

“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*.

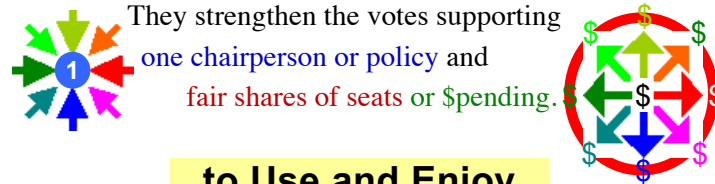
The primer, games and pictures let you

### Read, Touch and See 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 seats or \$pending.

### to Use and Enjoy

**Share** this illustrated booklet with friends.

**Grow** support in your school, club or town.

**Enjoy** better politics, relations and policies,  
pages 34, 35 and 61.

Loring

ACCURATE DEMOCRACY

FairVote



# Accurate Democracy

4 Decision Tools with Graphics & Games



FairVote

Complimentary Copy

## Some Users and Endorsers

### 1. Ranked Choice Voting, RCV, elects leaders

in more and more places: New York City, Minneapolis and Maine, have adopted it; plus Duke, Harvard, Princeton, Rice, Stanford, Tufts, MIT, Cal Tech, Carlton, Clark, GW, Reed, Vassar, UCSC, the Universities of Auburn, Houston, CA, IA, IL, MA, MN, NC, OK, TX, VA, WA and WY.

### 2. Multi-Winner RCV elects a whole council at

Cambridge, Carnegie Mellon, Clark, MIT, Oberlin, Oxford, UC Cal, UC Davis, UCLA, UCSB, Vassar, Whitman, and more. For decades, Australian and Irish voters have used Ranked Choice Voting in local and national elections.  
[fairvote.org/rcv\\_in\\_private\\_organizations\\_and\\_corporations](http://fairvote.org/rcv_in_private_organizations_and_corporations)

### Many groups endorse Ranked Choice Voting.

**Organizations:** Oscars, Church of England, Common Cause, Sierra Club, UUA, American Academy of Arts & Sciences,

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

**National Newspapers:** New York Times 6/10/18 & 02/26/20  
USA Today, Washington Post 6/14/18; **regional editorials:**  
Portland Press Herald, Las Cruces Sun News, and more

**Journalists:** David Brooks, Hendrik Hertzberg, and more

**Celebrities:** Jennifer Lawrence, Krist Novoselic, and more

**US Senators:** John McCain, Bernie Sanders, Obama, more

**US Reps:** Keith Ellison, Jamie Raskin, Don Beyer, and more

**Parties:** Democrats of CA, CO, ME and MA; Green Party, Libertarian Party; Republicans in Alaska, Utah and more.

[www.fairvote.org/ranked\\_choice\\_voting\\_endorsements](http://www.fairvote.org/ranked_choice_voting_endorsements)

## 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 statistical research results to advance a hybrid Condorcet-RCV rule. In the 1990s, I created *PoliticalSim*<sup>™</sup> and *SimElection*<sup>™</sup>. They compared 30 single- and multi-winner rules from around the world and were used in a few universities. Pages 48-56 show basic maps from the simulation games. My sim research led to *Democracy Evolves*<sup>11</sup> in 1997. Then I helped FairVote as a webmaster and librarian. For 10 years I cheered Twin Oaks Community as they stretched the uses of Fair Share Voting. (pages 24 and 44) This booklet summarizes *Accurate Democracy.com*.<sup>12</sup>

My goals are better group-decision results (page 61), through systemic changes (*e.g.* pages 34, 58), through better tools between people (*e.g.* pages 24, 27, 33, 35).

## Glossary and Index

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

a **Mandate** is the authority effective votes loan to a winner. It is a basic goal. Contrast a wasted vote. .... Pages 11-17, 57

a **Majority** is more than half of the votes. ....11-, 14-, 30-, 56

a **Plurality** has the most votes—often not a majority.  
" **rules** use yes-or-no voting; contrast RCV. ... 6, 11, 23, 31-, 61

a **Ranked Choice Vote** lets you rank your first choice and backups.  
It is a tool for effective votes and fair shares .....14, 33, 46

a **Threshold** to win or finish line is the percentage  
of the votes a rule requires for a win. .... 6, 14, 17, 42-, 48

a **Wasted vote** went to a loser, a winner's surplus or a powerless rep.  
It discourages voting and weakens democracy. .... 12-18, 23, 27

a **Wrecking amendment** ruins a bill's chances or effects.  
a **Free-rider** " doesn't relate to the original bill. ....30, 33, 36

See also the **Summary and Index of Benefits** on page 34.

### Acronyms and Synonyms

Pages

Consensus process..... 33, 36-

**CT**, Condorcet Tally, Pairwise Comparison..... 28-30-, 45, 54-56

**EC**, Ensemble Council..... **New** ..... 8-, 31, 54-56

**FSV**, Fair Share Voting ..... **New** ..... 22-24-, 36-, 43-44, 52-

**FR, Fair Rep**, Fair Representation (US); see also STV,  
PR, Proportional Representation, MMP ..... 7, 16-18-, 54, 61

RCV, Ranked Choice Voting, Choice Voting (US), includes:

**STV**, Single Transferable Vote for Fair Rep. .... 42, 48-51, 54

**IRV**, Instant Runoff Vote (US), Majority Preferential Vote (Aus),

AV, Alternative Vote (UK) or Hare for SMD. .... 14, 39-42, 56

**SMD**, a Single-Member District elects one rep. .... 6, 16, 19

# Accurate Democracy

4 Decision Tools with Graphics and Games  
for Schools, Clubs, Towns and More

Robert Loring



Voters waiting

**FairVote**



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preview of ISBN 978-1-7362637-0-9

Kindly send any requests, questions,  
comments or compliments to me at  
[VotingSite@gmail.com](mailto:VotingSite@gmail.com)

4 Compare the Math scores of stable democracies on page 61.

5 Chalmers, Patrick. “The People Trying to Save Democracy From Itself”,  
<https://www.theguardian.com/world/2016/jul/02/democracy-tarnished-brand-desperate-need-reinvention>

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Many people use these ways of thinking at times.  
But fewer have a disposition to use them routinely.

7 See progressive taxes in Wikipedia pages on: Carbon\_tax,  
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8 <https://cyber.harvard.edu/publications/2018/01/communityfiber> Institute for Local Self-Reliance [www.ilsr.org](http://www.ilsr.org) [www.windsong.bc.ca](http://www.windsong.bc.ca)

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[https://AccurateDemocracy.com/a\\_quotes.htm#egal](https://AccurateDemocracy.com/a_quotes.htm#egal)

[https://scholar.princeton.edu/sites/default/files/mgilens/files/gilens\\_and\\_page\\_2014\\_testing\\_theories\\_of\\_american\\_politics.doc.pdf](https://scholar.princeton.edu/sites/default/files/mgilens/files/gilens_and_page_2014_testing_theories_of_american_politics.doc.pdf)

10 <https://psypost.org/2018/06/study-finds-less-corruption-countries-women-government-51530>

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11 [web.archive.org/web/19990218104532/http://members.aol.com/loringrbt/elect.htm](http://web.archive.org/web/19990218104532/http://members.aol.com/loringrbt/elect.htm)  
@ [archive/Democracy\\_Evolves\\_1997/elect.htm](http://archive/Democracy_Evolves_1997/elect.htm)

12 [web.archive.org/web/19991023011241/http://members.aol.com:80/loringrbt/a\\_intro.htm](http://web.archive.org/web/19991023011241/http://members.aol.com:80/loringrbt/a_intro.htm)

Share the **eBook**: [AccurateDemocracy.com/AcDem.pdf](https://AccurateDemocracy.com/AcDem.pdf)

It is always the most up-to-date edition.

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

- 1 A voter's ranks may skip around, e.g. 1<sup>st</sup> left, 2<sup>nd</sup> far right, 3<sup>rd</sup> center.
- 2 Loring, Robert. Other Budget Rules @ q\_other.htm
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## III. Simulation Examples, compare rules @ d\_stv2d.htm

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- 3 See also entries above for Chamberlin et al; or Merrill III; or Green-Armytage.  
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- Ackerman, Bruce; and Ian Ayres. *Voting with Dollars: A New Paradigm for Campaign Finance*; (New Haven: Yale University Press, 2002)
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- 3 https://www.nytimes.com/2018/06/23/opinion/sunday/james-e-hansen-climate-global-warming.html also, "conservation ... depends on effective governance;"  
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They are inclusive, yet centered, quick and easy

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# I. Voting Primer

Liz Burgess,  
We have to make  
readers feel this  
problem hurts.

## 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 by changing forestry laws again and again. In a year with weak forestry laws, hasty logging wastes resources. But sudden limits on logging bankrupt some workers and small businesses. If this **policy pendulum** swings far, it cuts down forests and species, then families and towns, and back again.<sup>2</sup>



What can big swings in other policies do?

## ★ 4. Enacting a Policy, Condorcet-IRV Tally [@ I\\_intro.htm](#) [@ I\\_motion.htm](#)

1 From Chamberlin, Cohen, and Coombs, cited on page 63 above.

2 If  $A$  bests  $B$ ,  $B$  bests  $C$ , and  $C$  bests  $A$ , then we have a “voting cycle.” Tally IRV with the options in the top voting cycle. [@ I\\_cycles.htm](#)

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Chamberlin et al above, also Merrill. [@ c\\_data.htm](#) [@ I\\_data.htm](#)

Loring One-winner Rule, 1996; [@ I\\_lor1.htm](#)

2b These follow from Later-no-harm and Later-no-help criteria.

