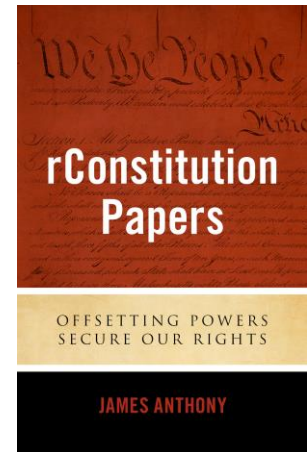
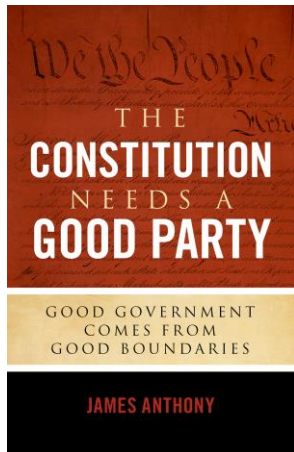


# OVERVIEW



## JAMES ANTHONY

Government-process  
design, dynamics, and control

A good party declaration, party constitution, and party laws will let the party's grassroots select constitutionalists.

"As insightfully thoughtful and thought-provoking as it is ultimately hopeful and inspiring." — [Midwest Book Review](#)

- Chemical engineer with masters in mechanical engineering.
- Author of two books.
- Publisher of [rConstitution.us](#).
- Author in [Western Journal](#), [Daily Caller](#), [The Federalist](#), [American Thinker](#), [Lew Rockwell](#), [American Greatness](#), [Mises Institute](#), [Foundation for Economic Education](#), [Free the People](#), and [Chemical Engineering Progress](#).

A good party's representatives will:

- Use their offsetting powers to limit others in government.
- Prevent crises, helping stop the party from breaking bad.
- Make every law keep powers separated and bounded.
- Let people work together freely to add far-more value.

For governments to be limited, government people must use their constitutional powers against others in governments.	2
Fast, extensive change is always best in the long run.	3
We have a systemic problem: We don't have at least one good major party.	4
A good party will exist solely to help voters select good candidates, using helpful features that are designed in.	5
A good party will win majorities.	7
A good party could be started at least 5 ways (and more than one way at a time).	8
Processes can work better.	9
Life can be secured better.	12
Liberty and property can be secured better.	13
Calculations that are written well are easy to understand and get right.	15

**For governments to be limited, government people must use their constitutional powers against others in governments.**

**(Conservatism Is Action Conserving and Building Freedom)**

Governments give people lots of power. This power must be kept within good boundaries.

[\(The Key Federalist Paper Explains the Constitution's Design to Limit Governments\)](#)

[\(Henry Cloud and John Townsend. \*Boundaries: When to Say Yes, How to Say No to Take Control of Your Life\*\)](#)

- If we rely on people to limit themselves, then every legislative majority's members must limit it, and every executive and judge must limit himself.
- If we rely on people to limit others, then any individual legislators, executives, or judges will help limit the governments.

The Constitution defines offsetting powers that are strong, are robust, and provide multiple layers of protection.

[\(Offsetting Powers\)](#)

[\(Ronald Willey. \*Layer of Protection Analysis\*\)](#)

- Controlling work in progress (for example, a president's veto).  
[\(Controlling Work in Progress\)](#)  
[\(George Washington's Error and the Corruption of Banking. \*American Thinker\*\)](#)
- Loss limiting by oaths to support or protect the Constitution.  
[\(On the Reading of Old Constitutions\)](#)  
[\(The Abortion Debate Is Larger than Life. \*Daily Caller\*\)](#)  
[\(If We Advance Freedom, It Will Be on the Local Level. \*Mises Institute Power & Market Blog\*\)](#)  
[\(State and Local Actions Now Are the Key to Limiting Governments\)](#)  
[\(The First 1,461 Days of a Constitutionalist President\)](#)  
[\(Trump's 3 Options: Fail, Exit, or Demolish\)](#)  
[\(Why DeSantis Matters\)](#)  
[\(COVID Tyranny Should Be Overpowered Using Laws\)](#)  
[\(Constitution Support in Cities, Counties, and States\)](#)  
[\(What the Lubbock Sanctuary for the Unborn Shows Us. \*American Greatness\*\)](#)
- Loss prevention by impeachment.  
[\(rConstitution Paper 16: Failure to Impeach and Convict Denies People Their Rights. \*rConstitution Papers\*\)](#)  
[\(Constitutional Impeachment Is Loss Prevention\)](#)

**Fast, extensive change is always best in the long run.**

**(Changing Government by Stepping, Phasing, or Doing)**

Personal Bible study and personal salvation have prepared people to increase freedom.

