“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 W. 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 spending.

**to Use and Enjoy**

Share this illustrated eBook with friends.

Grow support in your school, club or town.

Enjoy better politics, relations and policies.
Here are **three ways** to learn **four** voting tools that are inclusive, yet centered, quick and easy

**I. Voting Primer** tells the stories of the **four** tools

- Tragedies, Eras and Progress of Democracy .................. 2
- 1. Elect a strong **Leader** by Instant Runoff Voting ........... 8
- 2. Elect **Representatives** by Fair Representation .......... 14
- 3. Allocate **Budgets** by Fair Share Voting ............... **New** ........ 20
- 4. Enact a balanced **Policy** by a Condorcet Tally .......... 26

**Social Effects** and uses of the best tools .................. 33

- **Consensus** on one **Policy** or many **Budgets** .......... 34
- How to Try a Group-Decision Tool .......................... 36

**II. Workshop Games** let us be inside the **four** tallies


**III. SimElection™** games make tally patterns visible


**Back Matter**, Related reforms, About us .................. 56

- Countries with Plurality, **Runoffs**, or **Fair Rep** .......... 58
- ©, Glossary & Index, Endnotes & References ................ 60
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.1

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.2

What can big swings in other policies do?
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. For such a contest, the 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.

It's even worse at giving fair shares of council seats, funding shared projects, 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?
In the 19th Century
Winner-Take-All Districts → Off-Center Councils

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.⁴ It gets worse: a district's bias often makes it a “safe seat,” a captive audience for *one* party. So, this voting rule gives its voters either a very limited choice or **no real choice**.⁵

A few who do get choices can make a council swerve from side to side. Its majority (↑ above) sets all budget$ and policies—in another battle of **winner takes all**.
In the 20th Century  
Fair-Share Elections → One-Sided Majorities

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. So Fair Rep delivers fair shares of representation. 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 it enacts policies skewed toward its side.
In the 21st Century
Ensemble Councils → Balanced Majorities

$\quad $ Policies $\quad $ $\quad $

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**, plus a pivotal **midpoint**, that match the voters more accurately.  

$$\bigcirc + \bullet = \bigcirc$$

Later pages will show how a rule can elect a rep with wide support and views near the center of the voters. So winners will be near the center of a Fair Rep council. So they’ll be the council’s **powerful swing voters**, with incentives to help 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**.
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** blends compatible ideas from all sides. This process needs advocates for diverse ideas. And more than that, it needs independent *moderators*, who have power if they succeed as swing voters.

---

**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. We *measure* their success in a typical voter's education and income, freedom and safety, health and leisure.⁸

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 select projects or pick a policy will also show these qualities in our stories, graphics and games.
1. 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 chosen by voters spreading out across the political spectrum from left to right. 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.
Plurality Election

Here we see three rivals up for election. Each voter prefers the one 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. That is the legitimacy effective votes loan to a winner. A strong mandate to lead, legislate and govern is 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.

Answers: No. K. M.
Runoff Election

Only the top two from plurality advance to a runoff. We eliminate ("drop") the other candidates all at once. Who wins this runoff, K or M? Did one get a majority, Yes or No?

The two (teal) who had voted for L now vote for M. Did teal voters get more power than others, Yes or No?

Four "wasted votes" failed to elect a rep. More ballots became effective votes—a basic goal. Did the plurality election waste more votes, Yes or No? Did this runoff give a stronger mandate, Yes or 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.

Answers: M wins. Yes.
No, each voter gave one runoff vote. Yes. Yes.
Politics in Two Issue Dimensions

When more issues concern the voters, a voting rule keeps its character.¹

This photo shows voters choosing positions 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.

A voter may rank candidates on any issue. 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.
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**. (Turnout often goes down in old runoff elections.²)
- **Less divisive campaigns** come from candidates who act nice to earn backup votes from a rival’s fans.³ This fosters more inclusive thinking and consensus.⁴

*Pages 31 and 43 show ballots; 37 shows a game.
Running for president in South Korea, the former aide to a military dictator faced two reformers. The two got a majority of the votes but split their supporters. So the aide won a **plurality**. (37%, 28%, 27%, 8%) Years later, he was convicted of treason in the tragic killing of pro-democracy demonstrators.⁵

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, so backup choices get those votes.

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 may be helping women achieve parity in politics.⁶

**IRV elects leaders** in more and more places: Maine, Minneapolis and New York City have adopted it; plus Duke, Harvard, Stanford, Rice, Tufts, MIT, Cal Tech, Carlton, Clark, Hendrix, Reed, Vassar, the University of CA, IA, IL, MA, MN, NC, OK, TX, VA, WA, and more.⁷

Australian and Irish voters have used it for decades. They call it Preferential Vote or Alternative Vote. Many in the USA call it Ranked Choice Voting, RCV.
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. A candidate needs 5 votes to win a section.”

