

# Assumptions, Ideologies, Realities--> Action from 1776 to today

Talk and discussion in:

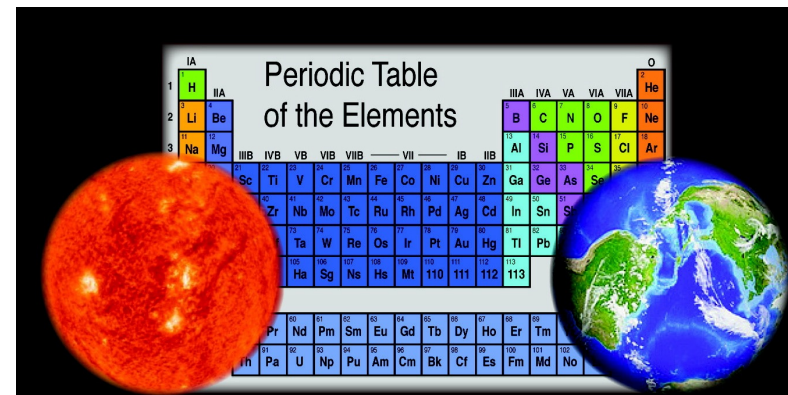
Economics 3620

<http://greenhouse.economics.utah.edu/fred/>

Prof. Hans Ehrbar

Tuesday, Feb. 25, 2014,

6 pm OSH 111, Univ. of Utah



**All there is**  
[www.2andrade.org](http://www.2andrade.org)

# Summary of my last 20+ years of study:



and many others...

# Who am I?

- UU faculty: 1969 – 2012; retired July, 2012
- Bioengineering Chair: 2 terms; 1 co-term
- College of Engineering Dean: 1983-1987
- Co-founder, Science Advisor: The Leonardo
- UEN Ch 9: Science without Walls 1998-2012
- Papers, Patents, Chapters, Books, Talks...
- 2012 Congressional Election, District 2, The RUN
- Political Activist, Blogger, Writer

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# Summary of my last 20+ years of study → my approach to a foundation to modify, adapt, and build upon



Towards Personal Independence  
and Responsibility

A pamphlet for teens and others to take control of their life and world

Joe Andrade ■ [www.2andrade.org](http://www.2andrade.org)

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# My Motivations

Bush War on Science  
Climate Change Denial  
18<sup>th</sup> C Economic Assumptions  
Energy/Public Lands  
Hansen, Schneider, Oreskes  
Tim DeChristopher  
Occupy movement – 99%  
Bill McKibben [www.350.org](http://www.350.org)  
Bill Barron  
Citizens Climate Lobby  
[www.citizensclimatelobby.org](http://www.citizensclimatelobby.org)  
Kids and Grandkids





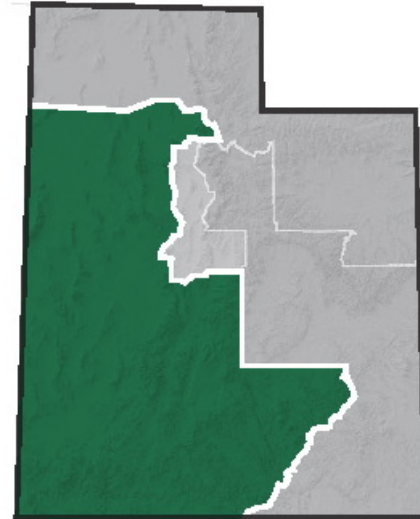


*For a sustainable future*

**JOE ANDRADE**

**Congress**

[www.2andrade.org](http://www.2andrade.org)



So... I Ran

*The RUN* Table of Contents:

Beginnings ...

Why Run? ... heeding The Call

On the Ballot

District 2

Voters

Energy

Early Platform

Constituencies and Platform

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Debates and Protests

On the Road – 4,360 miles!

Urban Exposures

Academic Apathy

Effectiveness? Lessons?

Recommendations

YOUR Turn!

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The Jose Quixote Campaign





# Historical Perspectives – and see The CALL

IN CONGRESS, JULY 4, 1776.