(High-Reliability Self-Governance)

(A Tale of Three Revolutions. *Mises Institute Power & Market Blog*)

If change is for the better, fast change creates new winners and a new balance of forces.

If change is for the worse at first, fast change creates fast pushback that brings change for the better.

Fast change is blocked by past and present senates' filibuster/cloture rules.

These rules are unconstitutional.

(rConstitution Paper 13: Filibuster/Cloture Is Unconstitutional. *rConstitution Papers*)

(Who Will Benefit Long-Term from Ending the Filibuster? *American Greatness*)

(Dan Coenen. The Filibuster and the Framing: Why the Cloture Rule Is Unconstitutional and What to Do About It, pp. 47-83)

- Filibuster/cloture rules treat 40 minority votes as equivalent to 60 majority votes.
- Filibuster/cloture rules deprive vice presidents of their power to cast tie-breaking votes.
- Filibuster/cloture rules defy these supreme rules that are ratified into the Constitution and replaces them with inferior rules that are passed by senate majorities.

**We have a systemic problem:**

**We don't have at least one good major party.**

Our last small-government major party, the initial Democrats, broke bad in 1894.

[\(Murray Rothbard. \*The Progressive Era\*, pp. 163-97\)](#)

Our current legislatures are always 3/4 Progressive:

1/2 Democrats who are fully Progressive, plus 1/2 Republicans who are 1/2 Progressive.

[\(\*The Constitution Needs a Good Party\*, pp. 4-5\)](#)

The Progressive coalition is made up of most politicians.

[\(Voters' Dilemma\)](#)

[\(The Deep State Consists of Every Progressive. \*Free the People\*\)](#)

[\(Did Constitutionalists Gain in the Last Election? \*Mises Institute Power & Market Blog\*\)](#)

[\(The Right Needs a More Confrontational Politics. \*American Greatness\*\)](#)

[\(Summoning the Courage to Be Disliked. \*American Greatness\*\)](#)

- All elected Democrats.
- All current elected independents.
- Around 70% of elected Republicans.
- Libertarians, on abortion, illegal immigration, and liberty from addictives.
- The Green Party.

Liberty Scores of at least 80% are earned by 17% of today's house and 14% of today's senate.

[\(Wave Election Harnessing\)](#)

What can pass is determined by the swing votes for constitutionalist bills.

- After the 2018 election, the swing votes in both houses had Liberty Scores of 22%.  
[\(Republicans: The Key Progressives\)](#)
- As of 2021, if we were trying to get a new amendment ratified, the swing vote would be whichever Oregon Democratic senator would be more Progressive than 17% of Oregon Democratic senators.  
[\(Convention of Waste\)](#)

**A good party will exist solely to help voters select good candidates, using helpful features that are designed in.**

**[\(The Constitution Needs a Good Party\)](#)**

A party name that's specific and meaningful.

- republican Constitution Party.
- "rConstitution Party."
- This party will be designed to implement the small-r republican Constitution, in which We the People are each individuals whose rights are to be secured.
- The is the opposite of the small-d democratic Constitution, in which We the People is a democratic majority that rules over the democratic minority.
- These specific fixed meanings were established by Randy Barnett in *Our Republican Constitution*. The correct understanding is that the Constitution is the republican Constitution.

[\(Randy Barnett. \*Our Republican Constitution: Securing the Liberty and Sovereignty of We the People\*\)](#)

A party declaration that's modeled on the Declaration of Independence.

- A preamble which states that life, liberty, and property are made secure by separating powers, respecting other government people's powers, and asserting offsetting powers.
- Grievances which give a large number of specific examples of exactly how elected representatives and party officials have failed to assert their offsetting powers to limit others in governments.
- Together, the preamble and grievances will establish standards of behavior that representatives implicitly promise to uphold when they join the party.

A party constitution that's modeled on the Constitution.

- Party legislators, executive officers, and judicial officers, like their government counterparts who are defined in the Constitution.
- Power to solicit and collect donations.  
[\(Donations Power\)](#)
- Power to arrange national-party meetings.  
[\(Meetings Power\)](#)
- Power to control state-party selection of national-government candidates.  
[\(Schedules and Controls Power\)](#)
- No platform.

Party laws that reverse Progressive parties' candidate-selection processes.