Section One
1 vote wasted on a loser

Section Two
5 C votes elected a rep

Section Three
5 B votes elected a rep

8 M votes; 3 were wasted in a surplus

4 K votes wasted on a loser

4 J votes wasted on a loser

An 11 voter minority got 2 reps; that’s majority power. But with 3 or 4 voters in each section they’d get no reps. So we see it’s erratic, easy to rig, and often unfair.
A better suggestion says, “Keep the class whole. Change the votes needed to win a seat from 1/2 of a section to 1/4 of the whole class plus 1; that’s 7 votes. A voter may rank a first choice and a backup choice. If his first loses, his ballot counts for his backup.”

Now the minority gets 1 rep and the majority gets 2. This is more fair, thus accurate, popular and strong.
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 strong.$^1$

🌿 **Women win** two or three times more often$^1$ so **Accurate majorities** win—also due to more: choices, turnout, effective votes and equal votes per rep so **Policies match** public opinion better.$^2$

Many people call this Proportional Representation, PR.
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; none was a captive audience for myths from the far side.

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.\(^3\)

New Zealand switched in 1996 from Single-Member Districts to a layer of SMDs within Fair Representation. They call this 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.\(^4\)
Why It Elects 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.¹

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.⁵ 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 one party decide that 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.⁶ Now they are incumbents with experience, power and allies.
Voting Rules and Policy Results

SMDs elect reps with a wide range of vote totals. So a majority of reps might not represent most voters. Fair Rep and MMP require more equal votes per rep. So each majority of reps does stand for most voters, producing policies closer to public opinion.³

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

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.⁷ Then the poorest schools and clinics are a blight; so 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.

The Fair Rep games and sims will show more.
3. Allocating Budgets

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 decisions 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 all big political groups
- Fair Share Voting by big groups of voters or reps

*Counties, co-ops and colleges, service clubs, investors and grant makers can gain by Fair Share Voting, FSV*

All big groups have the right to spend some funds.
Patterns of Unfair Funding

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

In 2010, a Chicago alderman gave $1,300,000 to PB.² 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.³

A costly winner makes many lose.

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, some 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.⁴
The principle of **Fair Share Voting** is:
**Spending power for groups, in proportion to their votes.**

That is, 60% of the voters can spend 60% of the fund, not all of it. Your ballot’s share of 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 of 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.³

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,**
  because it has to earn our “base number” of shares.

- **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.
  \[
  \text{cost} / \text{base} = 1 \text{ share} \quad \text{e.g.} \quad \$100 / 20 \text{ ballots} = \$5
  \]
  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, page 12.
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 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.

**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.

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 highest 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.
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.  \[
\text{cost / base} = 1 \quad \text{share} = 1 \text{ vote}
\]

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 own supporters. 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. My first choice got just enough votes, so my ballot paid 4% of the cost.  \[
\frac{100\%}{25 \text{ votes}} = 4\%.
\]

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?

* These are “reciprocals.”  \[
\text{None. None. Not much.}
\]
More Merits of Fair Share Voting

- 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 fund. This reduces their means and motives for fighting.
- Fairness builds trust in spending by subgroups and raises support for more. This can reduce spending at the extremes of individual and central control.

**New Tool**

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 and hold her accountable.

In workshop games we may eat our winning treats!
4. 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 to 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 pairwise tally table. And a simulation map shows 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.
Condorcet Test Number Three

Candidate L wins her next one-on-one test also. She has won majorities against each of her rivals. So she is the “Condorcet winner.”

“…such a mandate is no doubt a vital ingredient in the subsequent career of the winner.”

Could another person top candidate L, Yes or No? Hint: Is anyone closer to the center, Yes or No?

Who is the Condorcet winner on page 11, K, L or M?

Thus a Condorcet Tally picks a central winner: It can set the base number for FSV. page 24 But is it likely to spread spending fairly, Yes or No?

It can elect a moderator to a council. page 6 But is it likely to elect diverse reps, Yes or No?

Is a CEO more of a moderator or a leader?

Answers: Yes. Yes. L. No. No. Discuss this.
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 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.²)

**Why Use a Condorcet Tally, CT**

- **No split-vote** worries as duplicates don't help or hurt each other.² The ad hoc majority ranks *all* of their favorites over the other options. Their top one wins.

- **Choice ballots** rank the related options on one ballot, *Simplify* the old rules of order and *speed up* voting.
  *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.
  This saves time and builds respect for democracy.

