“This is the site for learning about democracy.”
“A huge contribution to the democracy cause.”
“Congratulations on a brilliant piece of work.”

**Touch, See and Hear How**

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

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

**Then Act**

Share this illustrated booklet with friends.
Build support in your school, club or town
Enjoy better relations, politics, and policies,
panels 51, 32, and 58.

---

**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 over eight districts. So for over 100 years, they won no voice in Congress. As voters, they were silenced – with tragic results.

The Northwest was torn apart for many years as forestry policies were reversed again and again. Hasty logging in times of weak regulation wasted resources. Sudden limits on logging bankrupted some workers and small businesses. If this policy pendulum swings far, it cuts down forests and species, families and towns.

What’s Wrong?

We all know how to take a vote when there are only 2 candidates: We each vote for 1 or the other. For such a contest, the yes or no votes say enough. But as soon as 3 candidates run for 1 office, the situation becomes more complicated. Then that old yea or nay voting is no longer suitable. 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.
In the 19th Century
Winner-Take-All Districts = Off-Center Councils

Typical Council Elected By Plurality Rule

In the 20th Century
Fair-Share Elections = One-Sided Majorities

Typical Council Elected By Fair Representation

Eras, Voting Rules and Typical Councils

Some English-speaking nations 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. It gets worse: a district's bias often makes it a "safe seat" for one party. So the voters are given either a very limited choice or no real choice.

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

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

It leads to broad representation of issues and views. But usually there is no central party (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.

In the 21 Century
Ensemble Councils = Balanced Majorities

Ensemble Elected By Central And Fair-Share Rules

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

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

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

Progress of Democracy

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. And so does the average of rival plans.

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

A broad, balanced majority works to enact broad, balanced policies. These tend to give the greatest chance for happiness to the greatest number of people. Their success is measured in a typical voter's education and income, freedom and safety, health and leisure.

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

### Nine Voters

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

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

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

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

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

### Runoff Election

To hold a runoff, we eliminate all but the top two.

Who wins the runoff here? K, M

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

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

Runoffs almost 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.

### Politics in Two Issue Dimensions

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

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

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

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

### Seventeen voters take positions on two issues:

**more or less regulation** and **taxes for services**

Kay wins a plurality. Em wins a runoff.
The goal of Instant Runoff Voting is this:
A majority winner, from a single election.

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

Now your vote counts for your top-rank candidate. If no candidate gets a majority, the one with 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 weak a mandate and no costly runoff election.
- High voter turnout also creates a strong mandate; turnout often drops during a runoff election.2
- Less divisive campaigns because many candidates act nicer to get backup votes from a rival’s supporters.3

*Panels 31 and 39 show ballots.

---

**ELECTING A COUNCIL**

**Three Single-Winner Districts**

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

5 B votes elect her in the top group as only 4 vote J.

5 B

votes
elect
a rep

Vote B

Vote B

Vote J

4 B

wasted
on a
loser

5 C

Vote C

Vote C

Vote K

4 K

wasted

-1 D-

Total
wasted
votes
1 + 11

Vote M

Vote M

8 M

3 surplus
votes
wasted

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

---

**Instant Runoff Voting Patterns**

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

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

1) Violet loses; so backup choices get those votes.

The IRV games will show more detail.

This majority mandate helps a chief executive work with reps on the biggest side of a typical council.

IRV elects leaders in more and more places: Maine, Minneapolis and San Francisco now use it; plus students at Duke, Harvard, Stanford, Rice, Tufts, MIT, Cal Tech, Carlton, Clark, Hendrix, Reed, Vassar, the Universities of CA, IA, IL, MA, MN, NC, OK, TX, VA and WA.5

Australian and Irish voters have used it for 100 years. They call it Preferential Vote or Alternative Vote; many in the United States call it Ranked Choice Voting.

---

**One Fair-Representation District**

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

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

---
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 features:
- 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 competing groups so
- Diverse candidates get a real chance of winning so
- Voters have real choices and effective votes so
- Voter turnout is strong.¹
- Women win two or three times more often² so
- Accurate majorities win—also due to real choices, high turnout, effective votes and equal votes per rep so
- Policies match public opinion better.³
- It’s more fair, for a more ethical organization.

This is often called Proportional Representation.

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.

