

Advocacy 101:

A Lesson in Cross-Cultural Communications

Talk presented
by
Tobin Smith
Vice President for Policy
Association of American Universities



UNC Chapel Hill
January 23, 2015

About AAU

- Founded in 1900
- Composed of 60 leading U.S. & two Canadian research universities
- Voting members are the Presidents and Chancellors
- Membership by invitation only
- Focus on on:
 - Research Funding
 - Science Policy Issues
 - Education



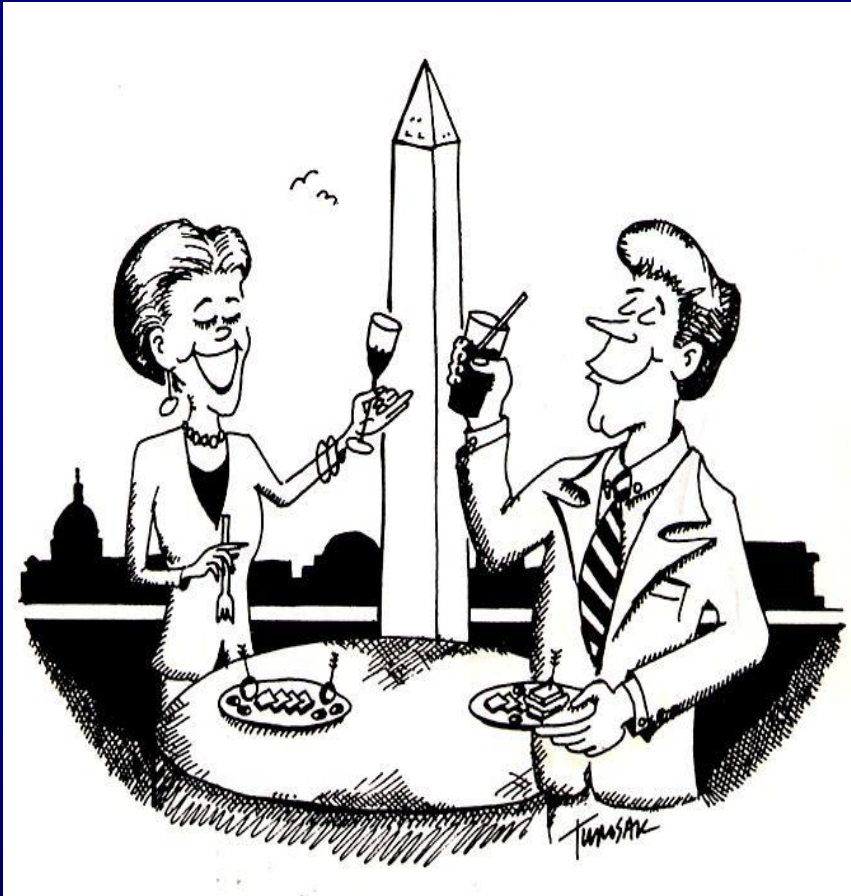
About Me

- Worked on Capitol Hill and then for MIT and U. Mich.
- Now Vice President for Policy at the AAU
- Focus on Research Funding and Science Policy Issues
- Advocacy, lobbying and coalition building
 - Innovation, competitiveness and energy issues
 - Federal regulations and compliance
 - Proactively shape government and university policy
 - e.g. Undergraduate STEM Education Initiative
- “Cross cultural communications”

*The business of making the work
of scientists and engineers
relevant to the “layperson”*



Two Cultures: Politicians & Scientists



*"I double majored in
history and English and
then went to Harvard
law. How about you?"*