* See pages 31 and 66.
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. Voters on the **center and right** give it a majority over any **left-wing** policy. At the same time, voters on the **center and left** like it more than any **right-wing** policy. **All sides** like it more than a narrowly-centrist policy.

"Our center is near me."

"I think it's right here."

"I am the center!"

✓ Where is 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 6 and 52. 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. Games will put us inside each tally to feel how it works.
By plurality rule, candidate M lost on page 9. 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**, bluish voters can elect M or an even less central candidate who might **polarize** the council. But did this gerrymander change the **CT** winner, L? Many wasted votes often can expose gerrymanders; **Fair Rep** reduces both, as shown on pages 14 and 15.

![Voters for K](image)

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

To steal 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.

**Manipulations** of plurality rules are, sadly, 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. So you don’t need to worry about your own or other voters’ tactics.

**Answer:** *No because L still wins the Condorcet Tally.*
A Less Rigged 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 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 can appear 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 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.

Ballot On Issue A

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

An ‘Incidental Motion’ does not wait for a ballot.
Summary and Index of Benefits

**Ranked Choice Voting** has proven to make voting easy, free of worries about tactics. Let you rank your backup choices so cut your risk of wasting your vote so add power and freedom to your voting.

Cut wasted votes to strengthen mandates. Weaken spoilers and gerrymanders. Reduce the payoffs to big campaign buyers. Reduce attack ads and the anger among voters.

Give fair shares of reps 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.

Women win two or three times more often so accurate majorities win—also due to more: choices, turnout, effective votes, and equal votes per rep so policies match public opinion better.

Related Legislative Rules can elect a central chair whose swing vote pulls reps from many factions to moderate policies.

Give members Fair Share Voting for optional budget items. Let voters see each rep's spending.

Cut agenda effects and scams speed-rank more options at once.
A group’s decision rules pull its culture toward fair shares or winner takes all. They spread power wide and balanced or narrow and lopsided. Less formal decisions by members may follow their models.

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 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. Voting is an exemplary tool between people.
Consensus and Voting

Group decision-making has two linked processes. A **discussion process** may have an agenda, a facilitator and some 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.²

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. Both reward blending compatible ideas. pages 7, 29

They’re less divisive than yes-or-no voting. p. 12, 43, 54

So more members feel they own and want to help carry out each 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. Why?

The best rules *strengthen* some reasons for voting:

- Choice ballots can **speed up meetings**. pages 25, 31
- Secret ballots **reduce social pressure** and coercion.
- Well-designed ballots and tallies **promote equality**: Even busy or unassertive people can cast full votes.
Groups that seek consensus on basic agreements may vote on other issues: They may vote on a **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 or 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 must 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, can 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. 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.³ So most of us want both kinds of tools.

This primer told the **stories** of the best voting tools. The games will let us **touch** the simple tallies.
How to Try Your New Tools

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 they amend it with “special rules of order” to make their decisions more popular, stable and quick.¹

---

**Steering Analogy**

When choosing a voting rule, a new Mercedes **costs** little more than an old jalopy. That cost 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.
II. Workshop Games

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

A tally board has
- A card for each voter,
- A column for each option,
- A finish line for the favorites.
Tabletop games 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, **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 **eliminated** Anna, so **voter JJ moved** his card. Then Bianca lost; **BB** and **GG moved** to their backups. They were free to choose different backups.¹

<table>
<thead>
<tr>
<th>Anna</th>
<th>Bianca</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminated 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Dropped 2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

JJ ranked Anna > Celia.  
GG ranked Bianca > Diana.
M, L and V ranked Celia #1.

D, Z and C ranked Diana #1.
Instant Runoff Quiz

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 1 candidate can reach 50% plus a vote, T or F?
5. Name four cities or schools that use IRV. See page 13.

Answer questions 1, 2 and 3 for each voting rule.

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

RCV Ranked Choice Voting includes IRV and STV

2. Fair Rep by Single Transferable Vote

A tabletop game 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, the Church of England, Cambridge, Harvard, MIT, Oberlin, Oxford, Princeton, UC Cal, UC Davis, UCLA, UCSB, UT Austin, and Vassar. Most use ballots tallied by computer.

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

STV answers: See page 16. Yes. 75% + 3 votes.
3. Fair Shares Buy Shared Goods

For our tabletop tally of Fair Share Voting (FSV)

- We each get three 50¢ voting cards to buy treats.
- We decided an item needs modest support from six of us to prove it’s 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 in 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.)

- 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.
- Stop when we’ve paid up all items still in the game.

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. Rule B reduces the need for it.
A budget level needs enough cards to pay its cost. So a $3 bottle of OJ needs its voters to fill one column; the $6 size needs to fill one more. We could let any voters who want only the $6 size fill that column first. But if the $3 column loses so does the $6.

