminated 1 <sup>st</sup>		Bianca Dropped 2 <sup>nd</sup>
		B B
J J		G G

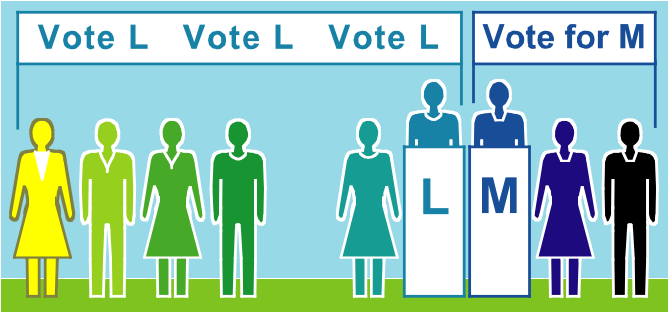
Condorcet Test Number Three

Candidate L wins her next one-on-one test also. She even got one surplus vote more than she needed.

She has won majorities against each of her rivals. So her position is the "Condorcet winner".

Could another person top candidate L? Yes, No  
Hint: Is anyone closer to the political center? Yes, No  
Who is the Condorcet winner on page 11? K, L, M

Thus a Condorcet Tally picks a central winner. It can elect a moderator to a council. page 6  
But is it likely to elect diverse reps? Yes, No  
It can set the 'base of support' in FSV. page 24  
But is it likely to spread spending fairly? Yes, No



L has six votes. M has three.

## Runoff Election

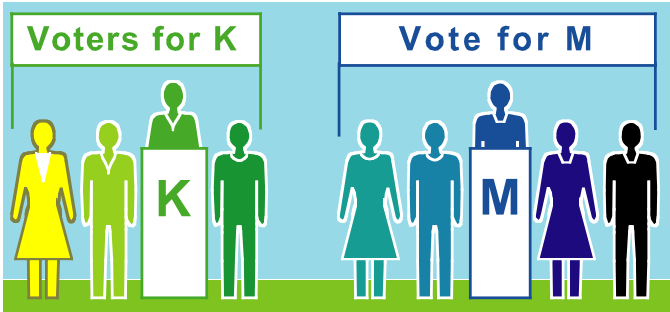
Only the top two from plurality advance to a runoff.  
We eliminate the other candidates all at once.  
Who wins this runoff? **K, M**

The two (teal) who had voted for L now vote for M.  
Do ballots that change count more than others? **Yes, No**

Only four “wasted votes” fail to elect anyone.  
More ballots became effective votes—a basic goal.  
Did the plurality election waste more votes? **Yes, No**  
Did this runoff give a stronger mandate? **Yes, No**

Runoffs practically ask, “Which side is stronger?”  
(Later, these voters will use another voting rule to see,  
“Where is our center?” And a bigger group will use a  
rule to find out, “Which trio best represents all of us?”)

In a runoff, the top two compete one against one.



Candidate M wins the runoff.

10 *M wins by 5 to 4. No, each is 1 vote. Yes. Yes.*

## IV. Co-ops & Countries

### Consensus and Voting

Group decision-making has two connected parts. Its **discussion process** may have an agenda, facilitator and proposals, plus questions and changes on each proposal. Its **decision process** asks the members which proposals have enough support to be winners.<sup>1</sup>

Voting only yes or no leads us to discuss and decide *one* formal “motion” at a time in a very strict sequence. It stifles the sharing of ideas and development of plans. But both **consensus** and **ranked choice ballots** let us discuss and decide *all* closely-related options together.

Discussing an issue well often resolves most parts, with mandates up to 100%. Yet we may want to decide some parts with the best voting rules. Why?

### Why Take a Vote

The best rules *strengthen* some reasons for voting:

- Choice ballots let us **speed up meetings**. page 31
- Secret ballots **reduce social pressure** and coercion.
- A well-designed ballot and tally **promote equality**: Even busy or unassertive people can cast full votes.

The best rules *weaken* some reasons to avoid voting:

- A **Condorcet Tally** is less divisive. pages 12, 43
- It rewards blending compatible ideas. pages 29, 54
- So, more members help implement a decision.

55

The goal in a **Condorcet Tally** is this:

**Majority victories,  
over every single rival.**

The winner must top every rival, **one-against-one**.