## The unanimous Declaration of the thirteen united States of America.

When in the Course of human events, it becomes necessary for one People to dissolve the political bands which have connected them with another, and to assume among the Powers of the earth, the separate and equal Station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the Opinions of Mankind requires that they should declare the Causes which impel them to the Separation. — We hold these Truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty, and the Pursuit of Happiness. — That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the governed, — That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its Foundation on such Principles, and organizing its Powers in such Form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient Causes; and accordingly all Experience hath shewn, that Mankind are more disposed to suffer, while Evils are sufferable, than to right themselves by abolishing the Forms to which they are accustomed. But when a long Train of abuses and Usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their Right, it is their Duty, to throw off such Government, and to provide new Guards for their future Security. — Such has been the Patient Sufferance of these Colonies; and such is now the Necessity which constrains them to alter their former Systems of Government. The History of the present King of Great Britain is a History of repeated Injuries and Usurpations, all having in direct Object the Establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid World. — He has refused his Assent to Laws, the most wholesome and necessary for the public Good. — He has forbidden his Governors to pass Laws of immediate and pressing Importance, unless suspended in their Operation till his Assent should be obtained; and when so suspended, he has utterly neglected to attend to them. — He has refused to pass other Laws for the Accommodation of large Districts of People, unless those People would relinquish the Right of Representation in the Legislature, a Right inestimable to them and formidable to Tyrants only. — He has called together legislative Bodies at Places unusual, uncomfortable, and distant from the depository of their Public Records, for the sole Purpose of fatiguing them into Compliance with his Measures. — He has dissolved Representative Houses repeatedly, for opposing with manly Firmness his Invasions on the Rights of the People. — He has refused for

**“...certain unalienable Rights, ...**

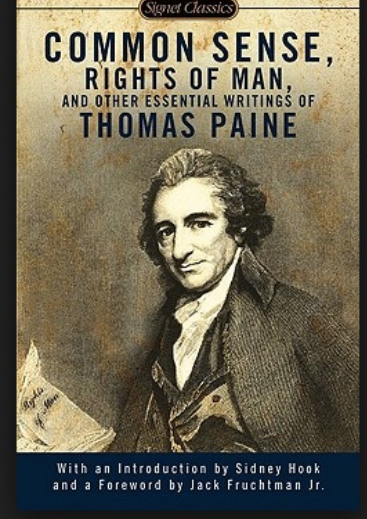
**Life, Liberty, and the Pursuit of Happiness...”**

Life = food, shelter, health, ... (the means of earning a living)

Liberty = freedom, the Bill of Rights, ...the state of being free within society from oppressive restrictions imposed by authority on one's way of life, behavior, or political views

Pursuit of Happiness = education, art, recreation, religion, sports, well-being, satisfaction,...

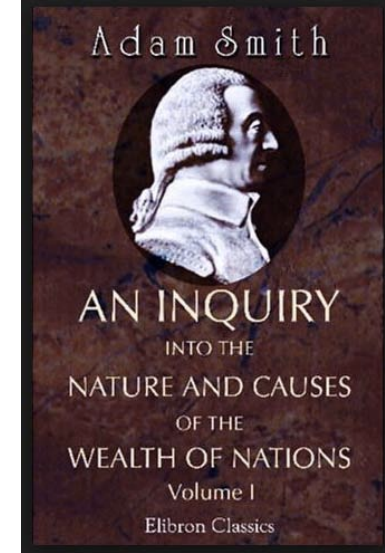




**1776:**

**The Declaration of Independence  
Adam Smith – The Wealth of Nations**

the end of the Holocene:



16<sup>th</sup> C-1500s – Renaissance, Science, Art, Geography,  
Discoveries, New World - da Vinci, Columbus,...

17<sup>th</sup> C-1600s – Colonialism, 13 Colonies, Newton

18<sup>th</sup> C-1700s – Colonialism, Resources, Slavery, Labor

19<sup>th</sup> C-1800s – Coal, Steam Engine, Electricity,  
Industrial Revolution, Civil War

20<sup>th</sup> C-1900s – Manufacturing, Autos, Airplanes, Industry,  
WW1, WW2, Vietnam War, Ozone, Greenhouse Gases

21<sup>st</sup> C- to 2014 and beyond – Anthropocene,  
Planetary Changes, Sustainability?