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.⁶ A team can have class, ethnic and religious diversity. And that gives us diverse reps to approach for help.

more: competition, real choices, voter turnover, effective votes, stronger mandates, diverse reps, women reps, popular policies

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

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

Fair-Shares and Moderates

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

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

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

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

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.²

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

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

Councils with fewer women tend to do less for health care, childcare, education and other social needs.⁸ Then the poorest schools and clinics are a blight, as are the 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.
**SETTING THE BUDGETS**

**Fair Shares to Buy Shared Goods**

E lecting reps is the most obvious use of voting rules. Rules to set policies and budgets 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 for rich men, poor men, colored men, women.
- Fair Representation for big minority parties.
- Fair Share Voting by big groups of voters or reps.

*Counties, co-ops and colleges can gain by Fair Share Voting*

| $ | $ | $ | LAW | $ | $ | $ | $ |

All big groups have a right to allocate some funds.

---

**Patterns of Unfair Spending**

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

In 2010, a Chicago alderman gave $1,300,000 to PB.² But a plurality rule made the votes and **voters unequal**. Each vote for the park won $501. (its price / its votes) But if given to fund the bike racks, each won only $31. That’s too unfair. Even worse, more than half the votes were wasted on losers.³

*A costly winner makes many lose.*

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

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

---

**The principle of Fair Share Voting is:**

**Spending power for all, equal to their share of the votes.**

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

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

Then your ballot offers a grant to each of your top choices—as many as it can afford. A tally of all the ballots drops the project with the fewest offers. This repeats until it drops or fully funds each project.³

---

**Some Merits of Fair Share Voting (FSV)**

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

---

**Fair Share Voting Works This Way**

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 share, 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.

- ✓ Fair shares spread the joy and opportunities.

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

**FSV protects the majority** right to spend a majority of the money by eliminating split votes, as did IRV, and surplus votes, as we’ll soon see.
Adjusting Budgets, optional

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

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

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

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

A group of 100 set out base number at 25 votes. My first choice got just enough voters, so my ballot paid 4% of the cost. 100% / 25 votes = 4%.

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

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

None. None. Not much.

More Merits of Fair Share Voting

After discussion, one poll quickly sets many budgets. It reduces agenda effects such as leaving no money for the last items or going into debt for them.

It lets sub-groups pick projects; so it’s like federalism but without new layers of laws, taxes and bureaucracy. And it funds a big group even if they’re scattered.

Each big group controls only its share of the money. This reduces their means and motives for fighting.

Fairness builds trust in spending by subgroups and can raise support for more. This can cut spending at the extremes of individual and central control.

New

New Tool

Enacting a Policy

Condorcet Test Number Two

The Runoff on panel 10 is a one-against-one contest between the positions of candidates M and K. Five voters like M’s position better than K’s.

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

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

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

<table>
<thead>
<tr>
<th>Voters for K</th>
<th>Vote L</th>
<th>Vote L</th>
</tr>
</thead>
<tbody>
<tr>
<td>K is nearest four voters.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vote L</th>
<th>Vote L</th>
<th>Vote L</th>
</tr>
</thead>
<tbody>
<tr>
<td>L has six votes.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vote for M</th>
</tr>
</thead>
<tbody>
<tr>
<td>M has three.</td>
</tr>
</tbody>
</table>
The goal in a Condorcet Tally is this: Majority victories, over every single rival.

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

- The winner must top every rival, one-against-one.
- If she wins all her tests, she wins the tournament.
- Each voting test sorts all of the ballots into two piles. If you rank option J higher than D, your ballot goes to J.
- The Condorcet Tally winner is central and popular. Most voters of the center and right like it more than each leftist policy. At the same time, most voters of the center and left like it more than a rightist policy.

Why Use Condorcet Tally (CT)

- No split-vote worries as duplicates don’t help or hurt each other. The ad hoc majority ranks all of their favorites over other motions. Their top one wins.
- Ranked choice ballots poll related motions all at once, simplify the old rules of order and speed up voting. They reduce agenda effects, from simple errors to free-rider and wrecking amendments. Panel 67
- A balanced process 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 money and builds respect for leaders.

Resist Rigged Votes

By plurality rule, candidate M lost on panel 9. Let’s say her party gerrymanders the borders of her district. They add voters (pictured in purple) who tend to like her party and exclude some who don’t. In this safe seat, blush voters can elect M or an even a less central candidate who might polarize the council. But did this gerrymander change the CT winner, L?

\[
\begin{align*}
\text{Voters for K:} & \quad 3 \text{ rank } K>L>M. \\
\text{Vote L:} & \quad 2 \text{ rank } L>M>K. \\
\text{Vote for M:} & \quad 4 \text{ rank } M>L>K.
\end{align*}
\]

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

Manipulations of plurality rules are, sadly, not rare. And point voting begs for extreme high and low votes. But a chance to manipulate IRV (or Condorcet/IRV) is rare, risky and hard. So you don’t need to worry about your own or other voters’ strategies.