The sports analogy is a “round-robin tournament.”  
A player has one contest with each rival.  
If she wins all her tests, she wins the tournament.

Each voting test sorts all of the ballots into two piles.  
If you rank option J higher than D, your ballot goes to J.  
The one that gets the most ballots wins this test.  
If one wins all its tests, it wins the Condorcet Tally.  
(If none does, IRV can elect one of the near winners.<sup>1</sup>)

### Why Use Condorcet Tallies (CT)

- No split-vote** worries as duplicates don't help or hurt each other.<sup>1</sup> The ad hoc majority ranks *all* of their favorites over other motions. Their top one wins.
- Ranked choice ballots** poll related motions all at once, **simplify** the old rules of order and **speed up** voting. They reduce **agenda effects**, from simple errors to free-rider and wrecking amendments. page 66
- Balanced policies** tend to be **stable**, thus decisive. Yet, a balanced process can calm some fears about reviewing and **changing** a good policy to improve it. All this saves money and builds respect for leaders.

## II. Workshop Games

Get your hands on **4** great voting rules.  
See how fair-share tallies organize voters.  
Vote fast for **budgets**, **reps**, or **policies**.

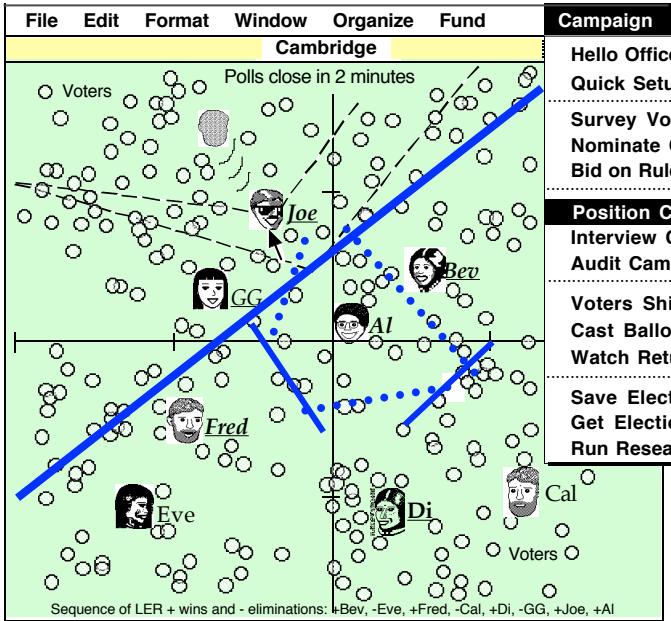


### A tally board has

- A **card** for each voter,
- A **column** for each option,
- A **finish line** for the favorites.

Watch Condorcet Find the Center

This map puts a line halfway between Al and a rival. Voters on Al's side of a line are closer to Al; so they rank Al higher than the rival. For example, the long line has more voters on Al's side than on Joe's. So Al wins that one-on-one test. She wins a very different majority over each rival here. To do that, Al's political positions must be central and have widespread support. page 29



In contrast, STV requires the most intense support, first-rank votes, to avoid early elimination. page 46

54 IRV does too, with a high finish line of 50% + one vote.

Politics in Two Issue Dimensions

When more issues concern the voters, a voting rule keeps its character.<sup>1</sup>

This photo shows voters choosing positions all across two issue dimensions: left to right plus up and down. A person's position on the first issue does not help us guess their position on an independent issue.

“Please step forward for more regulation of \_\_\_\_.  
Please step back if you want less regulation.  
Take more steps for more change.”

The chapter on sim games and research will show more tallies with two and even three issue dimensions.

Seventeen voters take positions on two issues: more or less regulation ⇅ and taxes for services ⇄



Kay wins a plurality. Em wins a runoff.