# Economics: Externalities and Growth

## SCIENCE

10 March 1967, Volume 155, Number 3767

### The Historical Roots of Our Ecologic Crisis

Lynn White, Jr.

A conversation with Aldous Huxley not infrequently put one at the receiving end of an unforgettable monologue. About a year before his lamented death he was discoursing on a favorite topic: Man's unnatural treatment of nature and its sad results. To illustrate his point he told how, during the previous summer, he had returned to a little valley in England where he had spent many happy months as a child. Once it had been composed of delightful grassy glades; now it was becoming overgrown with unsightly brush because the rabbits that formerly kept such growth under control had largely succumbed to a disease, myxomatosis, that was deliberately introduced by the local farmers to reduce the rabbits' destruction of crops. Being something of a Philistine, I could be silent no longer, even in the interests of great rhetoric. I interrupted to point out that the rabbit itself had been brought as a domestic animal to England in 1176, presumably to improve the protein diet of the peasantry.

All forms of life modify their contexts. The most spectacular and benign instance is doubtless the coral polyp. By serving its own ends, it has created a vast undersea world favorable to thousands of other kinds of animals and plants. Ever since man became a numerous species he has affected his environment notably. The hypothesis that his fire-drive method of hunting created the world's great grasslands and

helped to exterminate the monster mammals of the Pleistocene from much of the globe is plausible, if not proved. For 6 millennia at least, the banks of the lower Nile have been a human artifact rather than the swampy African jungle which nature, apart from man, would have made it. The Aswan Dam, flooding 5000 square miles, is only the latest stage in a long process. In many regions terracing or irrigation, overgrazing, the cutting of forests by Romans to build ships to fight Carthaginians or by Crusaders to solve the logistics problems of their expeditions, have profoundly changed some ecologies. Observation that the French landscape falls into two basic types, the open fields of the north and the *boquete* of the south and west, inspired Marc Bloch to undertake his classic study of medieval agricultural methods. Quite unintentionally, changes in human ways often affect nonhuman nature. It has been noted, for example, that the advent of the automobile eliminated huge flocks of sparrows that once fed on the horse manure littering every street.

The history of ecologic change is still so rudimentary that we know little about what really happened, or what the results were. The extinction of the European aurochs as late as 1627 would seem to have been a simple case of overenthusiastic hunting. On more intricate matters it often is impossible to find solid information. For a thousand years or more the Frisians and Hollanders have been pushing back the North Sea, and the process is culmi-

nating in our own time in the reclamation of the Zuider Zee. What, if any, species of animals, birds, fish, shore life, or plants have died out in the process? In their epic combat with Neptune have the Netherlands overlooked ecological values in such a way that the quality of human life in the Netherlands has suffered? I cannot discover that the questions have ever been asked, much less answered.

People, then, have often been a dynamic element in their own environment, but in the present state of historical scholarship we usually do not know exactly when, where, or with what effects man-induced changes came. As we enter the last third of the 20th century, however, concern for the problem of ecologic backlash is mounting feverishly. Natural science, conceived as the effort to understand the nature of things, had flourished in several eras and among several peoples. Similarly there had been an age-old accumulation of technological skills, sometimes growing rapidly, sometimes slowly. But it was not until about four generations ago that Western Europe and North America arranged a marriage between science and technology, a union of the theoretical and the empirical approaches to our natural environment. The emergence in widespread practice of the Baconian creed that scientific knowledge means technological power over nature can scarcely be dated before about 1850, save in the chemical industries, where it is anticipated in the 18th century. Its acceptance as a normal pattern of action may mark the greatest event in human history since the invention of agriculture, and perhaps in nonhuman terrestrial history as well.

Almost at once the new situation forced the crystallization of the novel concept of ecology; indeed, the word *ecology* first appeared in the English language in 1873. Today, less than a century later, the impact of our race upon the environment has so increased in force that it has changed in essence. When the first cannons were fired, in the early 14th century, they affected ecology by sending workers scrambling to the forests and moun-

### The Tragedy of the Commons

The population problem has no technical solution; it requires a fundamental extension in morality.