3 See the captions on pages 15 and 56. [@ c\\_irv.htm#compare](#)

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

5 <https://www.nytimes.com/interactive/2018/11/10/opinion/house-representatives-size-multi-member.html>

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7 [fairvote.org/basalt\\_mayoral\\_race\\_features\\_ranked\\_choice\\_voting](http://fairvote.org/basalt_mayoral_race_features_ranked_choice_voting)

+ <https://www.theatlantic.com/politics/archive/2018/02/a-better-way-to-look-at-most-every-political-issue/552752/>

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3 *Group-Process Pattern Language*, <http://groupworksdeck.org>

4 [https://www.AccurateDemocracy.com/I\\_motion.htm](https://www.AccurateDemocracy.com/I_motion.htm)

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## 2. Electing Representatives, Fair Rep @d intro.htm

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- 5 Mathews, Dylan. "3 Reasons New Zealand has the Best Designed Government in the World" [www.vox.com/2014/9/23/6831777/new-zealand-electoral-system-constitution-mixed-member-unicameral](http://www.vox.com/2014/9/23/6831777/new-zealand-electoral-system-constitution-mixed-member-unicameral)
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- 8 [www.nytimes.com/2016/11/10/upshot/women-actually-do-govern-differently.html](http://www.nytimes.com/2016/11/10/upshot/women-actually-do-govern-differently.html)  
<https://www.nytimes.com/2020/05/15/world/coronavirus-women-leaders.html>  
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## 3. Allocating Budgets, Fair Share Voting @p intro.htm

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

- 1 Shah, Anwar ed. *Participatory Budgeting*; The World Bank; Wash. DC;  
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  - 2 Moore, Joe. *Participatory Budgeting in the 49th Ward*,  
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- 64 + <https://pbstanford.org/> participatorybudgeting.org

## What's Wrong

We all know how to take a vote when there are only two candidates: We each vote for one or the other. In this simple contest, the yes or no votes say enough.

But as soon as three candidates run for one office, the contest 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 **defective voting rules** come from the failure to realize this:

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

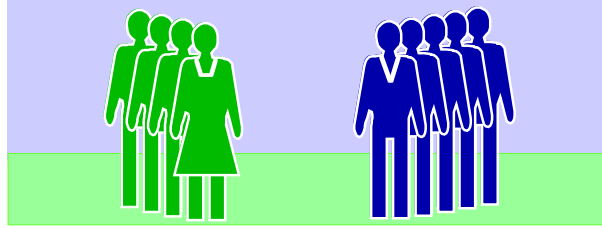


Will their votes be effective?

## Eras, Rules and Councils

Dana Greenberg,  
Where are the little  
people? Writing  
GAO reports for  
the reps and staff  
on Capitol Hill.

### 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> Only their candidates have good chances. Even worse: a district's bias often makes it a “safe seat,” a captive audience for *one* party. So plurality voters get either a very limited choice or **no real choice**.<sup>5</sup>

The few voters who get a limited choice might flip the council's majority from one side to the other. If so, many budgets and policies swerve. Fears of such swerves often polarize politics because this a war of **winner takes all**.

6

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<https://www.nytimes.com/2020/02/26/opinion/democrats-primary-south-carolina.html>

5 Korean election, [web.archive.org/web/20010113205900/http://nimbus.ocis.temple.edu/~jhurewit/history.html](http://web.archive.org/web/20010113205900/http://nimbus.ocis.temple.edu/~jhurewit/history.html) [https://en.wikipedia.org/wiki/Roh\\_Tae-woo](https://en.wikipedia.org/wiki/Roh_Tae-woo)

6 Papua New Guinea: Electoral Incentives for Inter-Ethnic Accommodation

[http://aceproject.org/ace-en/topics/es/annex/esy/esy\\_pg](http://aceproject.org/ace-en/topics/es/annex/esy/esy_pg)

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### 2. Electing Representatives, Fair Rep @ d\_intro.htm

1 **Statistics on pages 60-61 compare the stable democracies.**

More at [https://accuratedemocracy.com/d\\_stats.htm](https://accuratedemocracy.com/d_stats.htm)

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

3 “*Illinois Assembly on Political Representation and Alternative Electoral Systems*”, (IGPA University of Illinois, Spring 2001)

<http://www.fairvote.org/media/pep/execsum.pdf>

*History of cumulative voting, 1870-1970: Three is better than one*

<http://www.lib.niu.edu/1982/iisr04.html>

[archive.fairvote.org/index.php?page=39&articlemode=showspecific&showarticle=1325](http://archive.fairvote.org/index.php?page=39&articlemode=showspecific&showarticle=1325)

63



## Endnotes by Chapter

For each chapter the endnote numbers restart at one. The website and free ebook have more complete endnotes with links. I favor online sources that use data from real elections or realistic sims. This is essential for realistic research.

This is the first book about **Ensemble Councils**, **Fair Share Voting**, and rules of order for **Condorcet policies**. [Accuratedemocracy.com](https://www.accuratedemocracy.com) (@) has pages on each voting rule. They add links, videos and free software: @ [z\\_tools.htm](https://www.ztools.htm).

[FairVote.org](https://www.fairvote.org) has model ballots, bylaws, editorials, research reports, voter-education stories, videos and more.

RCV Resources <https://www.rankedchoicevoting.org/>  
[https://www.fairvote.org/rcv\\_activist\\_toolkit](https://www.fairvote.org/rcv_activist_toolkit)

### I. Introduction, Tragedies, Eras and Progress

+ American Academy of Arts and Sciences. *Our Common Purpose, American Democracy for the 21st Century*. <https://www.amacad.org/ourcommonpurpose/recommendations>

1 Amy, Douglas J. *Proportional Representation: The Case for a Better Election System*. North Carolina is on page 30, <http://archive.fairvote.org/?page=1606>

2 Durbin, Kathy. *Tree Huggers: Victory, Defeat and Renewal in the Northwest Ancient Forest Campaign*, (Seattle, The Mountaineers, 1996)

3 Hoag, Clarence and George Hallett. *Proportional Representation*, (New York City, The Macmillan Company, 1926)

4 Duverger, Maurice. "Factors in a Two-Party and Multiparty System" *Party Politics and Pressure Groups* (New York City: Thomas Y. Crowell, 1972), pages 23-32.

Rein Taagepera, and Mathew Soberg Shugart. *Seats and Votes: the Effects and Determinants of Electoral Systems*. New Haven: Yale University Press, 1989.

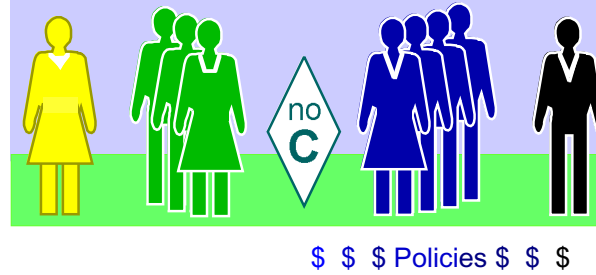
5 FairVote. *Monopoly Politics 2020*, [https://www.fairvote.org/monopoly\\_politics](https://www.fairvote.org/monopoly_politics)

6 Lijphart, Arend. *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies* (Oxford: Oxford University Press, 1994)

7 See pages 30-31 and 54-56.

8 The statistics on pages 60-61 compare nineteen stable democracies.

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



Typical Council Elected By Fair Representation

Hill.

**Fair Representation** was developed around 1900 to end some major problems caused by the 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**.

Hill.

**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 representatives by **Fair Rep** plus a few reps (**C** above) by a **central** rule. So the points of view within the council will have a **spread**, and a pivotal **midpoint**, that match the voters more accurately.  $\bigcirc + \bullet = \odot$  That's the target.\*

Later pages will show how a rule can elect a rep with wide support and views near the center of the voters.<sup>7</sup> So winners will be near the center of a Fair Rep council. There they can be the council's **powerful swing voters**, with strong **incentives** to build moderate majorities.

Many voters in this wide base of support won't want narrow centrist policies. They'll likely want policies to **combine the best suggestions from all groups**.

8 \* Its colors suggest archery or political bunting. 🇺🇸🇺🇸🇺🇸

Country	Seats	Women %	Health %	Math	Poverty%	Murder
<b>Fair Rep</b> page 16		37%	75%	15	503	13% 12
Sweden	14	44	86	23	502	8 10
Finland	13	42	67	31	548	4 15
Spain	6.7	41	69	7	480	<b>20</b> 6
Norway	8.7	40	76	11	490	5 5
Belgium	8.4	39	89	21	520	13 16
Denmark	15	38	88	34	513	4 10
Netherlands	150	37	80	17	528	10 5
Austria	19	28	82	9	505	8 7
Switzerland	7.8	28	<b>49</b>	20	530	10 6
Costa Rica	21, 4	19	81	36	<b>407</b>	- <b>112</b>
Argentina		-	-	-	-	- -
Chile		-	-	-	-	- -
Japan (SNTV-PR)		-	-	-	-	- -
South Africa		-	-	-	-	- -
South Korea		-	-	-	-	- -
Tiawan		-	-	-	-	- -
<b>Mixed</b> page 19		36%	71%	26	505	9% 11
Germany	19, 1	39, 13	72	25	514	16 11
New Zealand	50, 1	45, 15	77	41	500	15 9
<b>STV, IRV</b> p. 38,14		34%	89%	29	517	14% 10
Australia	6, 1	38, 25	93	32	520	15 10
Ireland	4	<b>15</b>	70	19	501	10 10
<b>Runoff</b> page 12		27%	60%	1	496	11% 12
France	1	27	60	1	496	11 12
<b>Plurality</b> page 6		25%	66%	34	486	19% 42
Canada	1	26	68	30	527	15 17
United Kingdom	1	29	66	18	495	10 12
United States, 2020	1	<b>24, 25</b>	66, 49	37	<b>474</b>	<b>21 50</b>

The table's **worst** numbers are in **bold**. 11.30.22 61

## Better Voting, Better Living

Hill.

This data suggests, to elect a good government that enacts superb health, education, tax<sup>7</sup> and other policies, a country needs effective, not wasted votes.

Does **Fair Representation** elect more women? p.20  
Do they tend to raise health and education results?<sup>10</sup>  
Can these lift low incomes and reduce violent crime?

Do voter **turnouts** or seats won by **women** tend to be lower in countries with more: people? diversity? religion? polygamy? corruption? militarism? hot weather?!  
Are those harder to change than the voting rules?



### Data Definitions and Sources

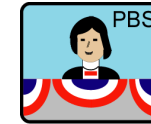
Measures of respectable power and policies, circa 2016

**Seats** average per election district; Inter-Parliamentary Union  
**Women %** of main legislature; Inter-Parliamentary Union  
**Turnout %** Int'l. Inst. for Democracy and 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  
Scores weighted by population give a voting rule's average.