Do You Recall Major Points

Accurate Elections

- Make voting easy, free of worry over strategies and much more often effective. pages 12, 30, 15, 35
- Cut wasted votes to strengthen mandates. 9-15 35  
Weaken spoilers and gerrymanders. 12, 14, 30
- Reduce attack ads and anger among voters. 12  
Cut the payoffs to big campaign sponsors. 30, 34
- Give voters real choices of likely winners, by electing fair shares of reps from all big groups. 14
- This supports a wide variety of candidates, debate of issues and turnout of voters. 16, 59



Accurate Legislation

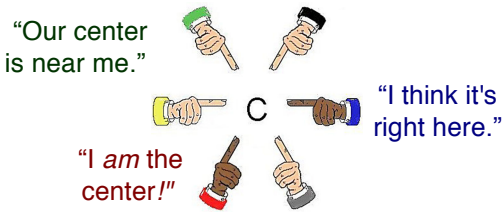
- Give fair representation to all big groups, so the council enacts laws for real majorities. pages 16, 19
- Elect a central chair whose swing vote pulls reps from many factions to moderate policies. 29, 6, 52
- Give members Fair Share Voting for optional budgets. Let voters see each rep's spending. 20, 25
- Cut agenda effects and scams 21, 28, 42, 55  
Speed-rank more options at once. 25, 31, 43

This primer told the benefits of the best voting rules. Now voting games will show the simple steps in a tally.

Policies with Wider Appeal

A plurality or runoff winner gets no votes from the losing sides and doesn't need to please those voters. But a CT candidate seeks support from all sides, because every voter can rank it against its close rivals. Thus every voter is “obtainable” and valuable.

So the winner is well balanced and widely popular:<sup>2</sup> Voters of the center and right give it a majority over any left-wing policy. At the same time, voters of the center and left like it more than a right-wing policy. All sides like it more than a narrowly-centrist policy.



✓ Where is our center?

Chairs with Balanced Support

CT elects a central chairperson and vice chair to hold the powerful swing votes in an Ensemble Council. As shown on page 54, they compete for support from voters left, right and center. So they have strong incentives to moderate a council's process and policies.

(IRV has slightly different effects, incentives and uses.<sup>3</sup>)

Games will let us step through tallies to see effects.

The goal of **Instant Runoff Voting** is this:

**A majority winner,  
from a single election.**

Voting is easy. **Rank your favorite** as first choice, **and backup choices**: second, third, etc. as you like.\* Your civic duty to vote is done.

Now your vote counts for your top-rank candidate. **If no candidate gets a majority, the one with the fewest votes loses. So we eliminate that one from the tally.** Your vote stays with your favorite if she advances. If she has lost, then your vote counts for your backup. This repeats until one candidate gets a **majority**.

Why Support Instant Runoff Voting (IRV)

- Backups give you more power and freedom to express opinions with less risk of wasting a vote.
- No hurting your first choice by ranking a backup, that does not count unless your first choice has lost.
- No worry about vote splitting in a faction as votes for its loser(s) can count for each supporter's backup.
- A majority winner from one election, so no winner with a weak mandate and no costly runoff election.
- High voter turnout also creates a strong mandate; turnout often drops during a runoff election.<sup>2</sup>
- Less divisive campaigns, as many candidates act nicer to get backup votes from a rival's supporters.<sup>3</sup>

12 \*Pages 31 and 43 show ballots.

Well Centered and Balanced

Only the **Ensemble** council has the breadth and balance of **Fair Representation** with the centering of **Condorcet**.

File Edit Window Organize Fund Campaign

Washington D.C.

Survey Voters...  
Nominate Candi  
Bid on Rules...

Position Candi  
Interview Candi  
Audit Campaign:

Voters Shift...  
Cast Ballots  
Watch Returns..

Save Election...  
Get Election...  
Run Research...

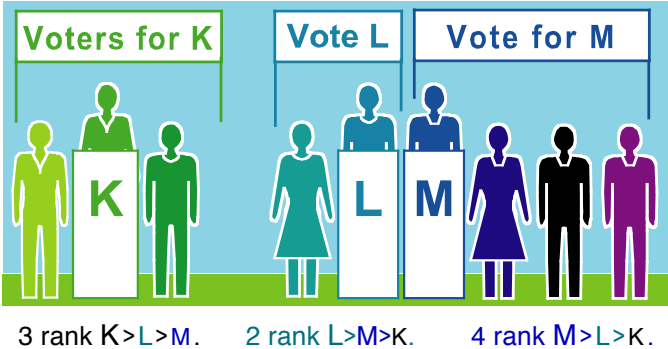
Polls close in 2 minutes

**STV** works to elect a **balanced council** with moderates, and often a centrist. But it does not push any rep to please a **central majority** of voters. **Condorcet** does. →

Resist Rigged Votes

By plurality rule, candidate **M** lost on page 9. Now let's say her party **gerrymanders** the borders of her election district. They add voters (pictured in **purple**) who tend to like her party and exclude some who don't. In this **safe seat**, **bluish** voters can elect **M** or an even **less** central candidate who might **polarize** the council.<sup>3</sup>

But did this gerrymander change the **CT** winner, **L**?