Garrett Hardin

At the end of a thoughtful article on the future of nuclear war, Wiesner and York (1) concluded that "Both sides in the arms race are . . . confronted by the dilemma of steadily increasing military power and steadily decreasing national security. It is our considered professional judgment that this dilemma has no technical solution. If the great powers continue to look for solutions in the area of science and technology only, the result will be to worsen the situation."

I would like to focus your attention not on the subject of the article (national security in a nuclear world) but on the kind of conclusion they reached, namely that there is no technical solution to the problem. An implicit and almost universal assumption of discussions published in professional and semiprofessional scientific journals is that the problem under discussion has a technical solution. A technical solution may be defined as one that requires a change only in the techniques of the natural sciences, demanding little or nothing in the way of change in human values or ideas of morality.

In our day (though not in earlier times) technical solutions are always welcome. Because of previous failures in prophecy, it takes courage to assert that a desired technical solution is not possible. Wiesner and York exhibited this courage; publishing in a science journal, they insisted that the solution to the problem was not to be found in the natural sciences. They cautiously qualified their statement with the phrase, "It is our considered profes-

sional judgment. . . ." Whether they were right or not is not the concern of the present article. Rather, the concern here is with the important concept of a class of human problems which can be called "no technical solution problems," and, more specifically, with the identification and discussion of one of these.

It is easy to show that the class is not a null class. Recall the game of tick-tack-toe. Consider the problem, "How can I win the game of tick-tack-toe?" It is well known that I cannot, if I assume (in keeping with the conventions of game theory) that my opponent understands the game perfectly. Put another way, there is no "technical solution" to the problem. I can win only by giving a radical meaning to the word "win." I can hit my opponent over the head; or I can drug him; or I can falsify the records. Every way in which I "win" involves, in some sense, an abandonment of the game, as we intuitively understand it. (I can also, of course, openly abandon the game—refuse to play it. This is what most adults do.)

The class of "No technical solution problems" has members. My thesis is that the "population problem," as conventionally conceived, is a member of this class. How it is conventionally conceived needs some comment. It is fair to say that most people who anguish over the population problem are trying to find a way to avoid the evils of overpopulation without relinquishing any of the privileges they now enjoy. They think that farming the seas or developing new strains of wheat will solve the problem—technologically. I try to show here that the solution they seek cannot be found. The population problem cannot be solved in a technical way, any more than can the problem of winning the game of tick-tack-toe.

### What Shall We Maximize?

Population, as Malthus said, naturally tends to grow "geometrically," or, as we would now say, exponentially. In a finite world this means that the per capita share of the world's goods must steadily decrease. Is ours a finite world?

A fair defense can be put forward for the view that the world is infinite; or that we do not know that it is not. But, in terms of the practical problems that we must face in the next few generations with the foreseeable technology, it is clear that we will greatly increase human misery if we do not, during the immediate future, assume that the world available to the terrestrial human population is finite. "Space" is no escape (2).

A finite world can support only a finite population; therefore, population growth must eventually equal zero. (The case of perpetual wide fluctuations above and below zero is a trivial variant that need not be discussed.) When this condition is met, what will be the situation of mankind? Specifically, can Bentham's goal of "the greatest good for the greatest number" be realized?

No—for two reasons, each sufficient by itself. The first is a theoretical one. It is not mathematically possible to maximize for two (or more) variables at the same time. This was clearly stated by von Neumann and Morgenstern (3), but the principle is implicit in the theory of partial differential equations, dating back at least to D'Alembert (1717–1783).

The second reason springs directly from biological facts. To live, any organism must have a source of energy (for example, food). This energy is utilized for two purposes: mere maintenance and work. For man, maintenance of life requires about 1600 kilocalories a day ("maintenance calories"). Anything that he does over and above merely staying alive will be defined as work, and is supported by "work calories" which he takes in. Work calories are used not only for what we call work in common speech; they are also required for all forms of enjoyment, from swimming and automobile racing to playing music and writing poetry. If our goal is to maximize population it is obvious what we must do: We must make the work calories per person approach as close to zero as possible. No gourmet meals, no vacations, no sports, no music, no literature, no art. . . . I think that everyone will grant, without

The author is professor of history at the University of California, Los Angeles. This is the text of a lecture delivered 26 October 1966 at the Washington meeting of the AAAS.