I can’t afford to help items I rank below a costly winner. Voting for it at a lower cost lets me limit my contribution; it leaves me more money for more favorites. Voting takes a tad longer but the results are likely to please me more.

Similar proposals, like these chocolates \( \uparrow \rightarrow \) can split a group so they lose by plurality rules.

A co-op lets any members propose a plan for the ongoing budgets. Some voters feel it’s easier to rank a few plans than many line items, some at 2 or 3 levels. A Condorcet Tally can enact one plan. But it probably will not give fair a share to each big group.\(^2\)

Each year, the planning team’s budget plan wins. Many members say voting has no effect, so turnout is low. The team could present more than one plan.
Ranked Choice Ballots

A small tally board can 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 catch frauds and errors.³

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 1ˢᵗ choice, 2ⁿᵈ choice, 3ʳᵈ etc. Ranks can reveal a great variety of opinions. Surveys find most voters like the power to rank candidates.⁴

Party Menu

Fill only one “O” on each line.

<table>
<thead>
<tr>
<th>Treats Ballot #2</th>
<th>Best</th>
<th>Ranks</th>
<th>Worst</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fruit &amp; Nut Platter</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Chocolate Brownies</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>6 Choc. Chip Muffins</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>2 Choc. Fudge FroYos</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>1 Choc. Cheesecake</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3 Choc. Mousse Hearts</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Each serves 6 for $9 with a group discount.
To win a Condorcet tally, an item must top each rival, one-against-one. Two games show how it works.

1. Flag C stands at our center, by the median voter. Flags A, B and D surround C, 2 m. or yards from it.

We asked 9 voters, “Are you closer to A than B? If so, please raise a hand.” One raised his hand. We entered A vs. B, etc. in a pairwise table below.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>for A</td>
<td>—</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>for B</td>
<td>8</td>
<td>8+1=9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>for C</td>
<td>6</td>
<td>6</td>
<td>—</td>
<td>5</td>
</tr>
<tr>
<td>for D</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>4+5=9</td>
</tr>
</tbody>
</table>

The nine voters gave C a majority over each rival.

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 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?

Workshop Finale and Notes

Our ballots from page 43 let us compare some rules. Which 1 wins by plurality? Hints: 5 chocolates vs. 1 nut; and the first name on a ballot gets a 2% to 9% boost.¹⁵

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! 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 32.)

It’s easy to host a workshop in a class or a club.⁶ In an hour, 20 voters can review plurality, try IRV, then try STV with colors as pictured or FSV with treats.

The primer and workshop webpages say a bit more. A teacher’s page has handouts, ballots and voting cards.

Hands-on games and shared treats made memories of how each tool works. Next, realistic simulations and national statistics will reveal each tool’s effects.
These charts show **Choice** ballots electing **five** reps. A little shape is a voter’s ballot; a big one is a candidate. Each little ballot has a color and shape like its current top-ranked choice, the closest remaining candidate.\(^1\)

Sim players position candidates to get votes (page 54). In chart 1, the first count shows each candidate's current share of the votes; 16.7% will win a seat and a halo! After this round of counting, the weakest candidate will lose and get an X. Which one will be the first to lose?

Answer: ✰ 3.7%

---

\(^1\) The chart example is not provided, but it is understood that each candidate's share of the votes is visually represented by the size and color of the shapes corresponding to the voter's ballots.
The Weakest Lose, One at a Time

In chart 2, the first loser gets an X. Her ballots change color and shape as each counts for its new top choice, a close rival. So the nearby fields of color grow.

In 1, the gray box holds 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 moderates or centrists inside that box.
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 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—in **3D**!
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, play with lifelike normal patterns.¹

In 13, the box holds half the voters and 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? Well centered?

Answers: No. Over 83%. Yes. Yes. Yes.
3. Simulation of Fair Share Voting

Fair Share Voting helps voters self organize many ad hoc groups big 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 items such as projects or optional items in ongoing budgets; eg. FSV can target repairs for roads but not new routes.

One-Time Resource Allocations

OTRAs

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 your screen.

This is a proposed blue-flower garden. It is far from what 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 for 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 $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?

Answers: $60, $60, $60, $60. Yes for sunflowers.
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.
1. The **Loring Ensemble Rule** elects a few reps by a Condorcet Tally, the rest by an STV tally; see page 6. On this next map, a 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**. No rep has a position in the lower right, so the council is not well balanced. Each winner’s name is in **italic**.

3. **Full Rep** by five-seat STV elects **Bev, Di, Fred, GG** and **Joe**. Each name is **underlined**. It eliminated **Al**!