Defining the Cultural Divide

Scientists

Numbers

Objective/Facts

Hate to make promises

Quantitative

Technical

Problem seekers

Ask why

Money = research

Think long term

Principles

Publicity avoiders

Science page

Specialists

Politicians/Policy makers

Words

Subjective/Public Opinion

Love to make promises

Qualitative

Political

Issue seekers

Ask why they should care

Money = getting re-elected

Think short term

Deliverables

Publicity hounds

Front page

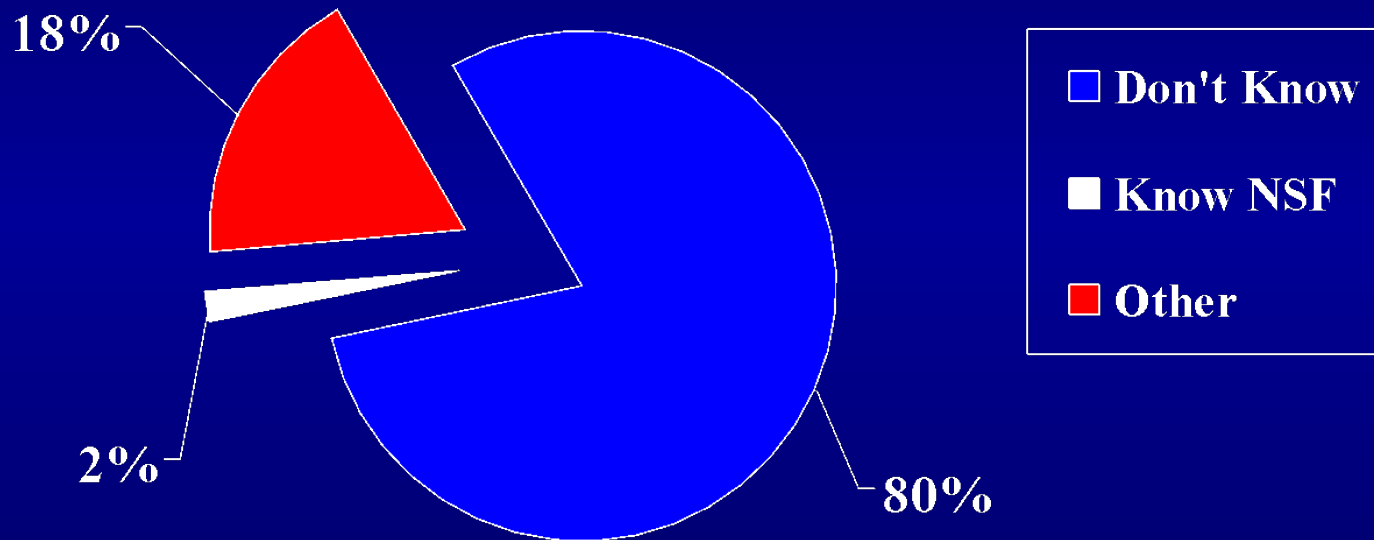
Generalists

Why we need more effective advocates for science and engineering

- Public does not understand science
- Policymakers do not understand science
- Journalists do not understand science
- Scientists are not good at communicating with these groups
- Scientists *don't* communicate with these groups