To steal a **CT** or **IRV** seat, my ads, trolls and news stories must mislead a majority, not just a plurality. And gifts to the other side's "spoilers" fail to divide it.

**Manipulations** of plurality rules are, sadly, not rare. And point voting begs for extreme high and low votes. So, those voters should worry about strategies. But a chance to manipulate **IRV** (or **Condorcet/IRV**) in a real election is rare, risky and hard.<sup>1, 2</sup> **So you don't need to worry about your own or other voters' strategies.**

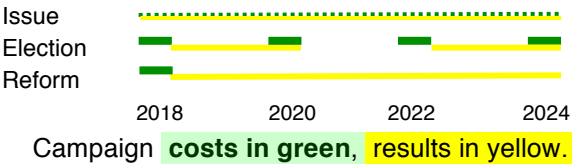
30 No change; L still wins the Condorcet Tally.

Voting Reform Is Cost Effective

**Issue campaigns** lobby reps every week for years. This eases one problem, but rarely fixes the source.

**Election campaigns** cost a lot all at once. The biggest faction can skew all policies for a few years.

**Reform campaigns** cost no more than elections. A win **strengthens** reps and policies for many years.



Strengthen Votes and Mandates

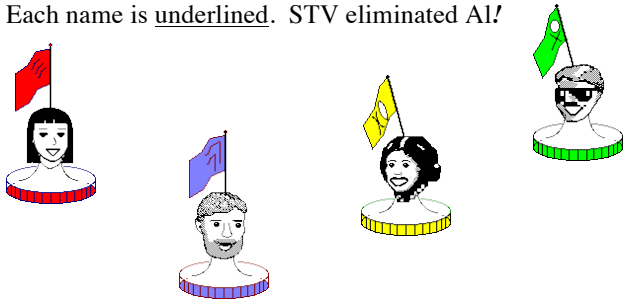
Good voting rules help the voters organize. They expand the base of power, the numbers of effective votes and voters supporting:

Pages	
✳ a <b>CEO</b> or a <b>Chair</b> from a plurality to a majority	13, 29
✳ a <b>Council</b> from a plurality to over three quarters	15
✳ a <b>Budget</b> from a few power blocs to all members	22
✳ a <b>Policy</b> from a one-sided to an over-all majority.	28

Votes for real choices tally up **democratic** power. It needs new strength to balance the powers based on military, money, or media. Better rules give stronger mandates and lead toward widely-shared goals.

Compare Three Councils

- 1. An **Ensemble Rule** is the best way to represent the center and all sides, as shown on page 6. In the map on the next page, Condorcet elects **Al** and then STV elects **Bev, Di, Fred** and **Joe**. Each winner's name is in **bold**.
- 2. A *Condorcet Series* elects the five closest to the central voter: *Al, Bev, GG, Joe* and *Fred*. There is no rep from the lower right, so the council cannot balance around the central voter. Each name is in *italic*.
- 3. The **STV** reps? Bev, Di, Fred, GG and Joe. Each name is underlined. STV eliminated **Al**!



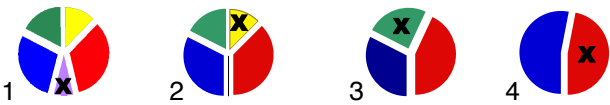
Notice Two Surprises

- 1. Perhaps it's surprising that broad Fair Rep helps a *central Condorcet* winner own a council's **swing vote**. It shows that political diversity can be a source of balance and moderation as well as perspective.
- 2. *Central reps* can lead a broad Fair Rep council to **broader majorities**, holding moderates from all sides. This can add to or replace some of the "checks and balances" often used to moderate a council's action.