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 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” used to moderate a council's action.
Well Centered and Balanced

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

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.
4. 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.

In contrast, STV requires the most intense support, first-rank votes, to avoid early elimination. IRV does too, with a high finish line of 50% + 1 vote.
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.

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2022</th>
<th>2024</th>
<th>2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
</tr>
<tr>
<td>Election</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
</tr>
<tr>
<td>Reform</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
<td>![Green Bar]</td>
</tr>
</tbody>
</table>

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

**Strengthen Votes, Mandates and Policies**

Good rules help us organize from the bottom up. They expand the base of power, the numbers of effective votes and voters supporting:

- a **CEO** or a **Chair** from a plurality to a majority 13, 29
- a **Council** from a plurality to over three quarters 15
- the **Budgets** from a few power blocs to all members 22
- a **Policy** from a one-sided to an over-all majority. 28

Votes for real choices tally up democratic power. It needs strong new tools to overrule new tools for money, military and media. The stronger mandates empower action to achieve widely-shared goals and so earn respect for democracy.
A news firm might inform us better if subscribers steer more parts of it than investors or advertisers do. VoterMedia.org has low-cost methods for any group: Use FSV 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.¹ Such nameless gifts or FSV can cut corrupt paybacks. Big sponsors aim $ to buy the few swing-seat SMDs. That's harder for them under IRV or Fair Rep.²

“It’s very hard to see us fixing the climate until we fix our democracy.” —Dr. James Hansen³

Good schools, taxes and voting may go together.⁴ Balloon 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. Then the candidates include two with records in the job! Good rules do not hurt a party with extra nominees.

Citizens’ assemblies⁵ and their referendums can get more choices and control by using Condorcet Tallies. The laws on voting rules, reps’ pay, sponsors, etc. need referendums because all reps have conflicts of interest.
Civil Society Builds 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.

The Age of Enlightenment built **thinking skills** that led to revolutions for **human rights**. Now rights can include Fair Representation and Fair Share Voting.

A big need for workers has often raised their pay and political strength, thus the **political equality** of society. Now more progressive taxes 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?

CEOs may need to be assertive, but not authoritarian. That corrupts commerce, democracy and human rights.

How can voting tools **fight abuses of power**?

Better Voting, Better Living

Data on the next page suggests, to elect reps who enact superb health, education, tax¹⁰ 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 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 avg. 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; 7th UN Survey of Crime Trends
Averages for voting rules are weighted by population.