[\(Term Limits Won't Fix the Problem in Washington, but These Solutions Might. \*American Thinker\*\)](#)

- Liberty Scores must be at least 80%.  
[\(Votes Matter When a Party Requires Good Voting Scores\)](#)  
[\(Voting-Record Rule\)](#)
- Party-sanctioned debates must have no moderators, no commentators, and no questions other than the questions asked by the candidates.  
[\(Debate Rules\)](#)
- Caucuses.  
[\(Caucuses Rules\)](#)
- Closed contests.  
[\(Closed-Voting Rule\)](#)
- Proportional voting.  
[\(Proportional-Voting Rules\)](#)
- A candidate electoral college with the same number of electors as the electoral college, but with electors only counted from regions that are represented by the party in the House or Senate.  
[\(Electoral-College Rules\)](#)
- Caucuses held one state at a time.  
[\(One-State-at-a-Time Rules\)](#)
- Caucuses equally spaced apart.  
[\(One-State-at-a-Time Rules\)](#)
- Caucuses in order of decreasing party strength.  
[\(Strongest-State-to-Weakest Rule\)](#)

## **A good party will win majorities.**

When we compare the presidents who rose to office by getting elected, four of the top five first-time electoral-vote percentages were won by constitutionalists.

[\(rConstitution Paper 2: Washington, Reagan, and Everyone Else. \*rConstitution Papers\*\)](#)  
[\(Wikipedia. Table of Election Results\)](#)

- 100%: George Washington.
- 91%: Ronald Reagan.
- 86%: Franklin Pierce.
- 84%: James Monroe.
- vs. 89%: Franklin Roosevelt.

Every major party has risen by offering more freedom.

[\(rConstitution Paper 18: Nominating Rules for Brand Purity. \*rConstitution Papers\*\)](#)  
[\(A New Major Party Is Forming Right before Our Eyes. \*American Greatness\*\)](#)

- Federalists: freedom from England.
- Jefferson's Republicans: freedom from the Federalists' larger national government.
- Democrats: freedom from the Jeffersonian Republicans' larger national government.
- Republicans : freedom from slavery.

Voters have elected the candidates they thought were the most constitutionalist in 2010, 2014, and 2016.

[\(Learning from Trump\)](#)  
[\(Voting Guide for Constitutionalists\)](#)

Low taxes are always popular.

[\(The Constitution Needs a Good Party, pp. xv-xxi\)](#)  
[\(Tea Party Is Unbroken\)](#)

- In the American Colonies, taxes were 1% to 2% of GDP.  
[\(Edwin Perkins. \*The Economy of Colonial America\*\)](#)
- In the USA through 1913, taxes at all levels totaled 4% to 8% of GNP.  
[\(John Wallis. \*American Government Finance in the Long Run: 1790 to 1990\*\)](#)
- vs. In the USA in 2023, total government spending will be 37% of GDP.  
[\(Christopher Chantrell. \*usgovernmentspending.com\*\)](#)

**A good party could be started at least 5 ways (and more than one way at a time).**

1. Voters can vote strategically to never elect Republican Progressives, so these Progressives can't return in future elections as hard-to-dislodge incumbents.  
[\(Voters' Dilemma\)](#)
2. A politician can start out elected as a Republican, then run for president as an independent as many times as it takes.  
[\(Starting a Party by Running as a Republican for Congress, Then as an Independent for President\)](#)
3. Street-level activists can start voter-information meetings.  
[\(Voter-Information Meetings: Knowledge Is Power\)](#)
4. Partial secessions can bring jurisdictions under the control of constitutionalists. Freedom starts locally, makes people stronger, and starts to spread out from there.  
[\(Economic Growth Is a Natural Effect of Christianity\)](#)  
[\(American Revolution's Two Lessons for Times like Now\)](#)
  - County politicians can ratify county-region constitutions that replace unrepublican legacy state governments in county regions.  
[\(Greater-Idaho Counties, Stand Your Ground. Mises Institute Power & Market Blog\)](#)  
[\(rSecession: County-Region Secessions to Form Small-r republican State Governments\)](#)  
[\(Resettling for Freedom Will Work Best in Jackson, Mississippi and Birmingham, Alabama\)](#)
  - City-neighborhood activists can secede from unrepublican legacy city governments.  
[\(Neighborhood Cities Increase Freedom\)](#)
5. Republican-insider activists could revamp their party.  
[\(RNC Chairs Should Use their Powers to Represent Voters\)](#)



## Processes can work better.

Customers' free choices are the key ingredient that makes it so that the most-productive system always ends up being voluntary action by people who are free.