Policies with Wider Appeal

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

The Condorcet Tally winner is central and popular. Most voters of the center and right like it more than each leftist policy. At the same time, most voters of the center and left like it more than a rightist policy. All sides can join to beat a narrowly centrist policy.

- “Our center is near me.”
- “I am the center!”
- Where is our center?

Chairs with Balanced Support

CT elects a central chairperson and vice chair to hold the powerful swing votes in an Ensemble Council. They must compete for good ranks from all voters, as panel 50 will picture. So they have strong incentives to balance a council’s process and policies.

IRV has slightly different effects, incentives and uses. Games will let us step into each tally to see some effects.

Unstack the Agenda

Some meetings concoct a policy by a series of yes-no choices, with or without rules of order, agendas or votes. An early proposal may have to beat each later one. An early decision may block some later proposals.

So “stacking the agenda” can help or hurt some options.

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

Too often a committee chooses all the parts in a bill. Other voters get to say only yes or no to a big bundle. Rigged votes often build bad policy and animosity.

To reduce these risks, let the voters rank more options.

Issue #1 Ballot

<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 the ballot.
II. Workshop Games

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

A Tally Board has
- A card for each voter,
- A column for each option,
- A finish line for the favorites.

Instant Runoff Voting Elects One

Tabletop tallies make Ranked Choice Voting lively.
- A finish line marks the height of half the cards + 1. That is how many votes a candidate needs to win.
- If no one wins, eliminate the weakest candidate. Draw names from a hat to break ties.
- If your favorite loses, move your Post-it, card or token. Give it to your next backup choice.
- Repeat until one candidate reaches the finish line!

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

<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>

Celia
IRV Winner

Diana
Runner up

IRV elects leaders in San Francisco, Minneapolis. It elects students at Duke, Rice, Reed, MIT, UCLA...

1. A card that moves counts just like others: T, F
2. Ranking your 2<sup>nd</sup> choice can’t hurt your 1<sup>st</sup>: T, F
3. Only one candidate can reach 50% + a vote: T, F
Ask questions one and two with each voting rule.

- **Fair Rep by Single Transferable Vote**

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


3. What total percentage must the three reps win?
4. Only three candidates can win 25% + 1 vote: T, F

Ranked Choice Voting includes IRV, STV, and FSV.

New!  New!  New!
Fair Share Voting Picks Goods

- We each get four 50¢ voting cards to buy treats.
- We decided an item needs modest support from 8 of us to prove it is a shared good worth shared money. So the finish line marks the height of 8 cards, and
- You may put only one of your cards in a column.
- A costly item must fill several columns. A column here holds $4, so an $8 item must fill 2 columns.

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

Condorcet Centers a Policy

- The winner must top each rival, one-against-one.
- Put flag C at our center, by the median voter. Make 3 flags surround C, each about 5′ from it.
- We ask: “Are you closer to flag A than to flag B? If so, please raise a hand.” Then test A vs C, etc. Put each total in this Condorcet pairwise table.

<table>
<thead>
<tr>
<th>against</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>for A</td>
<td></td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>for B</td>
<td>7</td>
<td></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>for C</td>
<td>5</td>
<td>6</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>for D</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Nine voters finding C tops all rivals.

- Flag C has a 3′ Red ribbon and a long Blue one.
- If the Red ribbon gets to you, the Red policy gets your vote with its narrow appeal.
- If the Red cannot touch you, the wide appeal of the Blue policy gets your vote. Which one wins?

Answers and Essays

IRV 1 True, in each round of counting it is 1 vote.
- 2 True, doesn’t count until the 1st has lost. 3 True.
STV 4 3/4 + 3 votes. 5 True, more would need >100%.
Fair Share Voting 6 No. 7 No. 8 Yes (no). 9 Many.
Condorcet 10 Center of all voters, 11 Probably yes.

Workshop Suggestions

A hands-on game for loot to share makes memories more vivid and lasting than a lecture or homework.

We can vote for a party menu, a dance play list, a ... Caution: long ballots lead some voters to give up.

Smart ballot design cuts voter errors and exhaustion.

Accuratedemocracy.com/a_workshop.htm has more complete answers; so does /a_primer.htm.
Visit /a_teach.htm for handouts, ballots and voting cards.