The table's worst numbers are in bold.
<table>
<thead>
<tr>
<th>Country</th>
<th>Women Seats</th>
<th>Women %</th>
<th>Health Turnout</th>
<th>Health Math</th>
<th>Poverty%</th>
<th>Murder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fair Rep</strong></td>
<td>page 14</td>
<td>37%</td>
<td>75%</td>
<td>15</td>
<td>503</td>
<td>13%</td>
</tr>
<tr>
<td>Sweden</td>
<td>14</td>
<td>44</td>
<td>86</td>
<td>23</td>
<td>502</td>
<td>8</td>
</tr>
<tr>
<td>Finland</td>
<td>13</td>
<td>42</td>
<td>67</td>
<td>31</td>
<td>548</td>
<td>4</td>
</tr>
<tr>
<td>Spain</td>
<td>6.7</td>
<td>41</td>
<td>69</td>
<td>7</td>
<td>480</td>
<td>20</td>
</tr>
<tr>
<td>Norway</td>
<td>8.7</td>
<td>40</td>
<td>76</td>
<td>11</td>
<td>490</td>
<td>5</td>
</tr>
<tr>
<td>Belgium</td>
<td>8.4</td>
<td>39</td>
<td>89</td>
<td>21</td>
<td>520</td>
<td>13</td>
</tr>
<tr>
<td>Denmark</td>
<td>15</td>
<td>38</td>
<td>88</td>
<td>34</td>
<td>513</td>
<td>4</td>
</tr>
<tr>
<td>Netherlands</td>
<td>150</td>
<td>37</td>
<td>80</td>
<td>17</td>
<td>528</td>
<td>10</td>
</tr>
<tr>
<td>Austria</td>
<td>19</td>
<td>28</td>
<td>82</td>
<td>9</td>
<td>505</td>
<td>8</td>
</tr>
<tr>
<td>Switzerland</td>
<td>7.8</td>
<td>28</td>
<td>49</td>
<td>20</td>
<td>530</td>
<td>10</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>21, 4</td>
<td>19</td>
<td>81</td>
<td>36</td>
<td>407</td>
<td>-</td>
</tr>
<tr>
<td>Uruguay</td>
<td>30, 2</td>
<td>13</td>
<td>90</td>
<td>65</td>
<td>409</td>
<td>-</td>
</tr>
<tr>
<td><strong>Mixed, MMP</strong></td>
<td>p17</td>
<td>36%</td>
<td>71%</td>
<td>26</td>
<td>505</td>
<td>9%</td>
</tr>
<tr>
<td>Germany</td>
<td>19, 1</td>
<td>39, 13</td>
<td>72</td>
<td>25</td>
<td>514</td>
<td>16</td>
</tr>
<tr>
<td>New Zealand</td>
<td>50, 1</td>
<td>45, 15</td>
<td>77</td>
<td>41</td>
<td>500</td>
<td>15</td>
</tr>
<tr>
<td><strong>STV, IRV</strong></td>
<td>p 36, 12</td>
<td>34%</td>
<td>89%</td>
<td>29</td>
<td>517</td>
<td>14%</td>
</tr>
<tr>
<td>Australia⁹</td>
<td>6, 1</td>
<td>38, 25</td>
<td>93</td>
<td>32</td>
<td>520</td>
<td>15</td>
</tr>
<tr>
<td>Ireland</td>
<td>4</td>
<td>15</td>
<td>70</td>
<td>19</td>
<td>501</td>
<td>10</td>
</tr>
<tr>
<td><strong>Runoff</strong></td>
<td>page 10</td>
<td>27%</td>
<td>60%</td>
<td>1</td>
<td>496</td>
<td>11%</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
<td>27</td>
<td>60</td>
<td>1</td>
<td>496</td>
<td>11</td>
</tr>
<tr>
<td><strong>Plurality</strong></td>
<td>page 4</td>
<td>21%</td>
<td>58%</td>
<td>34</td>
<td>486</td>
<td>19%</td>
</tr>
<tr>
<td>Canada</td>
<td>1</td>
<td>26</td>
<td>68</td>
<td>30</td>
<td>527</td>
<td>15</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1</td>
<td>29</td>
<td>66</td>
<td>18</td>
<td>495</td>
<td>10</td>
</tr>
<tr>
<td>USA 2016*</td>
<td>(2018) 1</td>
<td>19 (23)</td>
<td>55 (49)</td>
<td>37</td>
<td>474</td>
<td>21</td>
</tr>
</tbody>
</table>

⁹ Each Australian state elects 6 senators at a time by STV; each House district elects just 1 member by IRV.
* USA turnout often drops ~15% in non-presidential years.

AccurateDemocracy.com/d_stats.htm has more.
More Endorsements

“I like your thoughtful application of the best voting techniques to the PB process.” [Budgets, pages 22, 35]
—Tree Bressen, a leading author on group process, Group-Process Pattern Language, groupworksdeck.org

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

Many groups endorse ranked choice voting.
Leagues of Women Voters: Arizona, California, Florida, Maine, Massachusetts, Minnesota, North Carolina, Oklahoma, Oregon, South Carolina, Vermont, and Washington.
Organizations: Cities and colleges on pages 13 and 40.
The Academy Awards (Oscars), Common Cause, Sierra Club, Church of England, Unitarian Universalist Association...
Journalists: David Brooks 6/1/2018, Hendrik Hertzberg…
Celebrities: Jennifer Lawrence 6/5/2018, John Cleese, Dr. James Hansen, Krist Novoselic, …
US Senators: John McCain, Barak Obama, Bernie Sanders…
US Reps: Keith Ellison, John Anderson, Abner Mikva, John Porter, Jamie Raskin, …
Parties: Democrats of California, Colorado, Massachusetts, and Maine; Green Party US, Libertarian Party, Minneapolis, MN DFL Party; Republicans in Alaska, and Utah.

More at http://www.fairvote.org/endorsers
**About Us**

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

It has a proven record since 1992 as a trailblazer that advances and wins electoral reforms at the local, state, and national levels 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

In 1990, John R. Chamberlin and Samuel Merrill III each allowed me to use their simulation research results to advance a hybrid Condorcet-IRV rule. In the 1990s, I created *PoliticalSim™* and *SimElection™*. They compared 30 single- and multi-winner rules from around the world and were used in a few universities. Pages 46-54 show graphics from the simulation games. By 1996 I had built the *Democracy Evolves* website. Then I helped FairVote as a webmaster and librarian. For ten years, I’ve cheered Dr. Robert Tupelo-Schneck, Ian Little, Adder, Kathryn Simmons and Twin Oaks Community for developing Fair Share Voting. (page 22)

My goals are better group-decision results (page 59), through systemic changes (e.g. pages 32, 56), through better tools between people (e.g. pages 22, 25 and 33).
We feel this information should be free. So we give it a Creative Commons License, make it free on the Web and print a few copies.