AccurateDemocracy.com/d\_stats.htm will add  
Corruption transparency.org, Democracy Index eiu.com,  
Freedoms freedomhouse.org, Purchasing power.



## Progress of Democracy



A centrist policy implements a narrow set of ideas. It blocks rival ideas: opinions, needs, goals, and plans. A one-sided policy also blocks rival ideas.

A compromise policy tries to negotiate all the ideas. But contrary ideas forced together often work poorly.

A **balanced policy** blends compatible ideas from all sides. This process needs advocates for diverse ideas. And more than that, it needs independent **moderators**. These swing-voting reps can please their wide base of support by building moderate majorities in the council.

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. *Measure* their success by the typical voter's education and income, freedom and safety, health and leisure.<sup>8</sup>

Older rules often skew results and hurt a democracy. An ensemble is **inclusive**, yet **centered** and **decisive** — to help make its actions **popular**, yet **stable** and **quick**. The best tools to set budgets or pick a policy will also show these qualities in our stories, graphics and games.

## 1. Electing a Leader

Hill.

### Nine Voters

Let's think about this election: Nine voters want to elect a leader. The figures in this picture mark the positions chosen by these voters. They stand along a political spectrum from left to right. It is as though we asked them, "If you want high-quality public services and taxes like France or Germany please stand over ↓ here. Stand here ↓ if you want to be like Canada. To be like the USA stand over here ↓. For Mexico's low taxes and government services stand over there ↓."

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

10

These colors aid readers less able to see colors.

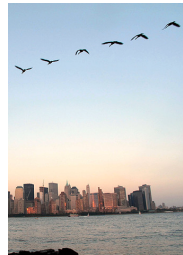
## Civil Society Builds Democracy

Hill.

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

Empirical thinking grew in the Age of Enlightenment leading to revolutions for **human rights**.<sup>6</sup> Now rights must include Fair Representation and Fair Share Voting.

A big need for workers has often raised their pay and political strength, thus the **political equality** in a society. Now more progressive taxes<sup>7</sup> can help political equality.



### 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>8</sup>

CEOs may need to be assertive, but not authoritarian. The latter corrupts commerce and wrecks human rights.<sup>9</sup>

Q: How can voting tools **reduce abuses of power**?

A: *RCV rivals act nicer p.14, swing reps moderate p.54. Fair Rep p.51, FSV p.24, & reforms on p.58 spread power. But a winner-takes-all tally sets a bad example.* 59

## Voting Reforms Aid Related Reforms

Hill.

**1** **Ballot access** rules make it hard for small parties to get on the ballot, because big parties fear “spoilers.” To calm that fear, let voters rank their backup choices. **Ranked Choice Voting, RCV**, opens up elections.

**3** A news firm may serve us better if the subscribers steer more parts of it than the owners or advertisers do. There’s a low-cost method for any membership group: **Fair \$hare Voting** can reward the best news bloggers.

**3** **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>1</sup> Such nameless gifts or **FSV** can cut corrupt paybacks. Big \$ponsors aim gifts to buy the few swing districts.<sup>2</sup>  
**1** **2** **RCV** or **Fair Representation** make that harder. So big business and billionaires may buy fewer seats.

*“It’s very hard to see us fixing the climate until we fix our democracy.” Dr. James Hansen<sup>3</sup>*

**1** **2** **Good schools**, taxes and voting may go together.<sup>4</sup> Schools build our group skills and political know how.

**1** **Sabbatical terms** make the current rep run against a former rep returning from rest, reflection and research. Then the candidates include two with records in the job! Two alike do not break apart a group that uses **RCV**.

**4** **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.

58

## Plurality Election

Hill.

Here we see three rivals step up, asking for votes. Each voter prefers the candidate with the closest position. A voter on the left votes yes for the candidate on the left.

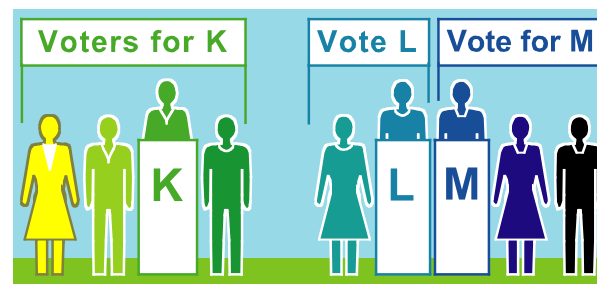
Ms. **K** is the candidate nearest four voters. **L** is nearest two and **M** is nearest three. Candidates **L** and **M** **split** the voters on the right.

Does anyone get a majority (over half), Yes or No?  
Who gets the plurality (the largest number), **K**, **L** or **M**?  
Who gets the second-largest number of votes, **K**, **L** or **M**?  
*Answers to questions are at the bottom of each page.*

A mere plurality gives the winner a weak **mandate**. This is the authority effective votes loan to a winner. Strong mandates –for the reps, budgets, and policies– support and speed action to achieve popular goals.

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



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

*Answers: No. K. M.*

11

## Runoff Election

From the plurality tally, the top two may advance to a runoff. It eliminates the other candidates all at once. The **two voters** who had voted for **L** now vote for **M**. Do they each have more power than some other voter?

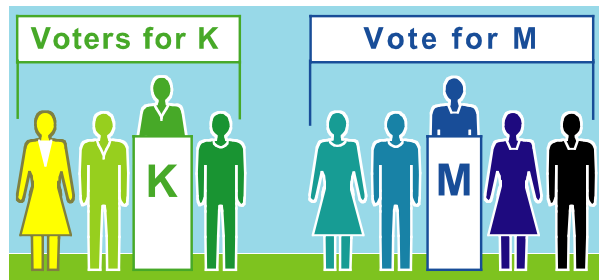
**Wasted votes fail** to turn a loser into a winner.

**Effective votes succeed**; a voting rule with more of them is more accurate, fair and responsive.

Does the plurality election waste more votes?  
Does that discourage members from voting?  
Does the runoff make a stronger mandate?

Runoffs practically ask, "Which *side* is stronger?" Later, these voters will use another voting rule to ask, "Where is our *center*?" And a bigger group will use a rule to ask, "Which trio best represents *all* of us?"

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



Four **wasted** votes. Candidate **M wins** a runoff.

*No, each voter has one vote in each tally.*  
*Yes, five. Yes. Yes, a majority mandate.*

12

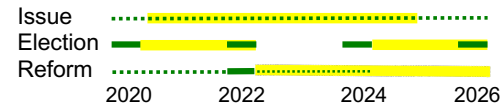
## ⊕ Back Matter

### Voting Reform Is Cost Effective

**Issue campaigns** teach voters and reps 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** can cost less, yet RCV reforms can improve voting and results for many years.



Campaign **costs in green**, **results in yellow**.

Do efficient autocracies defeat defective democracies?

### Stronger Votes ∴ Mandates ∴ Policies

RCV expands the base of power, the numbers of effective votes and voters supporting: Pages

1	a <b>CEO</b> or a <b>Chair</b> from a plurality to a majority	14, 31
2	a <b>Council</b> from a plurality to over three quarters	17
3	the <b>Budget</b> from a few power blocs to all voters	24
4	a <b>Policy</b> from a one-sided to an over-all majority	30

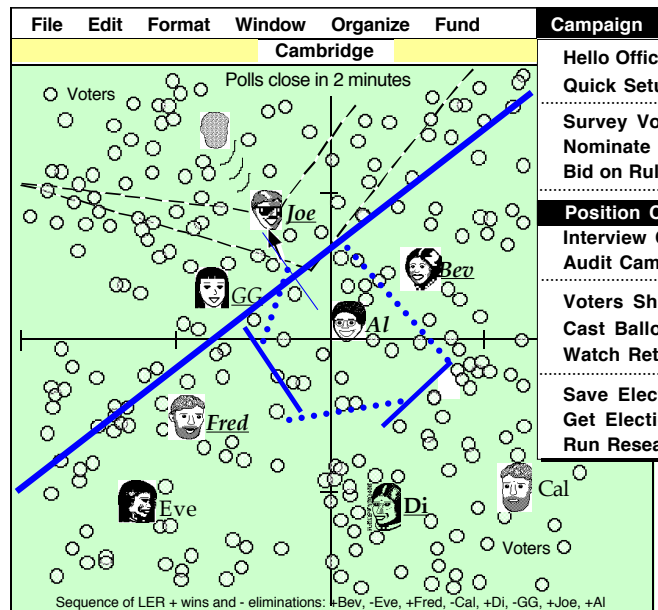
Votes for real choices tally up real democratic power. It needs big mandates to govern new nondemocratic powers in big money, media, marketing and more. Mandates aid actions to achieve popular goals, building up the democracy and its leaders.

57

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## 4. Watch Condorcet Find the Center

This map puts a line halfway between AI and a rival. Voters on AI's side of a line are closer to AI and so rank AI higher than the rival. The long line has more voters on AI's side than on Joe's. So AI wins that test. **AI wins a very different majority over each rival here.** To do that, AI's political positions must be *central* and have *widespread support*. page 31



In contrast, **STV** requires the most *intense support*, first-rank votes, to avoid early elimination. • page 48  
**IRV** does too, with a high finish line of 50% + one vote.

## Politics in Two Issue Dimensions

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

Here we see voters choosing positions spread over two issue dimensions: left to right plus up and down. A person's position on one dimension is little help for predicting their position on the other one.

A voter may rank candidates on any issue(s). He prefers the candidate he feels is closest.

“Please step up for more protective regulations. Please step down if you want fewer protections. Take more steps for more change.”

The chapter on simulation games and research shows more tallies with two and even three issue dimensions.

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



K wins a plurality.

M wins a runoff.

For clarity, a candidate is “she” and a voter is “he.”

See my file:  
2 Dimensions in US n UK  
Politics-Krugman  
NYT\_files

“Politics in the modern West tends to be more or less two-dimensional. One dimension is the left-right divide in economic policy, between those who favor high **taxes** on the rich and large social **benefits** and those who want low taxes and **small government**. The other dimension is the divide over social issues, between those who favor policies promoting racial **equality** and gay rights and those who bitterly oppose anything they consider “woke.”  
<https://www.nytimes.com/2022/10/18/opinion/liz-truss-uk-conservative-politics.html>

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Hill.