Eat the winners! while discussing how FSV helps a group pick: projects, news blogs, investments or ___.
Plan a real poll for the central majority or fair shares. What qualities do you want in this poll? (next panel)
Reviewing Some Big Benefits

Accurate Elections  
- Make voting easy, free of worry over strategies and much more often effective.  
  - Cut wasted votes to strengthen mandates.  
    - Weaken spoilers and gerrymanders.  
    - Reduce attack ads and anger among voters.  
    - Give voters real choices of likely winners, by electing fair shares of reps from all big groups.  
    - That supports a wide range of candidates, debate of issues and turnover of voters.

Accurate Legislation  
- Give fair representation to all big groups, so the council enacts laws with real majorities.  
- Elect a central chair whose swing vote pulls reps from many factions to moderate policies.  
- Give members Fair Share Voting for optional budgets. Let voters see each rep’s spending.  
- Cut agenda effects and scams; Speed-rank more options at once.  

Our Web pages detail these benefits and more. Now voting games will show the simple steps in a tally. And free software on the web makes tallies easy.

III. Sim Examples

Compare Three Councils

SimElection™ made these election maps. The small shapes are voters; the big heads are candidates.

1. An Ensemble Rule is the best way to represent the center and all sides, as shown on panel 6. In the map on the next panel, Condorcet elects Al and then STV elects Bev, Di, Fred and Joe. Each winner’s name is in bold.

2. A Condorcet Series elects the five closest to the central voter: Al, Bev, GG, Joe and Fred. There is no rep from the lower right, so the council cannot balance around the central voter. Each name is in italic.

3. The STV reps? Bev, Di, Fred, GG and Joe. Each name is underlined. STV eliminated Al.

Surprises

1. Perhaps it’s surprising that broad Fair Rep helps a central Condorcet winner own a council’s swing vote. It shows that political diversity can be a source of balance and moderation as well as perspective.

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

Ranked Choice Ballots

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

- 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.

Party Menu

Fill in only one “O” on each line.

<table>
<thead>
<tr>
<th>Treats Ballot #2</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Fruit &amp; Nut Platter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Chocolate Brownies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Chocolate Chip Cookies</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4 Choc. Fudge FroYos</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Choc. Cheesecake</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Choc. Mousse Hearts</td>
<td></td>
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</tr>
</tbody>
</table>

Which wins a plurality? Hints: 5 chocolates vs. 1 nut. And the first name on a ballot gets a 2 - 9% boost. Caution: long ballots lead some voters to give up. Smart ballot design cuts voter errors and exhaustion.

Well Centered and Balanced

Only the Ensemble council has the breadth and balance of Fair Representation with the centering of Condorcet.
In contrast, STV and IRV require the most intense support, first-rank votes, to avoid early elimination. IRV does too, with a high finish line of 50% + 1 vote.

**Consensus and Voting**

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

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

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

**Why Take a Vote**

The best rules strengthen some reasons for voting:
- Choice ballots let us speedup meetings, panels 25, 31
- Secret ballots reduce social pressure and coercion.
- A well-designed ballot and tally promote equality:
  - Even busy or unassertive people can cast full votes.

The best rules weaken some reasons to avoid voting:
- A Condorcet Tally, is less divisive, panels 12, 43
- It rewards blending compatible ideas, panels 29, 50
- So more members help implement a decision.

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

**Complementing Consensus**

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

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

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

Carpentry Analogy

The nice consensus methods are like nice hand tools, and these nice voting methods are like nice power tools. The power tools speed cutting through piles of boards or issues and cutting through a hardened board or issue. The high-touch tools help us discover and develop insights and options with additional benefits. So most of us want both kinds of tools.
It's very hard to see us fixing the climate until we fix our democracy.” —Dr. James Hansen

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

Public campaign funding in Maine and Arizona lets reps give less time to big sponsors and more to voters. One plan gives each voter $50 of vouchers to donate.3 Such nameless gifts or FSV may not corrupt paybacks. Big sponsors aim $ to buy the few swing-seat SMDs. That's harder for them under IRV or Fair Rep.5

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

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

Citizens’ assemblies9 and their referendums can get more choices and control by using Condorcet Tallys. The laws on voting rules, reps’ pay, Sponsors, etc. need referendums because the reps have conflicts of interest.

Good schools, taxes and voting may go together.8
This data suggests, to elect a good government that makes superb school, health, tax’ and other policies, a country needs effective, not wasted votes.