Customers always choose the best producers. Government people don't.

[\(Socialism Kills Freedom\)](#)

[\(The Forgotten Customers\)](#)

Using their actual constitutional powers is the only thing politicians do that helps.

[\(rConstitution Papers\)](#)

[\(Repeal and Impeach: Use Your Constitutional Powers, Flood the Zone, and Build Support. \*Free the People\*\)](#)

[\(House Republicans, Do the Right Things\)](#)

[\(Roll-Call Votes Are the Republicans' Path to Building a Larger Constitutionalist GOP Majority. \*Daily Caller\*\)](#)

[\(House Speaker Race Showed How Standing Up for the Constitution Will Be Key to Curbing Inflation. \*Daily Caller\*\)](#)

[\(Oversight Deprives Us of Legislative Relief. \*Free the People\*\)](#)

[\(Commissions Represent Congresspeople, Not the People. \*Lew Rockwell\*\)](#)

Legislators pass bills, executives execute laws, and judges opine on cases.

[\(Voting Guide for Constitutionlists\)](#)

Laws consist solely of rules plus sanctions.

[\(rConstitution Paper 4: Laws That Aren't Readable Aren't Constitutional. \*rConstitution Papers\*\)](#)

- "the main strength and force of a law consists in the penalty annexed to it."

[\(William Blackstone. \*Commentaries on the Laws of England\*\)](#)

Each law is only constitutional if it separates powers and satisfies the rules in the Constitution.

Any law that does these things will easily pass 6 simple pass/fail tests.

[\(Separate Powers Automatically Using Simple Rules. \*Free the People\*\)](#)

[\(Vote for Candidates Who Will Shrink the D.C. Bureaucracy, Not Compromise with It. \*Daily Caller\*\)](#)

1. No misleading parts.

[\(rConstitution Paper 7: Laws That Mislead Are Unconstitutional. \*rConstitution Papers\*\)](#)

2. Only uses powers enumerated for the national government.

[\(rConstitution Paper 8: Laws That Exceed Enumerated Powers Are Unconstitutional. \*rConstitution Papers\*\)](#)

3. No delegation of legislative power.

[\(rConstitution Paper 6: Laws That Delegate Legislative Authority Are Unconstitutional. \*rConstitution Papers\*\)](#)

4. No grabs of executive power.

[\(rConstitution Paper 5: Laws That Direct the Executive or Direct the Judiciary Are Unconstitutional. \*rConstitution Papers\*\)](#)

5. No grabs of judicial power.
6. Not noncritical, complex, or long, and not helping make the total corpus of law incomprehensibly complex or long.

[\(rConstitution Paper 4: Laws That Aren't Readable Aren't Constitutional. rConstitution Papers\)](#)

People who genuinely support the Constitution would sponsor comprehensive full repeals.  
[\(Do You Support the Constitution? Take This Quiz and See\)](#)  
[\(Triage and Repeal\)](#)

Tainted pools of votes need to be not counted.

State legislators need to require this.

[\(Zero Tolerance for Election-Manner Violations\)](#)

Elections are opportunities to produce high-impact changes. For instance as of 2022:

[\(Contract to Secure Rights\)](#)

[\(If We Advance Freedom, It Will Be on the Local Level. Mises Institute Power & Market Blog\)](#)

[\(Prospective 2024 Candidates, Slash Governments. Mises Institute Power & Market Blog\)](#)

[\(Repeal and Impeach: Use Your Constitutional Powers, Flood the Zone, and Build Support.](#)

[Free the People\)](#)

[\(Oversight Deprives Us of Legislative Relief. Free the People\)](#)

[\(Emergency Powers Must Be Repudiated. Lew Rockwell\)](#)

[\(How to Limit China's Government People\)](#)

- Repeal legal tender laws.  
[\(Stop Deposit-Insurance Steals by Freeing Us To Use Safe Moneys. Free the People\)](#)
- Make emergency powers explicitly illegal.
- Make generics explicitly unrestricted.  
[\(Private Health\)](#)
- Make explicit that life begins at fertilization.  
[\(Maureen Condic. Preimplantation Stages of Human Development: The Biological and Moral Status of Early Embryos\)](#)
- Make immigration solely merit-based.  
[\(Immigration Criteria That Don't Rig Elections Will Protect Freedom\)](#)
- Repeal the DOJ, including the FBI.  
[\(Inward-Facing Standing Army Must Be Closed and Repealed\)](#)
- Repeal Ukraine support.