Please let others share this to improve voting in your clubs, college, city and state. What will you do or give to live in a more educated and accurate democracy? Consider helping FairVote.org


© CC BY-SA 3.0 2020, Robert Loring
AccurateDemocracy and its logo are trademarks. We encourage reviews, reprints and translations.

Kindly send any requests, questions, comments or compliments to me at VotingSite@gmail.com
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 effective votes loan to a winner; contrast a wasted vote. basic goal .......... 9-15, 55

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

A **Plurality** has the most votes—often not a majority.
" rules use yes-or-no voting; contrast RCV. .....4, 9, 21, 29-, 59

A **Ranked Choice Vote** lets you rank a 1st choice and backups. a tool for effective votes and fair shares. 12-, 31, 38-, 43, 46-

A **Threshold** to win, quota or finish line is the percentage of the votes a rule requires for a win. ............4, 12, 15, 40, 46

A **Wasted vote** went to a loser, a surplus or a powerless rep.
It measures weakness in a voting result. ............10-16, 21, 25

A **Wrecking amendment** ruins a bill’s chances or effects.
a Free-rider " doesn’t relate to the original bill. .......28, 31, 32

See also the Index of Benefits on page 32.

**Acronyms** and Synonyms

Consensus process ................................................................. 31, 34-

**CT** Condorcet Tally, Pairwise Comparison ..... 26-28-, 44, 52-54

**EC** Ensemble Council........ New ................................. 6-, 29, 52-54

**FSV** Fair Share Voting....... New .................. 20-22-, 34-, 41-43, 50-

**FR** Fair Rep, Fair Representation (US), see also STV, PR Proportional Representation; ...................... 5, 14-16-, 59

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

**STV** Single Transferable Vote for FR. ............... 40, 46-49, 52

**IRV** Instant Runoff Vote (US), Majority Preferential Vote (Aus)
AV Alternative Vote (UK) or Hare for SMD. ...... 12-, 37-40, 54

**SMD** Single-Member District elects one rep. .......... 4, 14, 17
Some basic questions to ask about any voting rule:
How many groups have used it, with how many voters, repeated over how many years? How competitive were their elections? What percentage of voters turned out to vote? What percentage of votes were wasted? Was its pattern of winners erratic or consistent? If it was consistent, was it fair share or winner takes all? If winner takes all, was the winner from one side or central? If it was central, was the winner’s appeal wide or narrow? How often in past elections was it manipulated by a “spoiler,” a gerrymander, strategic voting, or other rigged votes?

Some basic questions to ask about voting research:
Are the data from: 1) Real competitions, 2) Computer sims with: A) normal distributions of voters and candidates B) weird distributions, 3) Mathematical proofs, 4) Concocted examples.

Most articles, books and web pages cited here use real data or realistic simulations. Other kinds of data risk “garbage in, garbage out,” or might be fascinating mathematically but are usually useless or even misleading for most situations.

Why do this work? The multiplier effects are huge as a small budget for voting can steer much bigger budgets for many years, set a pattern for other group decisions, and are often self-reproducing, with little or no added cost per user.

Online, my thanks page explains how extremely fortunate I have been to find this project and the wonderful people who have done most of the R&D for it.
Endnotes by Chapter

The endnote numbers restart at one for each chapter. Good pdf viewers let you click on each entry’s Web link. I abbreviate and format as needed to fit the page width. Almost all my sources 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. It covers some AccurateDemocracy.com (ⓐ) pages including a_primer.htm a_workshop.htm d_stats.htm. The website has free apps z_tools.htm, animations d_stv2d.htm or p_tools.htm, and Web links z_bib.htm

FairVote.org has model ballots and bylaws, stories, analysis, an activist_toolkit, videos and more.

I. Introduction, Tragedies, and Progress

2 Durbin, Kathy. Tree Huggers: Victory, Defeat & Renewal in the Northwest Ancient Forest Campaign, (Seattle, The Mountaineers, ‘96)
5 FairVote, Monopoly Politics 2020, fairvote.org/monopoly_politics
7 See pages 28, 29, and 48-50.
8 Statistics on pages 58-59 compare stable democracies.
1. Electing a Leader


“RCV Outperforms Runoffs” at FairVote. https://tinyurl.com/yxttmxhg

3 Ranked Choice Voting Civility Project, FairVote. https://www.fairvote.org/rcv_civility_project


2. Electing Representatives


Page 58, Statistics of Nations. @ d_stats.htm


3. Allocating Budgets, Fair Share Voting @ p_intro.htm

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


2 Moore, Joe Participatory Budgeting in the 49th Ward, http://participatorybudgeting49.wordpress.com/ In 2014 voters in Cambridge, Massachusetts saw the same pattern.