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

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

Data Definitions and Sources
Measures of respectable power and policies, circa 2016
Seats avg. per election district; Inter-Parliamentary Union
Women % of main legislature; Inter-Parliamentary Union
Turnout % Institute for Democracy & Electoral Assistance
Health Rank first is best; World Health Organization
Math Score Program for Int’l Student Assessment, OECD
Poverty % of children below half of median income; OECD
Murder Rate per million; 7th UN Survey of Crime Trends

Averages for voting rules are weighted by population.
* U.S. turnout often drops ~15% in non-presidential years.
◊ 6 senators / state by STV; 1 rep / house district by IRV.
The table’s worst numbers are in bold.

Endnotes by Chapter
The endnote numbers restart at 1 for each chapter.
This book is the first to show Ensemble Councils, Fair Share Voting, and rules of order for Condorcet Tallies.
It also shows games and graphics from SimElection™.

It compresses much of accuratedemocracy.com (®)
®/a_primer.htm ®/a_workshop.htm ®/d_stats.htm
®/SimElection.com

Resources, for education and action
The website has free software! ®/z_tools.htm, animations
®/d_stv2d.htm or ®/p_tools.htm, and Web links
®/z_bib.htm

Voting games handout for pages 37-43 is free to download at ®/download/workshop/irv_stv_handout.pdf

FairVote is a nonpartisan catalyst for electoral reforms. It is the best source for news, analysis and resources for voting reform in U.S. cities, states and colleges. FairVote.org has great resources for reform: examples of successful legislation, voter education materials, videos, ballots, editorials, testimonials, research reports...
Introduction, Tragedies, Eras and Progress

7 Statistics on panel 59 compare the stable democracies.

ELECTING A LEADER, Instant Runoff @ c_irv.htm
3 RCV Civility Project www.fairvote.org/rcv_civility_project
http://nimbus.osic.temple.edu/~jhurewit/history.html
tradecompass.com/library/books/armyhub/CHAPT04.04SK.html
5 https://www.fairvote.org/where_is_ranked_choice_voting_used
https://www.fairvote.org/rcv_in_campus_elections

SETTING 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 a similar pattern.
3 Tupelo-Schnec, Robert and Robert B. Loring, PB Conference slideshow; NYC, 2012; @ /download/workshop/fair-share-spendings.pdf @/download/workshop/gasto-equitativo.pdf
5 Oaks, Adder. “Participatory Budgeting in an Income Sharing Community”, Communities: Life in Cooperative Culture; #175, 2017. Leaves of Twin Oaks, 2013. Base for budget cuts was >50%. Leaves of Twin Oaks, 2013. The base of support to cut a budget was 55% of the voters; some managers grumbled but did not protest.

ENACTING A POLICY, @ l_intro.htm c_data.htm 1_data.htm
1 Green-Armytage, James. "Four Condorcet-Hare Hybrid Methods for single-winner elections"; 2011; votingmatters.org.uk/ISSUE29/
Green-Armytage, James; Nicolaus Tideman and Rafael Cosman.
1a If A tops B, B tops C, and C tops A, then we have a “voting cycle.” Tally IRV with the options in the top voting cycle. @ l_cycles.htm
1b These follow from Later-no-harm and Later-no-help criteria.
2 See Chamberlin et al, or Merrill above. @ c_data.htm @ l_data.htm
3 See the captions on pages 13 and 50. @ c_irv.htm#compare
4 https://en.wikipedia.org/wiki/Primary_challenge

ELECTING A COUNCIL, Fair Representation @ d_intro.htm
1 Panel 59 statistics compare stable democracies. @ d_stats.htm
4 Roberts, Nigel NEW ZEALAND: A Long-Established Westminster Democracy Switches to PR, (Stockholm, IDEA) www.idea.int/esd/upload/new_zeland.pdf
A democracy can reduce the distance from the voters to the legislators via initiatives, proxies, sortition or consensus seeking (panel 56).

WORKSHOP VOTING GAMES, @ a_workshop.htm
1 A ballot by an inventor of FSV http://tupelo-schnec.org:8080/tag/
3 Portland Voters Overwhelmingly Support RCV, 2015 fairvote.org/portland_voters_overwhelmingly_support_ranked_choice_voting
5 youtube.com/watch?v=soHRPMiMzBBw or v=_5SLQXNPszk https://accuratedemocracy.com/d_stv2d.htm @ p_tools.htm
6 https://AccurateDemocracy.com/a_teach.htm

SIMULATION EXAMPLES, www.SimElection.com
1 Loring, Robert. simelection.com 1996 http://politicsim.com
https://accuratedemocracy.com/d_stv2d.htm @ p_tools.htm
See Chamberlin et al, or Merrill III, or Green-Armytage above.

SOCIAL EFFECTS AND USES, @ a_goals.htm

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