Torts and insurers, not regulations, would prevent East Palestine and trainwrecks of all kinds.

[\(Prevent Future Losses Like East Palestine by Reducing Regulation and Empowering Torts.](#)

[Mises Wire\)](#)

[\(Artificial GENUINE Intelligence Will Be Good. Mises Institute Power & Market Blog\)](#)

Making a debt limit real would bring fixes to borrowing and spending, “entitlements,” and cronyism.  
[\(On Inflation and on Constitution Defiance, Congresspeople Should Just Vote No. \*Free the People\*\)](#)  
[\(Debt Limit Can Be Boundary that Reshapes Future. \*Free the People\*\)](#)

Block grants unconstitutionally grab powers not enumerated for the national government.  
[\(rConstitution Paper 12: Block Grants Are Unconstitutional. \*rConstitution Papers\*\)](#)

Treaties, being law, constitutionally need to be controlled by senates’ advice and consent.  
Treaties also need to not cede powers not enumerated for the national government.  
[\(rConstitution Paper 14: Unadvised and Unconsented Treaties Are Unconstitutional; and](#)  
[rConstitution Paper 15: NATO Is a Sham. \*rConstitution Papers\*\)](#)  
[\(Robert McGee. The Fatal Flaw in NAFTA, GATT and All Other Trade Agreements\)](#)

Good economic modeling would just tell us we need to limit governments.  
[\(Realistic Economic Modeling Would Require Massive Information Collection, Taking Away Freedom\)](#)  
[\(Economists Should Help Limit at Least One Major American Political Party. \*Mises Institute\*](#)  
[\*Power & Market Blog\*\)](#)

In politics, good-enough signals rise above the noise.  
[\(Voting Guide for Constitutionalists\)](#)  
[\(Trump 2024 Is Romney 2012. \*Western Journal\*\)](#)

A good search engine will deliver the information that users want.  
[\(A Search Engine That Respects Users Will Usher In Narrowcast Media and Freedom. \*Mises Institute\*](#)  
[\*Power & Market Blog\*\)](#)

Good media would publicize the positions of wavering politicians during legislative sessions before they take decisive actions, and then before primaries before voters vote.  
[\(How the Media Can Increase Freedom\)](#)

Unlike neutrality, assertiveness is natural, reflects thinking, tells a story, is efficient, and respects audiences.  
[\(Why Assertiveness? \*American Greatness\*\)](#)

## Life can be secured better.

Socialism kills.

In the USA, activist-crony socialism and business-crony socialism have risen, and kill.

[\(Socialism Kills Freedom\)](#)

[\(Emergency Powers Must Be Repudiated. \*Lew Rockwell\*\)](#)

[\(Progressives' Automaticity Kills \(and Kills and Kills\). \*Mises Institute Power & Market Blog\*\)](#)

[\(Covid Kill Is Typical Government Action\)](#)

[\(COVIDcare Is Obamacare\)](#)

[\(Inward-Facing Standing Army Must Be Closed and Repealed\)](#)

[\(Racialism Masks Socialism\)](#)

In pandemics, when existing knowledge is used well, this saves lives.

[\(The Use of Knowledge in Pandemics\)](#)

[\(Private Health\)](#)

[\(Entrepreneurial Doctors Work Around Government Medical Controls.](#)

[\*Mises Institute Power & Market Blog\*\)](#)

Abortion is illegal. Legislators, especially in states, are the most accountable. Abortion could be ended simply by national actions or by starting with local or state actions.

[\(rConstitution Paper 9: Abortion Is Illegal. \*rConstitution Papers\*\)](#)

- Depriving unborn children of life takes years of preparation, clerks, and amici.  
[\(Justice Delayed and Denied\)](#)
- Judges could opine that life begins at fertilization, and that all statutes on killing apply.  
[\(Make Life Secure from Abortion Simply and Quickly\)](#)
- County councils could ratify county-region governments to replace their legacy state governments.  
[\(Cexit: Constitutional Exit from Abortion\)](#)

War is minimized by maintaining good boundaries.

[\(Limiting War through Good Boundaries: Secrecy, Independence, Basing, ROE Cards, Declarations, Enemy Governments, Productivity\)](#)

[\(rConstitution Paper 11: Laws Authorizing Military Action Are Unconstitutional. \*rConstitution Papers\*\)](#)

Obesity from crony-promoted carbs is costing 15% of adults 9 to 13 years of life.