@ download/workshop/gasto-equitativo.pdf .ppt and .odp .


5 Oaks, Adder. “Participatory Budgeting in an Income Sharing Community;” Communities: Life in Cooperative Culture; #175, 6/2017. ic.org/participatory-budgeting-in-an-income-sharing-community/Leaves of Twin Oaks, 2013. The base of support to cut a budget was 55%; some managers grumbled but didn’t try to protest.
4. Enacting a Policy

Condorcet Tally

1 Chamberlin et al above, also Merrill. If A tops B, B tops C, and C tops A, we have a “voting cycle.” Tally IRV with the motions in the top voting cycle.


"Strategic Voting and Nomination"; Social Choice and Welfare; 2014


Loring One-winner Rule, LOR

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

3 See the captions on pages 13 and 54.

4 https://en.wikipedia.org/wiki/Primary_challenge


6 https://www.accuratedemocracy.com/l_motion.htm

★ Social Effects and Uses

1 Bennett-Smith, Meredith. World's Happiest Countries 2013, http://www.huffingtonpost.com/2013/05/28/worlds-happiest-countries-2013-australia_n_3347347.html; Cites UN, OECD.

OECD Better Life Index http://www.oecdbetterlifeindex.org

Rothstein B. and, E. Uslaner. All for All: Equality, Corruption, and Social Trust; World Politics, Vol. 58, #1, October 2005: 41-72


2 Susskind, Lawrence and Jeffery L. Cruikshank; Breaking Robert’s Rules; (Oxford University Press, 2006).


LiquidFeedback.org Free software to help groups make decisions


4 Accurate Democracy motions for Condorcet

https://en.wikipedia.org/wiki/Committee_of_the_whole
II. Workshop Games, hold a vote ⓐ a_workshop.htm

1 A voter’s ranks may skip around, e.g. 1st left, 2nd far right, 3rd center
2 Loring, Robert. Other Budget Rules, ⓐ q_other.htm,
www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=25120
5 Krosnick, Jon A. "In the Voting Booth, Bias Starts at the Top", NY Times, nytimes.com/2006/11/04/opinion/04krosnick.html?_r=0
6 Workshop video 1, youtube.com/watch?v=oHRPMJmzBBw
Workshop Video 2. youtube.com/watch?v=_5SLQXNpzsk
A ballot by the inventor of FSV http://tupelo-schneck.org:8080/tag/

III. Simulations, compare, ⓐ d_stv2d.htm, p_tools.htm
See John R. Chamberlin et al, or Samuel Merrill III, or James Green-Armytage above.
99 Brady, Henry E. "Dimensional Analysis of Ranking Data", American Journal of Political Science. 34 (11/90)

★ Back Matter, compare rules, ⓐ z_review.htm,
Ackerman, Bruce and Ian Ayres, Voting with Dollars: A New Paradigm for Campaign Finance; (New Haven: Yale Univ. Press, 2002).
2 Gifts to “spoilers” are less effective under Ranked Choice Voting. Multi winner districts make it hard to target money on just one seat.
See also, “conservation ... depends on effective governance;” https://www.nature.com/articles/nature25139.
4 Compare the math scores on, pages 58-59. ⓐ d_stats.htm


6 Tishman, Shari and Albert Andrade; Thinking Dispositions, https://pdfs.semanticscholar.org/57cb/278acf38e9da6490d266260f9a9c50d20da3.pdf Many people use these ways of thinking at times. But fewer have a disposition to use them routinely. learnweb.harvard.edu/alps/thinking/docs/dispositions.htm

7 See progressive taxes in Wikipedia pages on Carbon_tax, Consumption_tax#Expenditure_tax, Land (Georgism), Speculation (Financial_transaction_tax), and Wealth_tax.


9 Loring, Robert; “Egalitarian versus Authoritarian Values” https://accuratedemocracy.com/a_quotes.htm#egal


Back Cover, See page 60.
Resources, for education and action

AccurateDemocracy.com, gives you free software, animations of STV or Fair Share Voting, and pages on each voting tool, a a_primer.htm, a a_workshop.htm, d_stats.htm, SimElection.com, and references z_bib.htm

FairVote.org is a nonpartisan catalyst for electoral reforms. It is the best source for news, analysis and resources about voting reform in U.S. cities, states and colleges. It gives you model ballots, bylaws, editorials, research reports, voter education flyers, testimonials and videos. Ranked Choice Voting Resource Center.

New Tools

Kindly send any requests, questions, comments or compliments to me at VotingSite@gmail.com