Instant Runoff Voting Patterns

Running for president in South Korea, the former aide to a dictator faced two popular reformers. The two got a majority of the votes but split their supporters. So the aide won a **plurality** (37%, 28%, 27%, 8%). He claimed a mandate to continue oppressive policies. Years later he was convicted of treason in the tragic killing of pro-democracy demonstrators.<sup>4</sup>

After his favorite loses, a voter's next choice among the remaining candidates is often in some ways similar to his favorite, although more popular.



**From five factions to a majority mandate.**

1) **Violet** loses, so backup choices get those votes. The IRV games will show each ballot moving.

This **chief executive** starts in a big band of voters on the biggest side, then builds a majority. This helps her work with reps on the biggest side of a typical council.

**IRV elects leaders** in more and more places: London, Minneapolis, San Francisco and Maine have adopted it. Students use it at Duke, Harvard, Rice, Stanford, Tufts, MIT, Cal Tech, Carlton, Clark, Hendrix, Reed, Vassar, The Universities of: CA, IL, MD, MN, OK, VA, WA...<sup>5</sup> Australia and Ireland have used it for about 100 years.

This is often called Ranked-Choice Voting. 13

These Reforms Aid Others

A **news firm** might inform us better if it is ruled by voting subscribers more than investors or advertisers. VoterMedia.org has low-cost methods for any group: Use FSV votes to reward the best local-news bloggers.

**Public campaign funding** lets reps and rivals give less time to their sponsors, more time to their voters. One plan gives each voter \$50 of vouchers to donate.<sup>3</sup> Such nameless gifts or FSV may cut corrupt paybacks. Sponsors aim their \$ to buy the few swing-seat SMDs. That's harder for them under **IRV** or **Fair Rep**.

*"It's very hard to see us fixing the climate until we fix our democracy."*  
*Dr. James Hansen<sup>5</sup> climate scientist*

**Good schools**, taxes and voting may go together.<sup>6</sup>

**Ballot access** laws make it hard for small parties to get on the ballot, because big parties fear "spoilers". Good voting rules such as **IRV** can calm that fear.

**Sabbatical terms** make the current rep run against a former rep returning from rest, reflection, and research. It's a choice between two winners with actual records! Good rules do not hurt a party with extra nominees.

**Citizens' assemblies<sup>5</sup>** and their referendums can get more choices and control by using Condorcet Tallies. The laws on voting rules, reps' pay, \$ponsors, etc. need referendums because the reps have conflicts of interest.

Unstack the Agenda

Some meetings concoct a policy by a series of yes-no choices, with or without rules of order, agendas or votes. An early proposal may have to beat each later one. An early decision may preclude some later proposals. So "**stacking the agenda**" helps or hurts some options.

Other meetings discuss rival options all at once; yet many people don't express their **backup choices**. So similar options split supporters and hurt each other. Then a minority pushing one option may seem to be the strongest group. Even sadder, a person with a well-balanced option but few eager supporters might drop it.

Too often a committee chooses all the parts in a bill. Other voters get to say only yes or no to a big bundle.

**Rigged votes** often build bad policy and animosity. To reduce these risks, let the voters rank more options.<sup>5</sup>

Issue #1 Ballot

Rank	Option
<u>5</u>	Continue Discussion
<u>2</u>	Original Bill, the main motion
<u>1</u>	Bill with Amendment 1 (a free rider?)
<u>8</u>	Bill with Amend. 2 (a wrecking amend.?)
<u>7</u>	Bill with Amendments 1 and 2
<u>3</u>	Postpone for <u>7</u> days
<u>4</u>	Refer the Bill to a Committee
<u>6</u>	No Change in the status quo

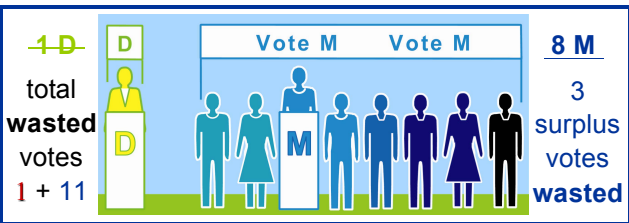
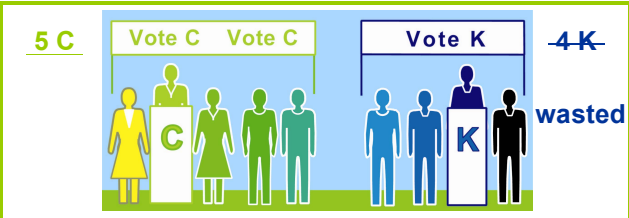
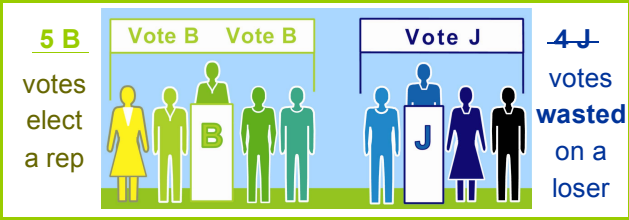
\*The 'Incidental Motions' do not wait for the ballot. 31