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-ranked 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**.

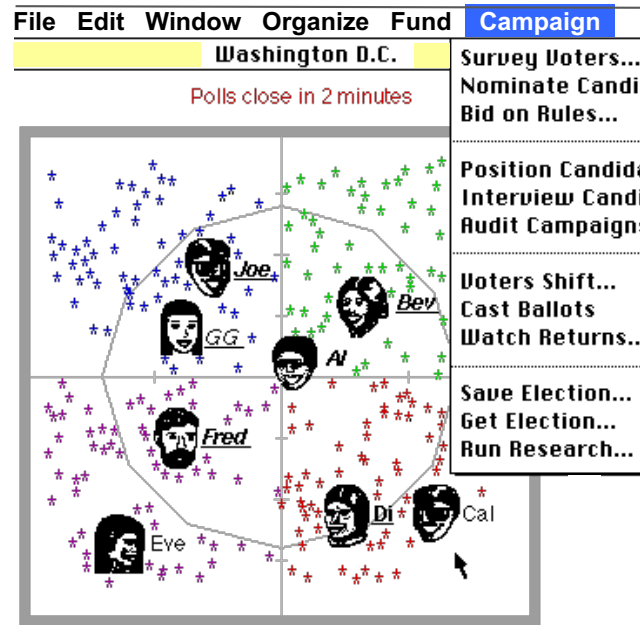
### Why Support Instant Runoff Voting, IRV

- **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**. The turnout for an election runoff often goes down.<sup>2</sup>
- **More civility** and consensus<sup>3</sup> arise as candidates ask a rival's fans for their backup votes.<sup>4</sup>

### Well Centered and Balanced

An **Ensemble** council combines the breadth and balance of **Fair Representation** with the centering of **Condorcet**.

Hill.



A council's **swing voter** on an issue such as budgets, or regulations, can strongly influence those decisions.

**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. ↗

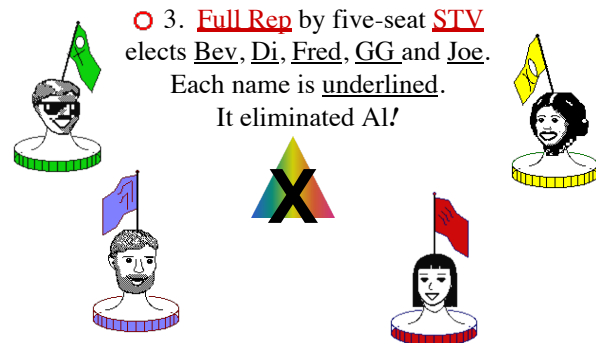


## Contrast 3 Councils, each with 5 seats

Hill.

1. The **Loring Ensemble Rule** elects a few reps by a Condorcet Tally, the rest by an STV tally; see page 8. On this next map, Condorcet Tally elects **Al**; then Full Rep by four-seat STV elects **Bev, Di, Fred** and **Joe**. The map shows each winner's name in **bold**.†

• 2. The *Condorcet Series* elects the candidates closest to the middle of the voters: *Al, Bev, GG, Joe* and *Fred*. The lower right or southeast gets no rep; so the council is not well balanced. Each winner's name is in *italic*.



### Notice Two Surprises

1. It may be surprising that **broad Fair Rep** helps the *central Condorcet* winner be the council's **swing voter**. With these tools, political diversity can be a source of balance and moderation as well as a wide perspective.

2. *Central reps* can lead a **broad Fair Rep council** to **broader majorities**, with moderates from *all sides*.† This can add to or replace some of the “checks and balances” often used to moderate a council's action.

54 † **MMP** could elect diverse & central reps, pages 19 & 29.

## Instant Runoff Voting Patterns

Hill.

Running for president of 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, government killing of pro-democracy demonstrators.<sup>5</sup>

A voter's backup is often like his favorite, but more popular. So by dropping one reformer, IRV might well have elected the stronger one with a majority.



### From five factions to a majority mandate.

- 1) **Violet** loses; so backup choices get those votes.
- 2) **Amarilla** loses; backup choices get those votes.

This **chief executive** starts in a big band of voters on the biggest side, then builds a majority. She is a strong and widely-popular **advocate** for their point of view.

For 11 years, Papua New Guinea used IRV, then plurality rule for 27 years but ethnic violence increased. They changed back to IRV and the violence decreased.<sup>6</sup>

Irish and Australian voters have used it for decades. They call it the Alternative Vote or Preferential Vote. Americans often call it Ranked Choice Voting, RCV. The inside cover lists some groups using it in the USA.<sup>7</sup> Some find it helps women achieve parity in politics.<sup>8</sup>

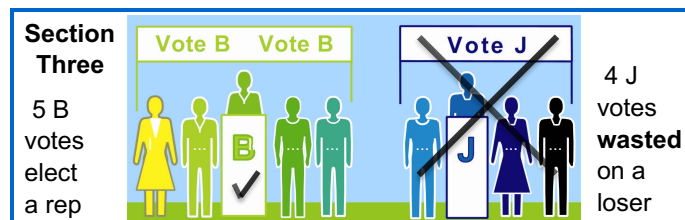
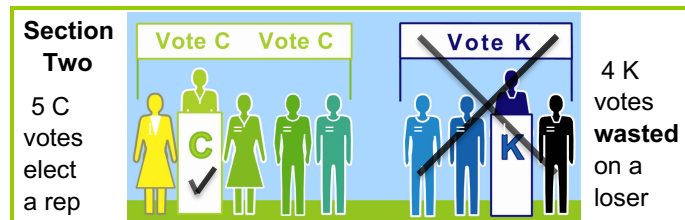
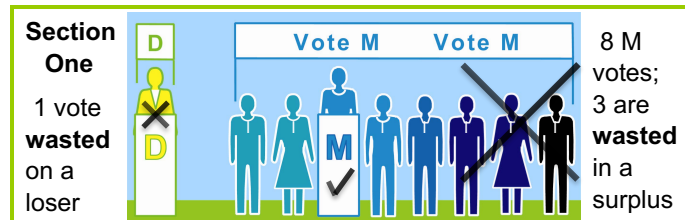
The workshop's IRV game starts on page 39.

15

## 2. Electing Representatives

### Three Single-Member Districts

A class of 27 wants to elect a 3 member committee. Someone says, "Elect a rep from each seminar section. You need support from just 5 voters to win a seat."



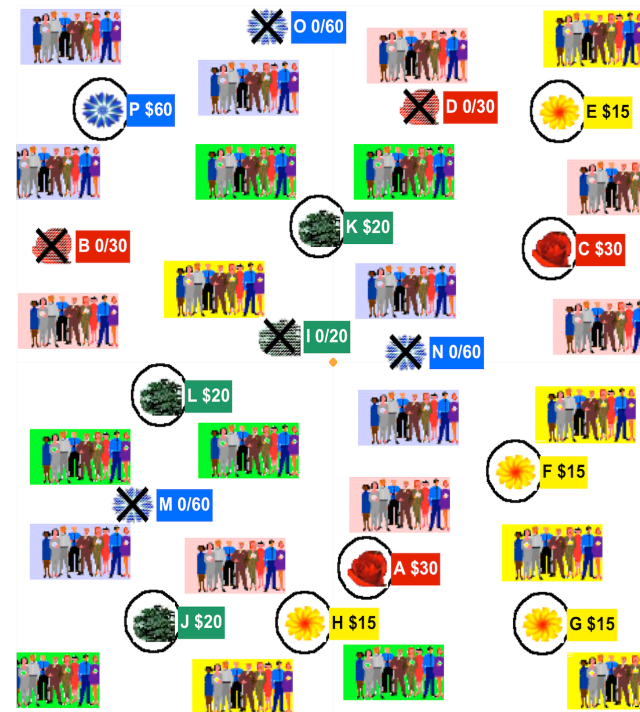
➤ An 11 voter minority gets 2 reps; that is majority power. But with 3 or 4 voters in each section, they'd get no reps. It can **waste** many votes so it's erratic and easy to rig.

16

How many votes were wasted?

12

## Campus Map



Hill.

Any big group can **focus** or **spread out** their spending.

**Loring Allocation Rule** uses a Condorcet Tally to fund some items, then a Fair Share tally. The Condorcet Tally funds items with wide appeals to ad hoc majorities. It lets you vote for a sure winner without wasting any of your own power. The Fair Share tally then funds items with narrower, more intense appeals.

53

### 3. Simulation of Fair Share Voting

Hill.

**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 to give money, labor, water or another resource, to one-time projects or optional items in ongoing budgets; e.g. FSV can choose repairs for roads but not new routes.

#### Participatory Budgeting Process Ranked Choice Voting Ballot Cost aware Tally

This map shows the public plants proposed by voters on a campus. 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 the map shows a third issue dimension as deep layers of color within the page.

This is a proposed **blue-flower garden.** It is far from what the **red voters** want, even if it is next door. A voter prefers the closest item with his favorite color.

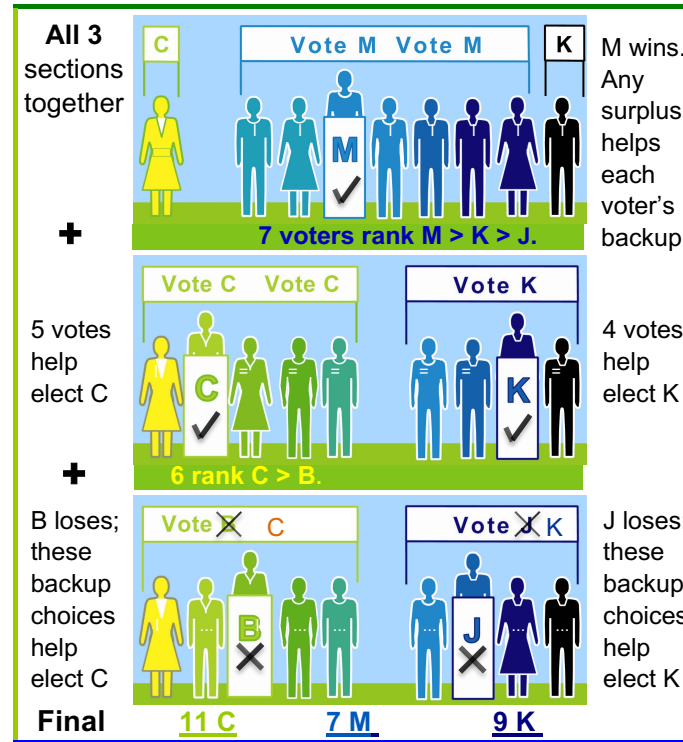
Here a garden club had \$240 to buy public plants and each interest group got a quarter of the votes. So how much did each group allocate?