Most Do Not Recognize NSF

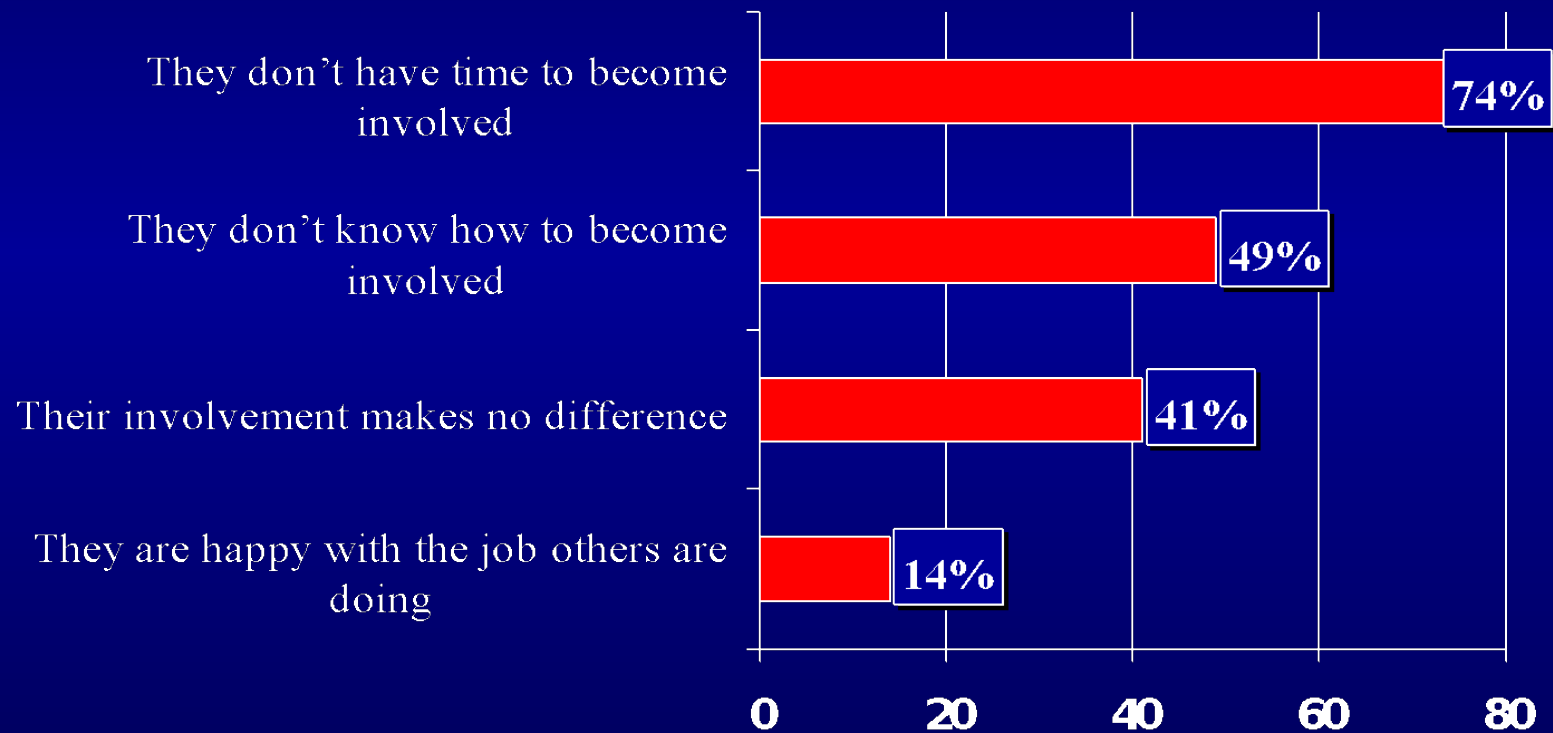
What is the name of the government agency that funds most of the basic research and educational programming in the sciences, mathematics and engineering in this country?



Source: Aggregate 2001
Charlton Research Company for Research!America

Scientists' Involvement In Public Outreach

Perceived reasons why more scientists aren't more involved in changing/supporting public policy. (total mentions)



Source: Sigma Xi Membership Poll (AK, DE, OH & TX)
in Cooperation with Research!America, 2000

Navigating the Process

For most scientists the key to understanding the legislative and policy-making process lies in realizing that they should not try to understand or rationalize it...

...but instead learn how to effectively navigate through it!

--Widder and Smith, 2005

Navigation Tips:

- 1) All politics are local
- 2) All politics is personal

LCD Monitors

**Speech Recognition
Technology**

Lithium-Ion Batteries

Catalytic Converters

Synthetic Polymers

**Shatterproof
Windshields**

Power Windows

Center Brake Light

Semiconductors

AUTOMOTIVE APPLICATIONS OF BASIC RESEARCH

Federally funded research laid the foundation for many technological advances contained in the modern car

**Airbag Deployment
Sensors**

CD Players

GPS

Remote Car Locks

Extended Tire Life

Car Bumpers



Produced by the Association of American Universities, www.aau.edu, Sept. 2010

For more examples, see the “Societal Benefits of Research Illustrated” at: www.aau.edu

DOD Research: Empowering and Supporting Our Troops in Combat

Federal funded scientific research aides soldiers in the field.