# Electing a Council

## Three Single-Member Districts

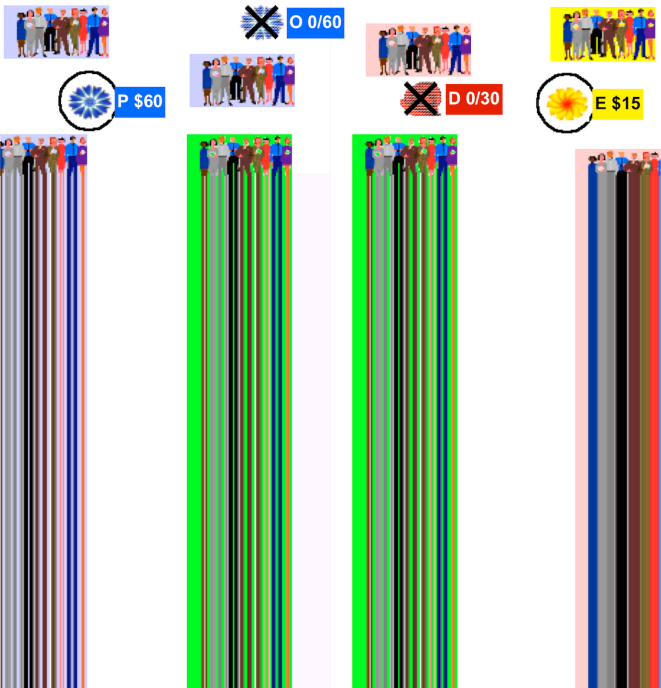
A class of 27 wants to elect a planning committee. Someone says, “Elect a rep from each seminar group.”

5 B voters elect her in this top group as J has only 4.



A minority with 11 voters gets majority power with 2 reps.  
14 But if it were spread out evenly, it would get none.

# Balancing Projects



Change the sim to vary the item costs and group sizes, and then see if each group wins its share. Spread voters evenly, like above, or crowd some together. Notice, any ad hoc group may focus or spread out their spending.

(A tally could fund a few CT winners before FSV winners to let you vote for a sure winner without wasting even a little of your own power.)

51

# How to Try One and Why

## Steering Analogy

When choosing a voting rule, a new Mercedes costs little more than an old jalopy. That price is a bargain when the votes steer important budgets or policies.

Does your car have an 1890 steering tiller or a new, power steering wheel? Does your organization have an 1890 voting rule or a new, centrally balanced rule?



Today's drivers need the skill to use power steering, but they don't need the math or logic to engineer it. Same with voters and voting rules.

It's easy to test-drive a new rule in a survey. Or a council can form a “committee of the whole” to vote, tally and report results to enact by old yes-or-no rules.

Many groups adopt a book of parliamentary rules, then amend it with their own “special rules of order” to make their decisions more popular, stable and quick.<sup>1</sup>

# Tools Between People

Voting rules affect our laws—and our views on life. By making us give either fair shares or winner take all, rules shape how we treat each other and see our world. The official rules model the goals for shared decisions. They teach some patterns often followed by coworkers, friends and neighbors.

Fair rules make cooperation safer, faster and easier. This favors people and groups who tend to cooperate, and can lead others to cooperate more often.



Politics are more principled and peaceful when all the rules help us find fair shares and central majorities. This may reduce political fears within our community, helping us to be more accepting, creative and free.

So better voting can help us build better decisions, plus better relationships. Both can please most people. Fair rules won't please some who get income or self-esteem from war-like politics. But countries with fair rules tend to rank higher in social trust and happiness.<sup>2</sup> Voting is an exemplary tool between people.