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

52      Answers: \$60, \$60, \$60, \$60. Yes for sunflowers.

### One Fair-Representation District

A better idea, “Keep the class whole. Change the votes needed from 1/2 of a section to 1/4 of the class plus 1. You need support from 7 voters to win a seat.<sup>Δ</sup> A voter may rank a first choice and a backup choice. If his first choice loses, his vote counts for his backup.”



➤ Now the minority gets 1 rep and the majority gets 2. Their mandate is fair, **accurate**, popular and strong.

<sup>Δ</sup> The votes needed must allow just 3 winners.

Hill.

The first section shows one voter free to favor a candidate in another section.

The first section might show 8 votes for M. But only 1 is needed to win a seat. So M got 1 surplus vote. It gets divided by that group of voters. So 1/8 surplus vote transfers to each of their backup candidates. In this case all of the surplus votes transfer to candidate K.

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Steve Chessin's elevator pitch for PR .

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

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:

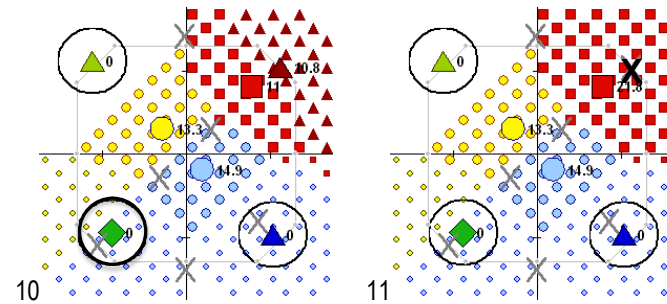
- We elect more than one rep from an electoral district.
- You vote for more than one; you vote for a list. You pick a group's list, or you list your favorites.
- The more votes a list gets, the more reps it elects.

### 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 strong.<sup>1</sup>
- **Women win** two or three times more often<sup>1</sup> so **Accurate majorities** win—also due to more: choices, turnout, effective votes, and equal votes per rep so **Policies match** public opinion better.<sup>2</sup>

Many people call this Proportional Representation, PR.

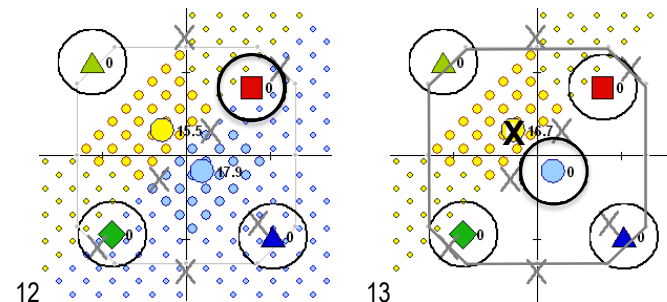
### A Diverse and Balanced Council



Hill.

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, play in lifelike normal patterns.<sup>3</sup>

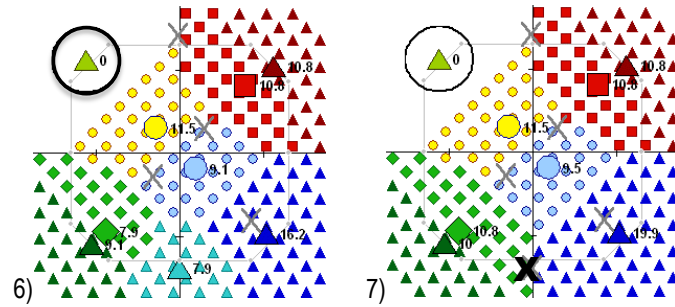
In 13, the line for half the ballots holds all but one rep. Does STV tend to favor and elect fringe candidates? Five reps together need what percentage of the votes? Are the reps diverse? Balanced fairly? Centered well?



No. Over 83%. Yes. Yes. See page 55.

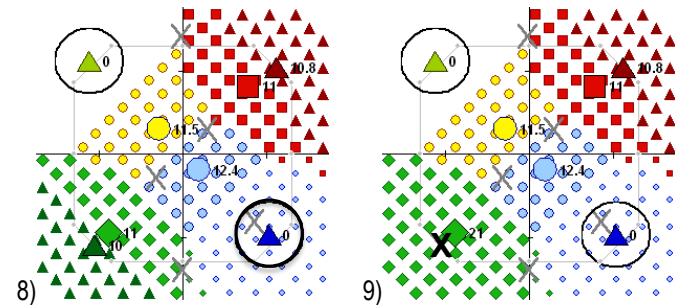
## Votes Transfer, Elect Reps

Hill.



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 maps show only two issue dimensions. But a five-seat council can form decisions in 3D, if its reps are diverse. More issues and positions get represented in campaigns and debates, then in policies and projects—all in **3D!** “RCV... gives you proportionality on every axis.”<sup>2</sup> ↔ ↕ ↔

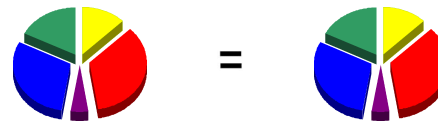


50

## 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 no district was unwinnable and neglected by 1 party, a captive audience for the other party.

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. They could work together for moderate policies.<sup>3</sup>



✓ Shares of votes equal fair shares of seats.

**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 appeals.

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>4</sup>

Rob Richie wrote these two paragraphs

Dana Greenburg and FairVoter? asked “Where are your pie charts?”.

Rob Richie invited me to meet Rod Donald at FairVote in

19

## Why It Elects More Women

Hill.

**New Zealand and Germany** elect half of their MPs in Single-Member Districts and half from Fair Rep lists. Theirs is the best rule to elect a parliament, some say.<sup>5</sup> The SMDs elect few women; but in the same election, the party lists elect two or three times more women.<sup>1</sup>

The **safest nominee** for a party in a Single-Member District is from the dominant gender, race, religion, etc. So SMDs often lead to poor representation of 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 cultural 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*

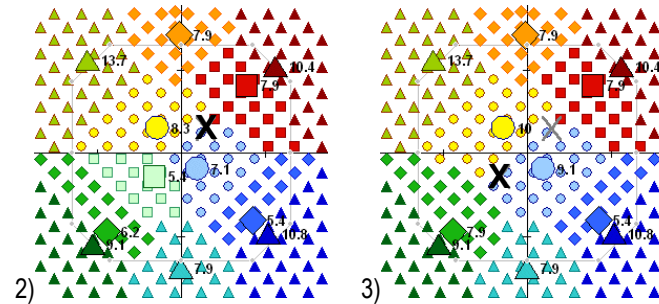
Some leading women spoke of **starting a new party** in **Sweden**, which uses Fair Rep. Under plurality rule, a big new party splits their own side, so it likely loses. But Fair Rep gives every big party its share of seats.

This credible threat made one big party decide job experience was not as important as **gender balance**. So it dropped some experienced men to raise women higher on their party's list. And they won.<sup>7</sup> Now they are incumbents with experience, power and allies.

20

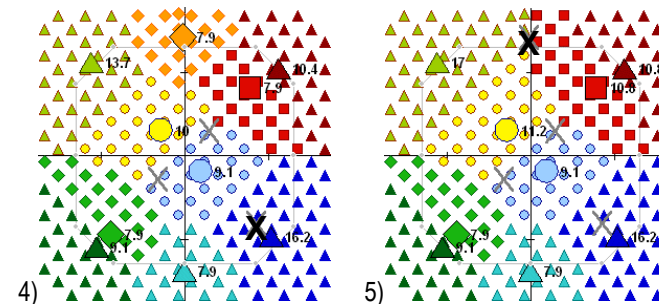
## The Weakest Lose, One at a Time

Hill.



In map 2, the first loser gets an X. Her ballots change color and shape when each counts for its new top rank, a close rival. So the nearby fields of color grow. ● ■ ● (Game maps may portray places or political positions.\*)

In 1, a gray line circles half the ballots. The candidates outside it lead their close rivals on the first ballot count. But in 2 and 3, as weak candidates lose, most of their ballots count for centrists or **moderates** inside that line.



\* Pages 10 and 13 introduced political dimensions.

49

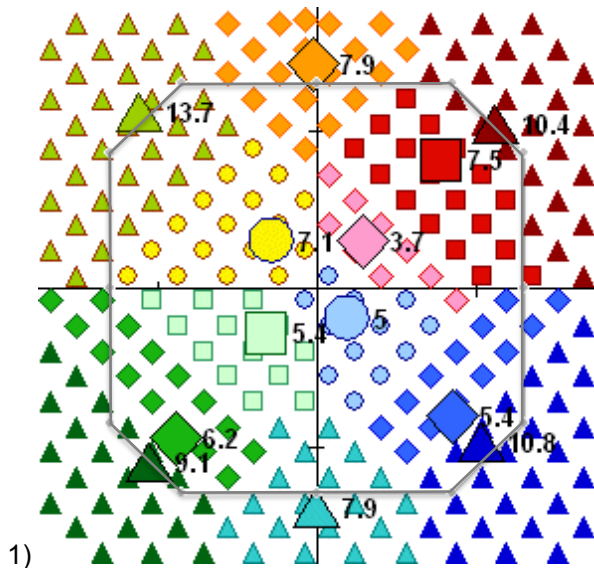
### III. SimElection Games

Hill.

Steven Maas said he stopped reading at this page because the colors had no evident meaning. I guess these pages could not be used in a b&w newspaper.