# Economics: Externalities and Growth

White – Religion

Ecology and Planet

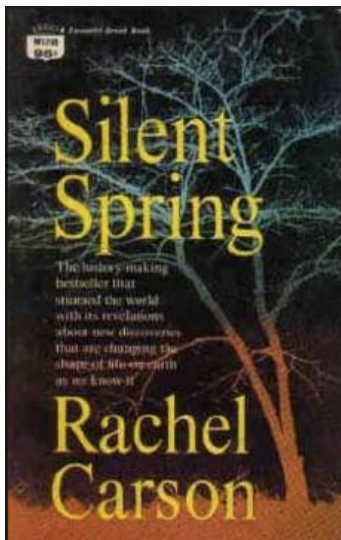
Man and Nature

Western Eastern philosophy

Science and Technology

Christianity and Dominion

Heaven and Afterlife



The Conscience of the Sixties...

Hardin – Commons

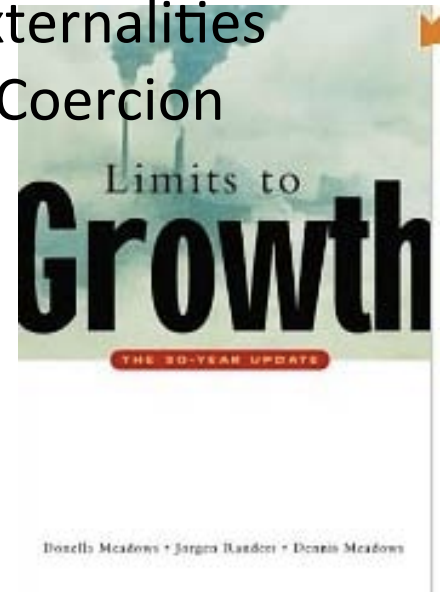
Individual Freedom – Public Commons

Public (Commons) vs Private Property

Population and Growth

Pollution and Externalities

‘Conscience’ vs Coercion



# Summary of my last 20+ years of study:

<http://www.deseretnews.com/article/865597180/Mountain-urbanism-mountain-modernism.html?pg=all>



and Lovelock, Oreskes, Klein,  
McKibben, ...



# My view: Mountain urbanism, mountain modernism

By Joe Andrade For the Deseret News

Published: Sunday, Feb. 23 2014 12:00 a.m. MST

## A Concise Summary

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- Our economy and lifestyle is based on 19th century economic, political and even religious assumptions: land and air are infinite and water is abundant. Grow, multiply, expand. There's always more — there's no end in sight.
- We now live in a 21st century world where we have already dramatically altered the air, the land and the oceans. Our growth and consumption-based economy has now altered the climate itself. The mild climate wherein civilization evolved — the last 10,000 years called the Holocene — is now gone, replaced by an unknown and, until now, unexperienced new "climate" — resulting in chaotic, extreme and unpredictable weather.
- We continue to deny, to ignore, to fantasize — to be optimistic and to "plan" — without confronting the very basis of the challenges upon us.
- We must confront the very hard realities upon us. Growth must greatly slow. We must move towards full sustainability — in energy, in material resources, in population. And that means a rethinking and major revision of very fundamental and ingrained religious and cultural ideologies and doctrines.
- We, the living, have only one planet. There are no others.