[\(The Food Pyramid Scheme. \*Daily Caller\*\)](#)

Mass murder can be reduced by disincentivizing, detecting (by reducing noise so the signal is clearer), deescalating, and limiting.

[\(Mass Murder Can Be Reduced\)](#)

Regulation and cronyism cost lives in the 737 MAX design, and they still risk lives with the redesign.

[\(Boeing 737 MAX Disasters' Root Cause Was Government Regulation \(Extended Version\)\)](#)

## **Liberty and property can be secured better.**

Individual Christian faith increased respect for others, which brought exponential growth.

[\(Economic Growth Is a Natural Effect of Christianity\)](#)

[\(Bible Knowledge Alters Perceptions, Motivations, and Actions\)](#)

Taxes take away a portion of a person's liberty. The only way to take the same liberty from each person is to only tax labor income, at a single rate, with no deductions.

[\(The True Tax\)](#)

Inflation of the money quantity caused the Great Depression, Great Inflation I, and the Financial Crisis, and is causing Great Inflation II.

[\(The Fed Needs a Single Mandate: Make the Money Quantity Constant. \*Daily Caller\*\)](#)

[\(Gold Is the Solution for Financial Crises, Not Their Cause. \*Mises Institute Power & Market Blog\*\)](#)

[\(Money Inflation Is Baked In. Savers Need to Preserve Assets. \*Mises Institute Power & Market Blog\*\)](#)

Inflation makes people respond slowly, and this "deadtime" dramatically increases people's losses.

[\(Fed Socialist Money Manipulation Cancels Individuals' Better Judgment. \*Mises Wire\*\)](#)

Inflation enriches cronies and is caused by Progressives' spending.

[\(Our Economy Needs a Good Dose of Customer-Driven Deflation.](#)

[\*Mises Institute Power & Market Blog\*\)](#)

[\(The Federal Reserve Policies Promote Crony Socialism. \*Mises Institute Power & Market Blog\*\)](#)

[\(Inflation's Root Cause, Reagan's Compromise, and Constitutionalists' Solution\)](#)

[\(Inflation Takings Require Just Compensation: Slash Governments!](#)

[\*Mises Institute Power & Market Blog\*\)](#)

Voters have no say in Progressives' spending, so the resulting debt should be repudiated.

[\(Repudiate Progressive-Government Debt in Quick, Certain Steps\)](#)

Back governments down so customers are in control, and we'll get better results and spend less.

[\(Genuine Recovery Is Up to Investors, Producers, and Consumer Choice. \*Mises Wire\*\)](#)

[\(The Fed's Takeover of American Money and Energy Must Be Stopped. \*Daily Caller\*\)](#)

[\(First Use the Constitution to Limit Governments, Then Privatize Everything\)](#)

[\(Outgrow Entitlements: Stop Losses, Cover Debts, and Help More.](#)

[\*Mises Institute Power & Market Blog\*\)](#)

Equity-based money will be the best, most-productive money.

[\(Digital Money for We the People \(Extended Version\)\)](#)

[\(Productive Property Adds Value for Everyone\)](#)

[\(Stop Deposit-Insurance Steals by Freeing Us To Use Safe Moneys. \*Free the People\*\)](#)

[\(rConstitution Paper 10: Fractional-Reserve Banking Is Unconstitutional. \*rConstitution Papers\*\)](#)

Social Security's current age adjustments should be extended to cover all retirement ages.

[\(The Worst Age Discrimination Is Social Security's Gray Wall\)](#)

Zoning and permitting are processes that let activists overpower customers.

[\(Keystone XL Illustrates that Zoning and Permitting by Governments Are Unconstitutional\)](#)

Electricity customers need freedom to refuse gouging, pay for winterizing, and be paid to conserve.  
[\(Texas Electricity Customers Can't Buy Reliability or Sell Flexibility\)](#)

**Calculations that are written well are easy to understand and get right.**

A simple, workhorse format allows custom calculations to be prepared more easily.

[\(Custom Calculations Made Simple: 8 Best Practices. \*Chemical Engineering Progress\*\)](#)

Seven guidelines make custom calculations clear and optimum for the problem at hand.

[\(Elements of Calculation Style. \*Chemical Engineering Progress\*\)](#)

A spreadsheet can provide estimates of a centrifugal pump's total head, available suction head, uncertainties in correlations, drive power, and energy cost, both before and after piping design.

[\(Pumping System Head Estimation. \*Chemical Engineering Progress\*\)](#)