#### 2. Watch Full Rep Balancing a Council

These maps show **Choice ballots electing five reps.** A little shape is a voter's ballot; a big one is a candidate. Each little ballot has the color and shape of its current top-ranked choice, the closest remaining candidate.<sup>1</sup>



1)

Sim players position their candidates to get votes (page 56). The numbers on a map show each candidate's current share of top-rank votes; getting 16.7% will win a seat and (halo!) After this round of counting, the weakest candidate must lose and get an X. The 3.7% diamond will be the first to lose.

48 To make close rivals distinct, colors vary from a spectrum.

### Voting Rules and Policy Results

Hill.

Local SMDs can elect reps with **unequal** vote totals. So a majority of reps might *not* represent most voters. **Fair Rep** requires more equal votes per rep. (page 17) So each majority of reps *does* stand for most voters. This produces **policies closer to public opinion.**<sup>2</sup>

~~Less: Wasted votes,  
Gerrymandered districts,  
Monopoly politics,  
Dubious democracy~~

Many voters see a woman in a multi-winner race less as fighting her rivals, more as **supporting her issues.**

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**; so are the citizens and workers hurt by poor health or education.

If such urgent needs overwhelm us, we neglect the essential need to fix their **structural sources.** The plurality rule is a key defective part to replace. It wastes votes and underrepresents most voters. It gives the reps less incentive to help most voters.

A more accurate democracy leads toward a better **quality of life**, as measured by the scores on page 60. 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.

The Fair Rep games and sims will show more.

21

### 3. Allocating Budgets

Hill.

#### Fair Shares to Buy Shared Goods

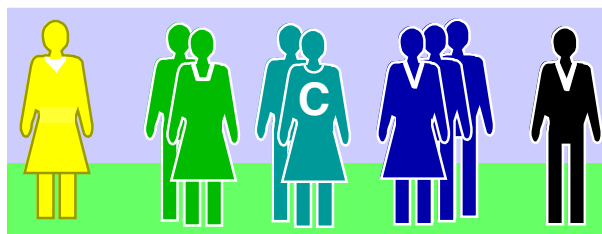
Electing reps is the most obvious use of voting rules. Rules to pick projects or a policy are also important. These group decisions occur more often than elections. They even occur in many groups with no elections.

The members of clubs, co-ops, colleges, grant givers and more can enjoy the merits of Fair Share Voting.

Fair Representation distributes council seats fairly. Likewise, votes can distribute some funding fairly.

**Democratic rights progress.** Each step is more fair thus accurate, responsive, widely supported and strong.

- ✓ Voting by rich men, poor men, Black men, women
- 🇺🇸 Fair Representation of all big political groups
- 🇺🇸 Fair Share Voting by big groups of voters or reps



\$     \$     \$     \$ Policy \$     \$     \$     \$     \$

All big groups have the right to spend some funds.

### Workshop Finale 🎵 Notes

Hill.

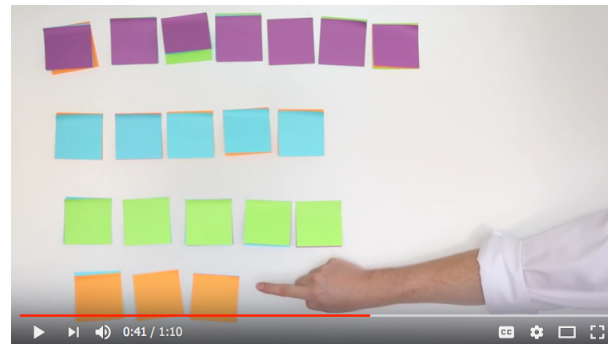
It's easy to give this workshop in a class or a club.<sup>6</sup> In an hour, 20 voters can review plurality, try **IRV**, then try **STV** for colors, as shown below, or **FSV** for treats.<sup>7</sup>

**Eat the winners!** while you plan 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 34.)

Voter education can be fun to do and it is essential. **FairVote.org** has model ballots, voter-education flyers, videos, stories and much more to help your voters.

**Music video** for fun: <https://flip2020.wordpress.com>

Many groups offer **apps to tally your votes.**  
[https://AccurateDemocracy.com/z\\_tools.htm](https://AccurateDemocracy.com/z_tools.htm)



Hands-on games and shared treats make memories of how each tool *works*. Next, simple simulations and national statistics show more high-level *effects*. The effects on pages 54 through 59 are important for the governance of schools, clubs, towns and more.



## Ranked Choice Ballots

Hill.

A tally board might serve 30 voters. It's easier to mark **paper ballots** or webpages and tally by computer. Some groups need the secure paper ballots or printouts used by “risk-limiting audits” to find frauds and errors.<sup>3</sup>

☒ **Yes-or-no ballots** badly oversimplify most issues. They often highlight just two factions: “us versus them.” So 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>4</sup>

### Our Menu #1

Fill only one “O” on each line.

lbs. Treats*	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>
3 Almonds, Toasted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7 Apples, Honey Crisp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
5 Apricots, Dried	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Bananas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Peaches, White	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6 Oranges, Navel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Which 1 wins by plurality? Hints: 5 sweets vs. 1 nut, and the first name on a ballot gets a 2% to 9% boost.<sup>5</sup> Which treat wins by **IRV** or by **Condorcet**? With treats, we could adjust their quantities so their costs are equal. **FSV** helps if their costs vary, as on pages 24 and 43.

46

\*Treats are personal but a bulk buy saves money.

## Patterns of Unfair Funding

Hill.

**Participatory Budgeting**, PB, lets neighbors research, discuss and vote on how to spend part of a city's budget. In South America, it spread from one city in 1989 to hundreds today. Progress most often advances this way. The World Bank reports PB may reduce corruption and it tends to raise a community's health and education.<sup>1</sup>

In 2010, a Chicago alderman gave \$1,300,000 to PB.<sup>2</sup> But a plurality rule made the votes and **voters unequal**. For example, in 2011 each vote to help a park won \$501. That was its cost divided by its voters. But if cast for bike racks, each vote won a mere \$31. That's too unfair. Even worse, most of the votes were wasted on losers.<sup>3</sup>



A bad election rule gets worse when it picks projects. 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>

A voter's PB share is sometimes over \$1,000 !

23

Hill.

The principle of **Fair Share Voting** is:  
**Spending power for groups,  
in proportion to their voters.**

So 60% of the voters can spend 60% of the fund, not all of it. Your ballot's share from the fund lets you vote to pay your shares of the costs for your favorite items.

Voting is easy: simply rank your choices, like in IRV.

Your ballot pays one share for each of its present top ranks—as many as it can afford. A tally of all ballots drops the item with the fewest shares. Those two steps repeat until each remaining item gets full funding.<sup>3</sup>

Paying one share proves you feel the item is worth its cost and you can afford it in your high priorities.

### Some Merits of Fair Share Voting, FSV

- ✚ **Each winner is a popular priority worth its cost:**  
To qualify for funding from our group's source, an item needs our "base number" of voters or more.
- ✚ **FSV is fair** to an item of any cost and to its voters:  
A ballot pays a costly share to vote for a costly item.  
cost / base = 1 share    e.g. \$100 / 25 ballots = \$4  
If more ballots divide a cost, each of them pays less.
- ✚ So, a ballot's money can help more low-cost items.  
This motivates a voter to give his top ranks to the items he feels give **the most joy per dollar**.
- ✚ See Ranked Choice Voting points 1 and 3 on page 14.

## 4. Condorcet Tally Centers a Policy

In a Condorcet tally, the winner must top each rival, **one-against-one**. Two games show how it works.

- 1) ✚ Flag L stands at our **center**, by the median voter.  
Flags J, K and M surround L, 2 m. or yards from it.
- ✚ We asked 9 voters: "Are you closer to J than to K? If so, please raise a hand." Only one raised a hand. We entered J vs. K, etc. in the **pairwise table** below.

against	J	K	L	M
for J	—	1	3	4
for K	8	8+1=9	4	5
for L	6	5	—	5
for M	5	4	4	4+5=9

The nine voters gave L a majority over each rival.

- 2) ✚ Flag L 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 mark 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?

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

Hill.

## More on Budgets

Each **budget level** needs enough **cards** to pay its cost. So a \$3 bag of apples needs its voters to fill one **column**. A \$6 size just needs some voters to fill one more column.

Indoor Pool, outdoor pond, search disk Twin Oaks proposals, **Incompatible proposals**

FSV is very good at organizing voters (by their ballots) into interest groups so they are not divided and defeated by 2 of a kind (clone candidates). At least 1 is funded if interest is strong. But FSV is weak at preventing project duplication and it must avoid buying 2 of a kind when 1 will satisfy the need. Count up the ballots which contributed to both items while ranking A over B; add those which contributed only to A.

**\*\*Then count up the ballots which contributed to both while ranking B over A; add those which contributed only to B.\*\***

Then drop the item with contributions of lower priority.

or that won last. **Run the tally again so the ballots may fund other winners.**

B with no tomato

There maybe too many ongoing budgets for a ballot. So any 5 members may propose an ongoing-budgets plan. Then a Condorcet Tally adopts one plan. It is likely to coordinate all of the budgets and it has majority support.

If all can vote, a majority wins always; it is not fair share.

[admin.cam.ac.uk/reporter/2003-04/weekly/5972/24.html](http://admin.cam.ac.uk/reporter/2003-04/weekly/5972/24.html)

I often cannot help items I rank below a **costly winner**.

Some of us might rank it high only at low-budget levels. This leaves money in our ballots to help more favorites get the base number of votes so they qualify for funding.

FSV may simplify some **overlapping proposals**.

If winner B includes winner F, drop F then tally again.

If we agree two winners are in conflict, drop or change the item that got fewer shares, or that won in a later round.

A group might increase their options or improve the results by reducing the overlaps before voting.



**Fries, Burgers and fries, Beef Tacos**

Less overlap: **B** without fries, Tofu **T**acos?

Two FSV winners might need the same **resource**, e.g., a public park. (Each use must gain park permits.)

Drop the use that loses a 1-against-1 vote by only the ballots that funded using the resource. Tally FSV again.

Each year, we reset the levels of 50 ongoing budgets.