a INDIVIDUAL FIRST AID KIT: Most soldiers carry a HemCon bandage, which stops hemorrhaging within minutes and was selected in 2004 as one of the "Army Top 10 Greatest Inventions." Research & development of the HemCon bandage was funded by the Army and performed by the US Army Medical Research and Materiel Command.

b INTERCEPTOR BODY ARMOR: Most soldiers wear a flexible and highly ballistic-resistant body armor system that protects them in combat. This lightweight armor is the result of materials (ballistic fibers and ceramic plates) and engineering design research sponsored by the Marine Corps, Army, and DARPA.

c JOINT PRECISION AIR DROP SYSTEM: Improved air delivery drops food and equipment closer to soldiers, increases the survivability of aircraft personnel and critical supplies, and makes humanitarian relief more efficient. This joint Army/Air Force research effort began in 2004.

d LASER DESIGNATOR: Soldiers' weapons are equipped with laser sights to increase their precision in the field. Initial laser research was started at Bell Labs in the 1950s and later sponsored by the Army and Air Force.

LUMINESCENT POLYMERS FOR EXPLOSIVE SENSING: DOD-sponsored research has recently identified nanotechnologies capable of detecting hidden improvised explosive devices (IEDs).

e MEAL, READY-to-EAT: Advanced processing techniques protect food rations from deteriorating in extreme environments. Nutrition technologies added to some rations enhance the physical endurance of soldiers. Biosensors and marker systems help detect contaminants in food. These advances were the result of research sponsored by the Army and conducted at its Natick Soldier Research, Development, and Engineering Center.

f NIGHT VISION GOGGLES: Image intensifiers employ the photoelectric effect, allowing soldiers to see images in very low levels of light. Current night vision technology is the result of several years of DOD basic and applied research.

g SOLDIER PERSONAL DIGITAL ASSISTANT: Soldiers in the field receive important situational awareness and information using a variety of technologies.

- **GPS:** Basic research funded over several decades by the Air Force, Navy, and the AEC (now DOE) led to the development of the global positioning system, which gives the specific location of a soldier anywhere in the world.

- **Wearable Soldier Radio Terminal:** This technology provides voice communications and links soldiers' personal digital assistants to FalconView, a new software that networks and maps soldiers on the battlefield. The research leading to this was funded by multiple contracts with various DOD sponsors.

- **Lithium Primary Batteries:** A lighter and longer-lasting power source for soldiers was developed as a result of basic research funded by DOE and applied research funded by the Army and DARPA.

h SOLDIER TRAINING: Gaming technology and the simulation of battlefield environments help prepare soldiers for deployment and provide them with theater mission training. The underlying technologies were developed from basic research funded by the Army and conducted by the Institute for Creative Technologies at the University of Southern California, starting in 1999.

i TRANSLATION DEVICES: Highly accurate voice recognition technology allows soldiers to generate and interpret speech in other languages. These translation devices have been used heavily by U.S. troops in Iraq. The original technology resulted from DARPA-sponsored research and is being improved by other DOD agencies.

Navigation Tips:

- 1) All politics are local
- 2) All politics is personal
- 3) Build a relationship
 - of trust
 - that is mutually beneficial
 - offer to help; don't always 'ask'
- 4) Speak their language, not yours...