# Summary of my last 20+ years of study:

<http://www.deseretnews.com/article/865597180/Mountain-urbanism-mountain-modernism.html?pg=all>

Periodic Table of the Elements

**All there is**  
**www.2andrade.org**

on the card

# Psychology: Questioner or Believer?

*“We can’t solve today’s problems with the mentality that created them.” —Albert Einstein (paraphrased)*

*“If you can't solve the problem, expand it.” —  
Dwight Eisenhower*

*“The difficulty lies, not in the new ideas, but in escaping from the old ones.” —John Maynard Keynes*

*“It is difficult to get a man to understand something when his salary depends upon his not understanding it.” —  
Upton Sinclair*

*“An educated citizenry is the only safe repository for democratic values.” —Thomas Jefferson*

On the card



# It's not about 'Science' – it's Ideology - Belief

<http://www.youtube.com/watch?v=L6ofvMaRpw>



Mike Noel, Kanab, State Legislator,  
BA Biology, UC Berkeley  
Denialist, Believer

*"The issue is NOT Science...the issue is BELIEF. If you choose to Believe in something very strongly and you choose to adopt a position very strongly – no amount of science will change your Belief. It takes a private revelation...to really change....We must understand that rationality is quite rare..."*

*We must identify those totally irrational legislators...and get rid of them."* Joe Andrade UU Conf 2-2010  
(thanks to Hans Ehrbar)



One Year, 5,000 miles, \$5,000 was it  
Worth It?

Yes – but...only 2971 of 250,000 votes  
4<sup>th</sup> in a field of 5!

It was a 'message' campaign for a very conservative  
population, using 'new' words:

*sustainable*

*climate change*

*plutocracy*

*alternative*

*renewable*

*science*

*rationality*



# Awareness and Exposure

*“Most of the population is semantically sheltered and isolated - 'protected' from issues, concepts, and problems. I tried to break through the very right, conservative echo chamber in which most Utahns reside. As people hear these words spoken and written - by people and candidates which otherwise seem to be reasonable, informed, educated, and interested – the words will begin to seem less of a threat.”*

# Back to Psychology: Assumptions, Fear, and Revelation

*“...most people know major changes are coming – they know their historical expectations are in flux. They are afraid of such change. They are afraid of the climate change they hear about and work to deny. They are afraid of impending drought. They are afraid of carbon fees or taxes. They are afraid of higher energy costs. They are afraid.”*



*the* **Run**  
My One-Year Experiment  
in Democracy by Joe Andrade

*See The CALL –  
The RUN at  
[www.2andrade.org](http://www.2andrade.org)*



Towards Personal Independence  
and Responsibility

# Engagement Needed

*“One of the reasons our nation is in the mess it's in – where ideology rules and critical thinking is almost non-existent – is because the most educated in our society have chosen to be among the least involved. This is especially true in academia. Academic apathy often prevails.”*

[www.2andrade.org](http://www.2andrade.org)



# So what can we do?

Get informed and stay informed – this class,  
real ‘news’, ‘good’ books...:

The New York Times

New Scientist

The Economist

The CALL at [www.2andrade.org](http://www.2andrade.org)

Learn and practice critical, objective thinking –  
question - expect, demand rational answers.

# So what can we do - 2?

Inform and Educate – patiently, rationally,  
objectively, persistently.

Practice ‘revelation engineering’:

it’s not only science, facts;

it’s equally belief, assumptions, ‘wiring’.

Work for good candidates.

Challenge and educate those who need it –

and not just locally – there are 535 members of Congress!

[www.votesmart.org](http://www.votesmart.org)

[www.govtrack.us](http://www.govtrack.us)

# So what can we do - 3?

Think globally, act locally.

Personal footprint – life style  
transport, housing, food.

Minimize debt, stuff, consumption.

Cash, barter, trade, reuse.

*"Buy land. They're not making it anymore."*

Mark Twain

Volunteer but focus – pick a goal.

Work for issue, group, candidate.

*...life, liberty, and the pursuit of happiness...*



# So what can we do? – Big Actions

Corporations and people – Move to Amend/Citizens United

Public services –

transit, housing, energy, health, safety

Revenues and taxation –

carbon fees

financial transaction fees

progressive income tax – maximum/minimum  
income.

wealth, inheritance, 'death', estate fees

'consumption' tax

'Private' vs Public Property?

*"Taxes are what we pay for civilized society."*

Oliver Wendell Holmes

# Transformation – via Chaos or Metamorphosis?



Crisis or  
opportunity?