Voters say a ballot with all of those is too long and hard.

So any 5 members may propose an ongoing-budgets plan.

Most voters say it is easier to rank a few proposed plans.<sup>4</sup>

Then a **Condorcet Tally** adopts one plan. It is likely to coordinate all of the budgets and it has majority support.

44 They should not treat others less well.

44

## Fair Shares and Majorities

If a majority controls all the money, the last item they choose adds little to their **happiness**; it is a low priority. But that money can buy a high priority of another big interest group, adding more to their happiness.

**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.

**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 for the same cost = more satisfied voters. Shares also spread good opportunities and incentives.



**Plurality** rules let **surplus votes** waste a big group's power and let rival items **split** it, as seen on page 14. The biggest groups often have the biggest risks.

**FSV protects a majority's right** to spend a majority of the fund. It does this by eliminating split votes, as did IRV, and **surplus** votes, as we'll soon see.

Hill.

25

## Budget Levels

Hill.

A co-op that helped develop Fair Share Voting lets each voter rank **budget levels** for *some* items.

A budget level needs to get the **base** number of votes. It gets one if a ballot offers to share the cost up to that level or a higher level.  $\text{cost} / \text{base} = 1 \text{ share} = 1 \text{ vote}$   
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 your ballot had 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 supporters. Thus, fair shares and backup ranks select a set of winners with **more supporters**.



**Many voters must concur, this cost is a high priority within my budget.**

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.  $100\% / 25 \text{ votes} = 4\%$ .

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 of my power by voting for this sure winner?

26

Answers: *None. None. Not much.*

## 3. Fair Shares Buy Shared Goods

For our tabletop tally of **Fair Share Voting, FSV**:

Hill.

- ✚ We each get three 50¢ voting **cards** to buy treats.
  - ✚ We decided an item needs modest support from six of us to prove it is a *shared* good worth shared funding. So the **finish line** marks the height of six cards, and
  - ✚ You may put only one of your cards into a **column**.
  - ✚ A costly item must fill several **columns**. A column here holds \$3, so a \$6 item must fill two columns.
- ⇒ Rule B lets you vote an average 50¢ card, a short 25¢ and a tall 75¢ to let you help your top choice more. Four eager voters can fill a column.



- ✚ 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 lower choices.
- ✚ **Stop** when we've paid up all items still in the game.  
Only a few items can win, but all voters can win!

Rule C software has 60¢ "columns." (A \$3 item now fills 5.) It gives 17¢ to the first column of each voter's favorite. Every voter's next column gets 16¢, etc. to a round of 3¢ "cards."  
A ballot's 15 cards still total \$1.50 but average 10¢.

43

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## Instant Runoff Quiz

Hill.

1. How can your group use this voting rule?
2. A card you move counts just like others, True or False?
3. Ranking a backup can't hurt your first choice, T or F?
4. Only one candidate can reach 50% plus a vote, T or F?
5. Name four cities or schools that use IRV. *Inside cover*
6. What benefits does it give them? *See page 14.*

### Answers

- 2) True, we count each card once in each round.
- 3) True, a backup doesn't count unless your 1st has lost.
- 4) True, more reps would need over 100% of the votes.

Ranked Choice Voting, **RCV**, includes **IRV** and **STV**.  
 The inside cover lists some of the users.  
 Most of the groups tally their votes easily with apps.

## 2. Fair Rep by Single Transferable Vote

A tabletop tally to elect three reps works like **STV**.

- We set the **finish line** at 1/4 of the cards plus one. Don't put your card on a column that is full.
- One at a time, we **drop** the weakest candidate.
- If your candidate loses, you can **move** your card.
- **Repeat** until three candidates reach the finish line!

**Answer** the IRV questions above again for STV.

4. Only three candidates can each win 25% plus a vote.
6. What benefits does STV give us? *See page 18.*
7. What total must a trio of reps win all together? 75%

## More Merits of Fair Share Voting

Hill.

- After discussion, a **quick** poll can pick many items. It reduces **agenda effects** such as leaving no money for the last items or going into debt for them.
- It lets subgroups fund items; so it's **like federalism** but without new layers of laws, taxes and bureaucracy. And it funds a big group even if they are scattered.
- Each big group controls only its share of the money. This reduces their means and motives for **fighting**. It makes (hidden) empires less profitable.
- **Fairness builds trust** in spending by subgroups and raises support for more. This can reduce 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 projects. This makes project management more **efficient**.
- A voter can see grants from his rep to each project, tax cut, or debt reduction; then hold her **accountable**.

In games, we may vote for treats and eat the winners!

## 4. Enacting a Policy

Hill.

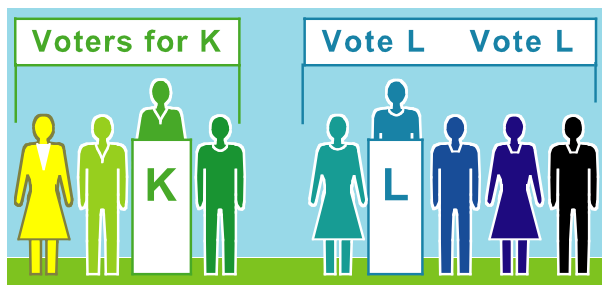
### Condorcet Test Number Two

The Runoff on page 12 was a one-against-one contest between the positions of candidates **M** and **K**. Five voters ranked **M**'s policy position over **K**'s.  $5 > 4$

Here is a second test with the same voters:  
**K**'s position loses this one-against-one test.  
 Candidate **L** wins by five votes to four.  $5 > 4$

Each person votes once with a ranked choice ballot. Pages 33 and 46 will show two different, simple ballots. A workshop page will show a Condorcet Tally table. And a simulation map will show Condorcet voters with two issue dimensions.

*People often struggle to find a group's center of opinion*



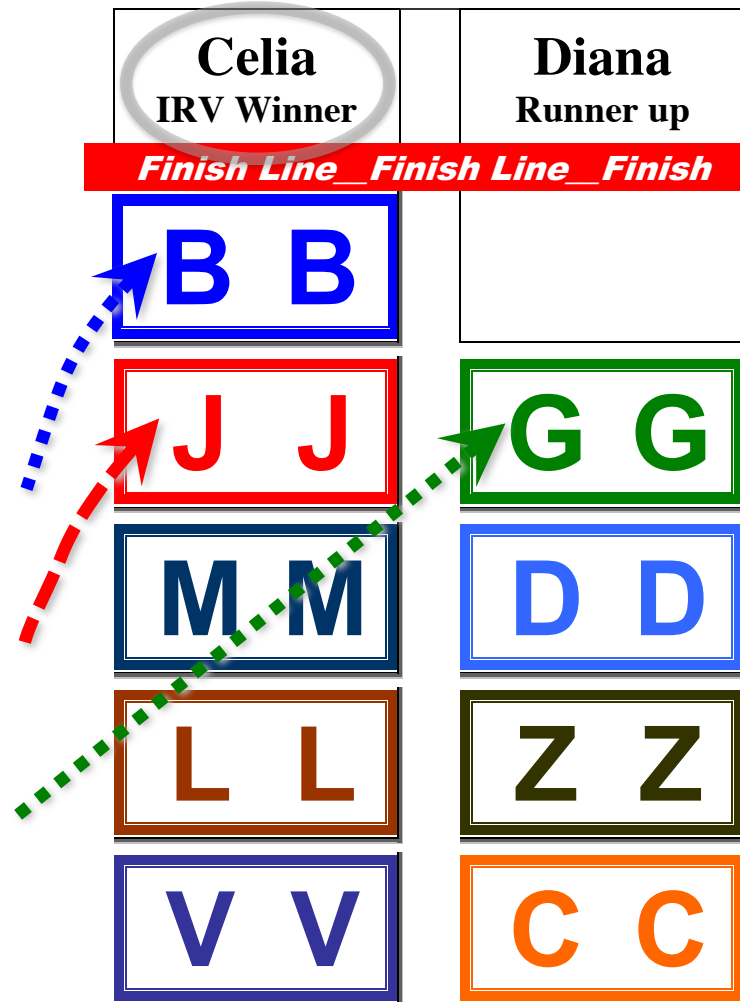
K is nearest four voters. L is nearest five voters.

28

How many votes were wasted on a surplus or a loser?

M, L & V rank Celia #1. D, Z & C rank Diana #1.

Hill.



This winner had no surplus; the last loser held 4 votes. 41



## 1. Instant Runoff Voting Elects One

Hill.

Tabletop tallies make **Ranked Choice Voting** lively.

- The **finish line** is the height of half the cards, plus one. That is how many votes a candidate needs to win.
- If no one wins, we **eliminate** the weakest candidate. We draw names from a hat to break ties.
- **If your favorite loses, you can move your card.** You can give it to your next backup choice.
- We **repeat** this to eliminate all but one, the winner!

This **chart** shows four columns on a tally board. The rule **eliminated** Anna, so **voter JJ** moved his card. Then Bianca lost, so **BB** and **GG** moved their cards. They were free to choose different backups.<sup>1</sup>

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

40 JJ ranks Anna 1, Celia 2.

GG ranks Bianca 1, Diana 2.

## Condorcet Test Number Three

Candidate L wins her last test by six to three.  $6 > 3$ . She has won majorities against each of her rivals. So she is the “**Condorcet winner**.”  $L > M$ .  $L > K$ .

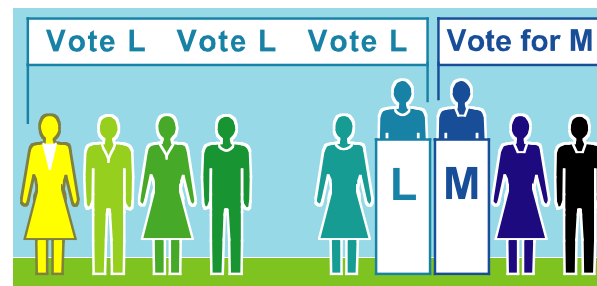
“...such a mandate is no doubt a vital ingredient in the subsequent career of the winner.”<sup>1</sup>

Who is the Condorcet winner on page 13, **K, L or M?**

Thus a Condorcet Tally picks a **central winner**.