Scientists and Politicians Speak Different Languages

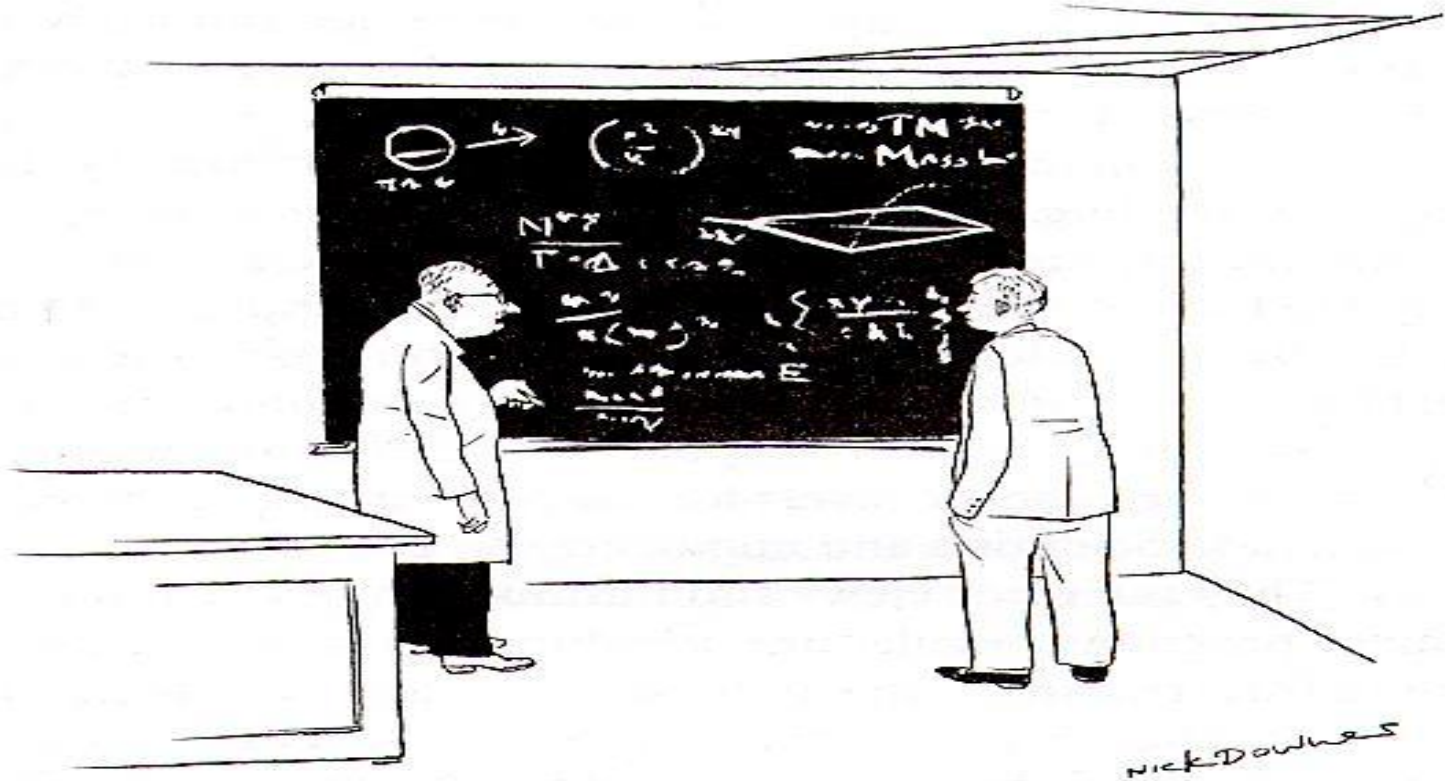
Michael Faraday, a pioneer in the field of electricity, was demonstrating the tremendous potential of his new invention the dynamo to the British Royal Society.

A young politician in the audience, William Gladstone, grew bored, finally saying:

“I’m sure this is all very
interesting, Mr. Faraday, but
what on Gods Earth good is it?

Replied Faraday dryly,
“Someday you politicians will
be able to tax it.”