*"...our basic function ... develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes politically inevitable."*

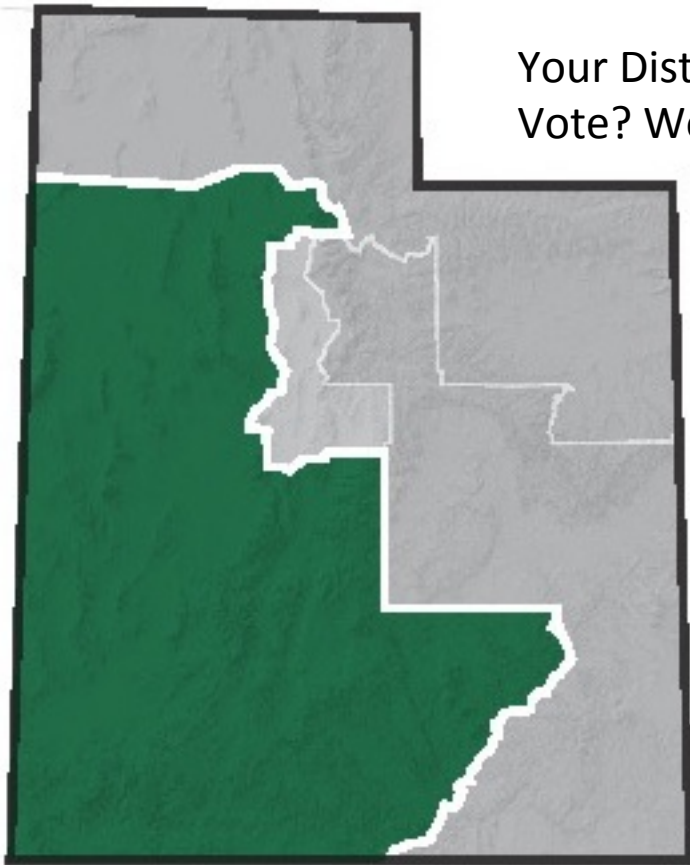
Milton Friedman

*"...we have to prepare individually for the ending of growth (a process likely to be accompanied by economic and political upheavals) while at the same time preserving and building social cohesion and laying the groundwork for a new economy..."*

Richard Heinberg

Be Prepared!

# YOUR Turn!



Your District?  
Vote? Work?

It's not just about Utah:  
it's about the Nation,  
the Planet.

| District | Representative   | Party      |
|----------|--|------------|
| 1st      | <br>Rob Bishop       | Republican |
| 2nd      | <br>Chris Stewart   | Republican |
| 3rd      | <br>Jason Chaffetz | Republican |
| 4th      | <br>Jim Matheson  | Democratic |



# House Committees

25 standing committees, all Chaired by Republicans

<http://www.house.gov/committees/>

435 House members; Utah has 4

4 Committees especially relevant to YOU:

Space, Science, and Technology – 40

Stewart UT 2 Chair Sub-Committee on Environment

Energy and Commerce – 54

Matheson UT 4

Natural Resources – 47

Bishop UT 1 Stewart UT 2

Education and the Work Force – 41

# You! – in Politics? Yes!

- Register, study, vote and encourage others to do likewise
- Volunteer, work, support, endorse – good candidates
- Your Congressional District? Congressman/woman? Universities there? Clubs?
- Write, Tweet, March – you care and you count!
- [www.votesmart.org](http://www.votesmart.org) [www.govtract.us](http://www.govtract.us)
- Run?!

# What are you DOING? What will you DO?

*“The major disappointment of my campaign was not the ideology and ignorance of much of the ultra-conservative population – it was the apathy, disinterest, and lack of involvement of the education and academic communities...”*

*“As I grow older, I pay less attention to what men say.  
Just watch what they DO.”*

Andrew Carnegie

Let's Talk:

[Joe.andrade@utah.edu](mailto:Joe.andrade@utah.edu)

[www.2andrade.org](http://www.2andrade.org)

[www.2andrade.org](http://www.2andrade.org)

What am I doing? Thanks for asking!

I'm working on the transition to a truly sustainable and fair economy.

I'm also working on trying to get deniers, ideologues, and arrogant Congress people OUT of office by encouraging good people to RUN – all over the country.