It can elect a **moderator** to a council, see page 8,  
or moderates from districts for MMP, see page 19.  
But is it likely to elect diverse reps, yes or no?  
It can select the base number for **FSV**, see page 26.  
But is it likely to spread spending fairly, yes or no?  
Does a CEO mostly **moderate** or **advocate**? And a Mayor?

Here is the center.



L has six votes.

M has three.

Answers: L. No. No. Discuss these.

29

Hill.

“Supreme executive power derives from a **mandate** from the masses” not from some farcical aquatic ceremony.

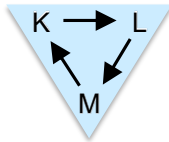
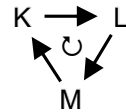
Hill.

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 the ballots into two piles. If you rank option K above L, your ballot goes to K. The option that gets the most ballots wins this test. If one wins all its tests, it wins the Condorcet Tally. In a rare “voting cycle,” majorities rank  $K > L$ ,  $L > M$ , and  $M > K$ . IRV can break the tie.<sup>2</sup>



### Why Use a Condorcet Tally, CT

- \* **No split-vote** worries as duplicates don't help or hurt each other.<sup>2b</sup> An ad hoc majority can rank all of their favorites over the other options. Ballots from all voters help decide which one of the majority's favorites wins.
- \* **Choice ballots** rank the related options on one ballot so **Simplify** the old rules of order and **speed up** voting so **Reduce agenda effects**, from simple errors and **gridlock**, to free-rider and wrecking amendments.\*
- \* **A balanced policy** tends 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 time and builds respect for democracy.

\* The glossary is on page 68.

## II. Workshop Games

Hill.

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



### A tally board has

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



## How You Can Try a Voting Tool

Hill.

It's easy to **test**-drive a decision tool in a **survey**. Or a council can form a **committee of the whole** to discuss, vote, tally and report results to enact by their old rules.

Many groups **adopt** a book of parliamentary rules; then they amend it with "**special rules of order**" to make their decisions more popular, stable and quick.<sup>4</sup>



### 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 town have an 1890 voting rule or a new, centrally balanced rule? e.g. p. 33.

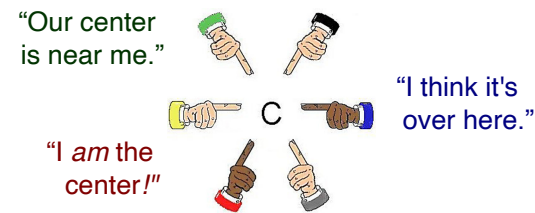
Many groups offer **apps to tally your votes**.  
[https://AccurateDemocracy.com/z\\_tools.htm](https://AccurateDemocracy.com/z_tools.htm)

## Policies with Wider Appeal

Hill.

A **plurality** or runoff winner gets no votes from the losing side and doesn't need to please those voters. But a **CT** candidate needs 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>2,3</sup> Voters on the **center** and **right** give it a majority over any **left-wing** policy. At the same time, voters on the **left** and **center** like it more than any **right-wing** policy. **All sides** like it more than a narrowly-**centrist** policy.



✓ Everyone helps locate our center.

### Chairs with Balanced Support

**CT** can elect a **chairperson and vice chairs** to be the **swing voters** in an **Ensemble Council**, as pictured on pages 8 and 54. The broad base of support they need to win their CT election gives them strong **incentives** to help the council balance its process and policies.

**IRV** has slightly different effects, **incentives** and uses.<sup>3</sup> Games will put us inside each tally to feel how it works.

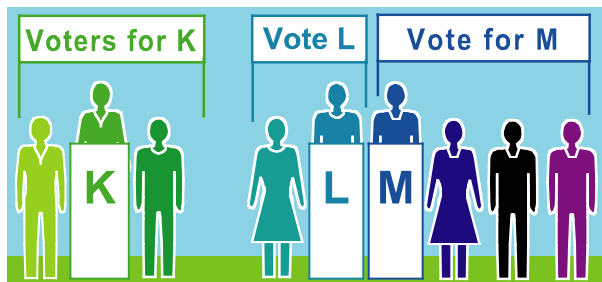
## Resist Rigged Votes

Hill.

By **plurality** rule, candidate **M** lost on page 11. Now let's say her party **gerrymanders** the borders of her election district. It adds in voters, pictured in **purple**, who tend to like the party and cuts out some who don't. In this **safe-seat** district, **bluish** voters can elect **M** or a *less* central candidate who might **polarize** politics.<sup>4</sup>

But this gerrymander didn't change the **CT** winner, **L**. So policies stay stable and make big swerves less often.

Many wasted votes often can expose gerrymanders; **Fair Rep** reduces both,<sup>5</sup> as shown on pages 16 and 17.



3 rank  $K > L > M$ . 2 rank  $L > M > K$ . 4 rank  $M > L > K$ .

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

Foul **manipulations** of plurality rules are not rare. And point voting invites extreme high and low votes, as voters worry, "Do my lower choices hurt my top choice?" But a chance to manipulate **IRV** or **Condorcet/IRV** in a real election is rare, risky and hard;<sup>2</sup> so it's not a worry.

## Complementing Consensus

Hill.

Groups that seek consensus on basic agreements may vote on other issues: They may vote on a minor **detail** like a paint color or on a bunch of optional **projects**.

**Fair Share Voting gives fair shares of power.**

Inclusive yet fast, it won't let one person block action. It is cooperative, not consensual nor adversarial. It is less about blocking rivals, more about attracting allies. Its ballot guides a voter to limit and prioritize projects. Its tally weighs dozens of desires, of varied cost and priority, from dozens of intersecting 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 involving our basic agreements. If so, 41%, or even one voter, may block a Condorcet winner by showing it breaks a basic agreement.

### Carpentry Analogy

The nice consensus methods are like nice hand tools, and these nice voting methods are like nice power tools. The power tools speed cutting through piles of boards or issues, and cutting through a steel-hard one. The high-touch tools help us discover and develop insights into new options.<sup>3</sup> So most of us want both kinds of tools.

This primer told the *stories* of the best voting tools. The games will let us *be inside* the simple tallies.

## Consensus and Voting

Hill.

Group decision-making has two linked processes. A **discussion process** may have an agenda, a facilitator, some reports and proposals. Plus the members may suggest some questions and changes for each proposal.

A **decision process** asks all members which proposals have enough support to be winners.<sup>2</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 decide some closely related options at the same time. And both reward blending compatible ideas. pages 9, 31 They are less divisive than yes-or-no voting. " 14, 46, 56 So more members want to help carry out the decision.

### Why Take a Vote

Discussing an issue well often resolves most parts, with mandates up to 100%. Yet we might want to decide some parts with the best voting tools because they strengthen some reasons for voting:

🚩 Choice ballots can **speed up meetings**. pages 27, 33

🚩 Secret ballots **reduce social pressure** and coercion.

🚩 Well-designed ballots and tallies **promote equality**: Even busy or unassertive people can cast full votes.

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## A Less Rigged Agenda Now!

Some meetings concoct a policy by a series of yes-no choices, with or without rules of order, agendas or votes. An early proposal might have to beat each later one. An early decision might preclude some later proposals. So “**stacking the agenda**” can help or hurt proposals.

Other meetings discuss the rival options all at once. But often, many members express **no backup choices**. So similar options split supporters and hurt each other. Then a minority pushing one option might seem to be the strongest group. Even sadder, a member with a well-balanced option but few eager supporters might drop it.

Too often, a committee chooses all the parts in a bill. Other members can say only yes or no to that **bundle**, which might include free-rider or wrecking amendments.

**Rigged votes** often build bad policy and animosity. To reduce these risks, let the voters rank more options.<sup>6</sup>

### Issue A, RCV Ballot A

<u>Rank</u>	<u>Option</u>
<u>3</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>4</u>	Postpone to a Definite Time <u>7</u> days
<u>5</u>	Refer the Bill to a Committee
<u>6</u>	No Change (a vote for gridlock exposed?)

The “Incidental Motions” do not wait for the ballot, e.g. a personal complaint or request.

Hill.

33

Hill.

## Summary and Index of Benefits

### Ranked Choice Voting Has Proven To

	<u>Pages</u>
• <b>Make voting easy</b> and more often effective.	14, 57
Give you power to rank a backup choice; so	33, 46
Reduce your risk of wasting your vote; so	12, 16
Vote worry free for your true first choice.	14
<b>Boost mandates as more voters count.</b>	11-17, 57
• <b>Reduce attack ads</b> that scare, anger and polarize.	14, 46
<b>Weaken gerrymanders</b> and spoilers.	14, 16, 32
• <b>Give fair shares</b> of reps to the rival groups; so	18
Give diverse candidates real chances to win; so	20
Give voters real choices and effective votes; so	17
<b>Make voter turnout stronger.</b>	61
• <b>Elect women</b> about twice as often as plurality; so	20
Accurate majorities win—also due to more: choices,	17
turnout, effective votes and equal votes per rep; so	21
<b>Make policies match public opinion better.</b>	21, 60

### New Related Legislative Rules Can

• <b>Elect a central chair</b> whose swing vote pulls	30-31, 56
reps from many factions to <b>moderate policies.</b>	8, 54
• <b>Give Fair Share Voting</b> for projects, savings, etc.	24
Let voters see each rep's FSV <b>spending.</b>	27
• <b>Reduce agenda effects</b> and scams.	27, 30, 33, 36, 54
<b>Streamline group decision making.</b>	27, 33, 36

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## ★ Social Effects and Uses

### These Are Tools Between People

Hill.

A group's decision rules pull its **culture** toward fair shares *or* toward winner takes all. They spread power wide and balanced, *or* narrow and lopsided. Other relations among members may follow their models.

Fair rules make **cooperation** safer, faster and easier. This favors people and groups who tend to cooperate. It may 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 might reduce political fears within our community; which helps us to be more receptive, creative and free.

So better rules can help us build better decisions, plus better **relationships**. Both can please most people. Fair rules won't please some who get money or self-esteem from war-like politics. But countries with fair rules tend to rank higher in social trust and happiness.<sup>1</sup> Voting is an exemplary tool between people.

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