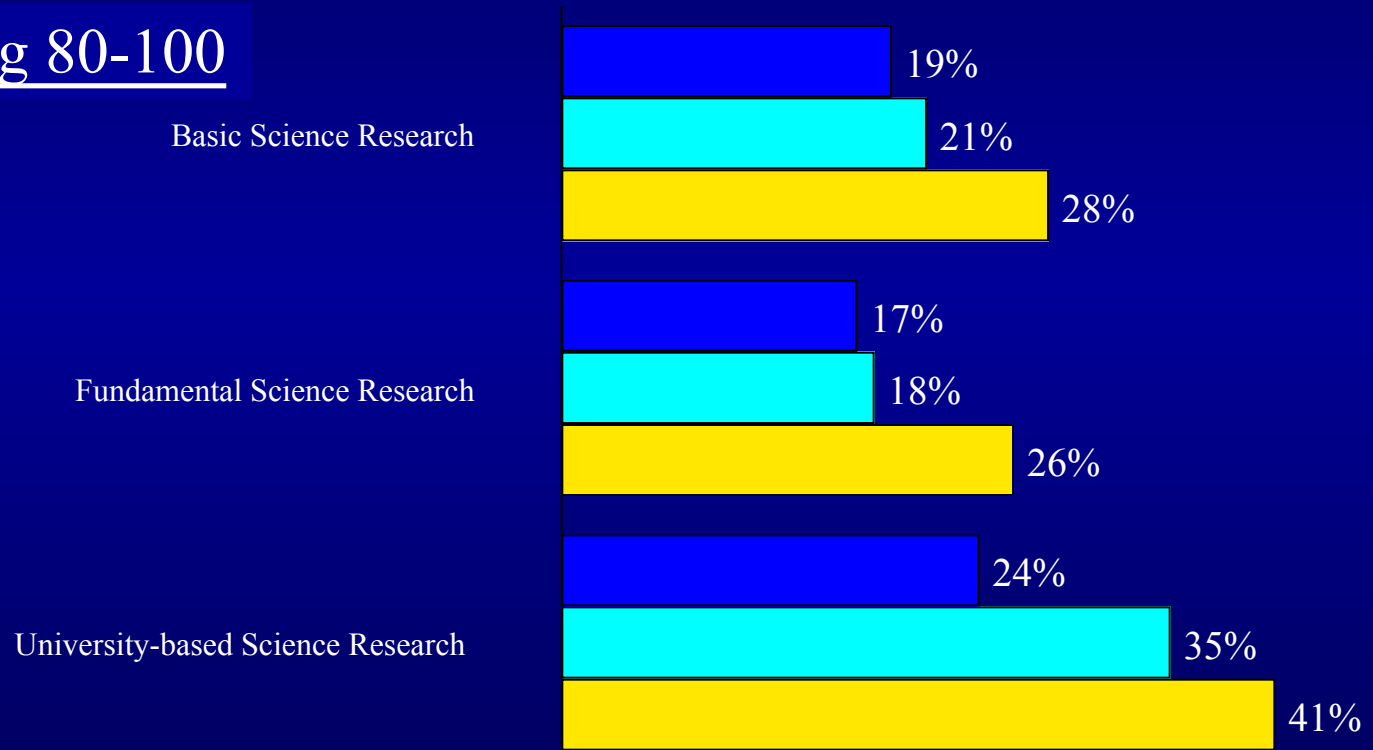
Language Matters



"IN LAYMAN'S TERMS? I'M AFRAID I DON'T KNOW ANY LAYMAN'S TERMS."

THE NATIONAL DATA ACTUALLY SUGGESTS INCORPORATING THE PHRASE “UNIVERSITY-BASED” MAKES SENSE AS IT SCORES HIGHER AMONG OPINION ELITES AND OUR CORE SUPPORTERS.

% Rating 80-100



■ % 80-100 Among All Voters
■ % 80-100 Among Opinion Elites
■ % Among Strong Approve Funding for Universities (38%)



Navigation Tips:

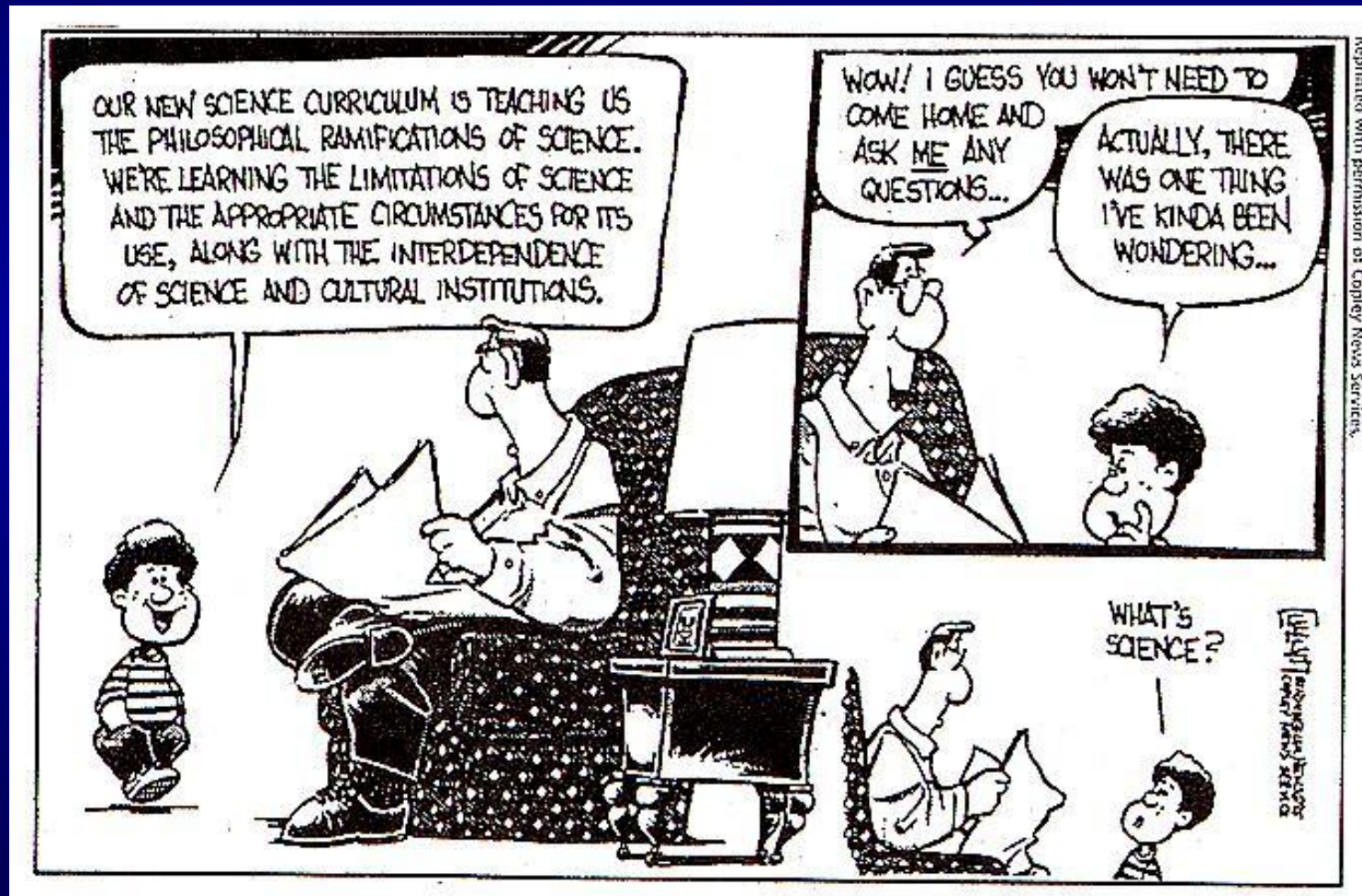
- 1) All politics are local
- 2) All politics is personal
- 3) Build a relationship
 - of trust
 - that is mutually beneficial
 - offer to help; don't always 'ask'
- 4) Speak their language, not yours...
- 5) ...but don't pretend to be a native
- 6) Know when to talk
- 7) Know to whom you are speaking

While Maps are Good, Tour Guides are Even Better!!!

- 1) Utilize your university federal relations officer
- 2) Don't forget that your scientific society often has a government relations office
- 3) Don't underestimate the value of Congressional staff in helping you to find your way around
 - Personal Staff
 - Committee Staff
 - Local Staff

Why do we need more people with science and engineering backgrounds to engage with policymakers?