535 = 435 Congressmen + 100 Senators –

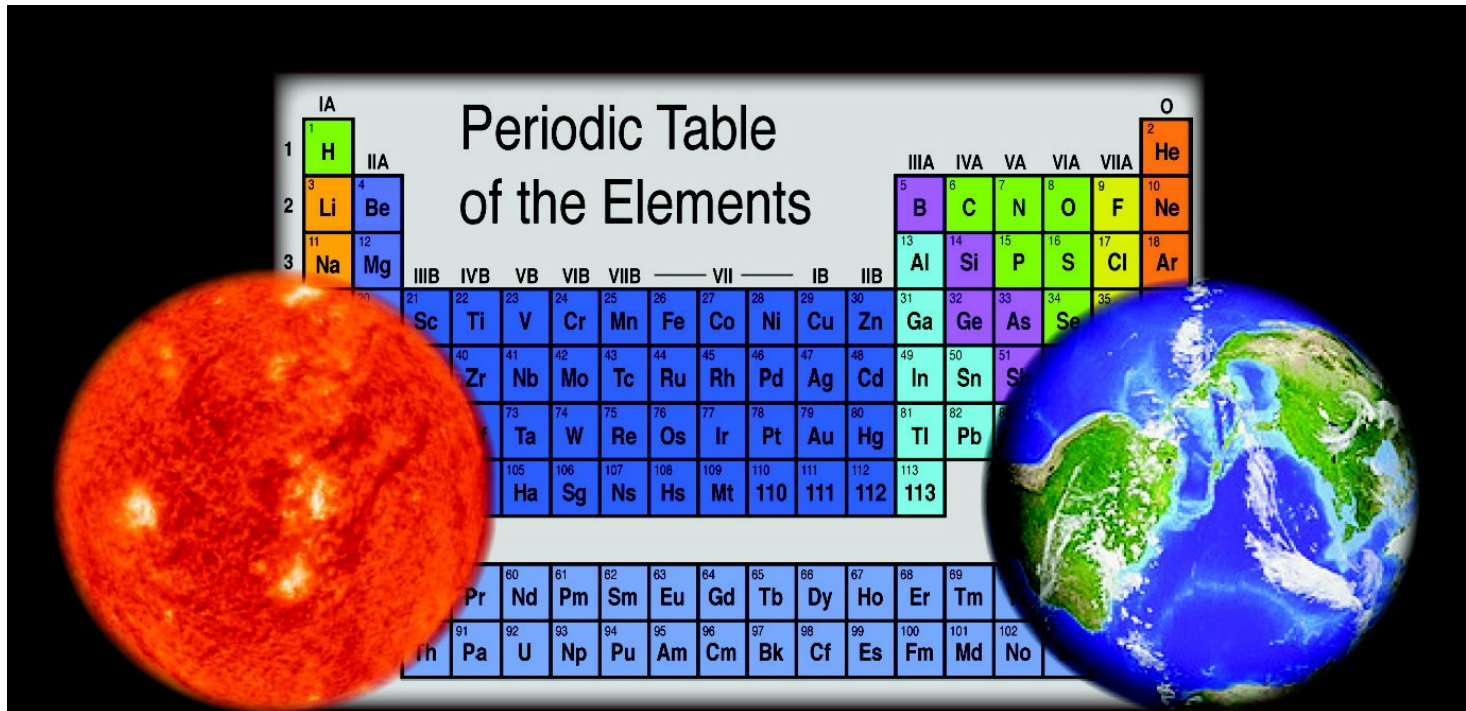
over half of them should be voted OUT of office

See [www.2andrade.org](http://www.2andrade.org)

contact me at [joe.andrade@utah.edu](mailto:joe.andrade@utah.edu)



# Reality



**All there is**

[www.2ndrade.org](http://www.2ndrade.org)

*“Perhaps the sentiments contained [herein] ... are not yet sufficiently fashionable to procure them general favor; a long habit of not thinking a thing wrong, gives it a superficial appearance of being right, and raises at first a formidable outcry in defence of custom. But the tumult soon subsides. Time makes more converts than reason.”*

Thomas Paine

*“Too much sanity may be madness – and the maddest of all – to see life as it is, and not as it ought to be.”*

Don Quixote via Cervantes