Many Policymakers Do Not Understand Science



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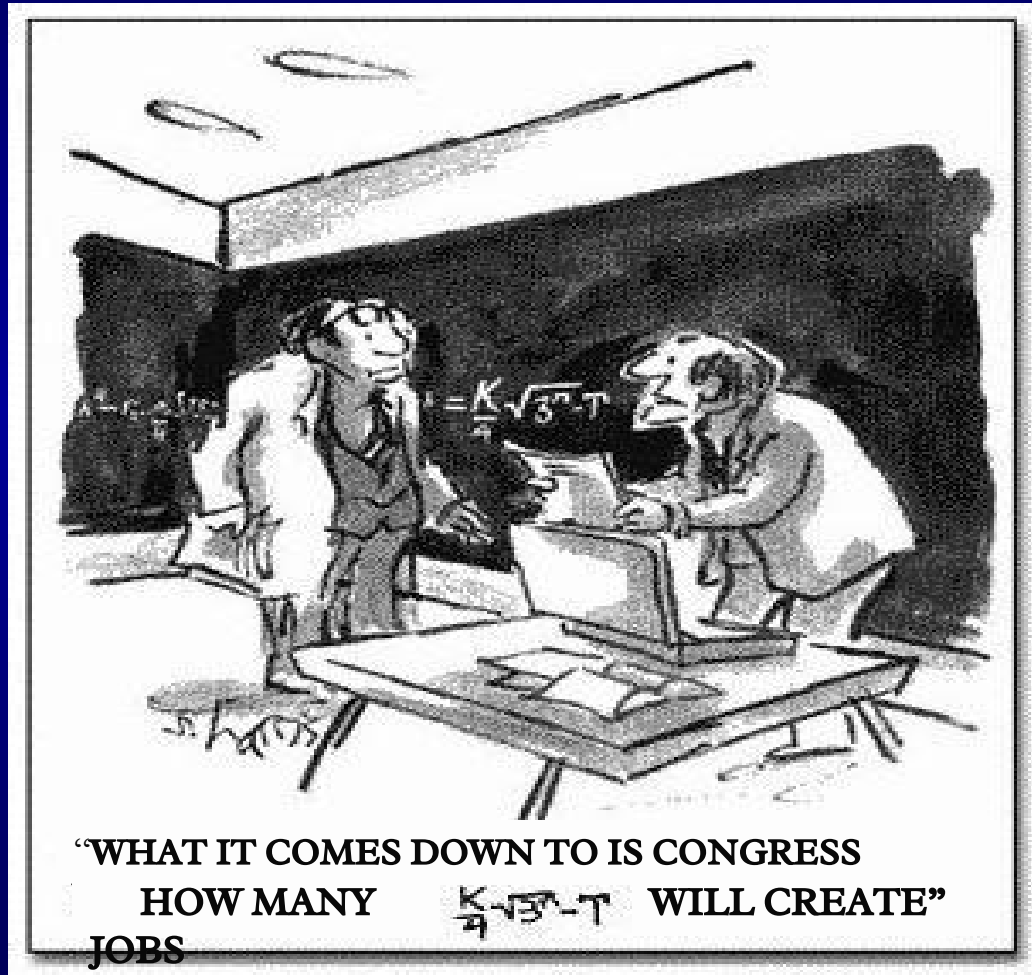
Congressional Profile

- 113th Congress: “One of the most inexperienced in history” *USA Today* (almost 100 new members of Congress)
- 2 in 5 House members (39%) had served for less than 3 years at the start of the Congress
- The Senate has seen a 43% turnover rate since 2008
- In 1992, 103 members were elected from swing districts versus 35 in 2012
- 114th Congress: Over 70 new House and Senate members

Few Members Congress come from Science & Engineering Backgrounds

- Less than 5 percent have any background in science or engineering
- There are 1.5 physicists, 1 mathematician, 1 microbiologist in the 114th Congress
- In the 113th Congress, only 6 members had engineering degrees and 25 had medical degrees
- 226 had law degrees
- 22 members had no educational degree beyond a high school diploma while only 20 had doctoral degrees in any subject

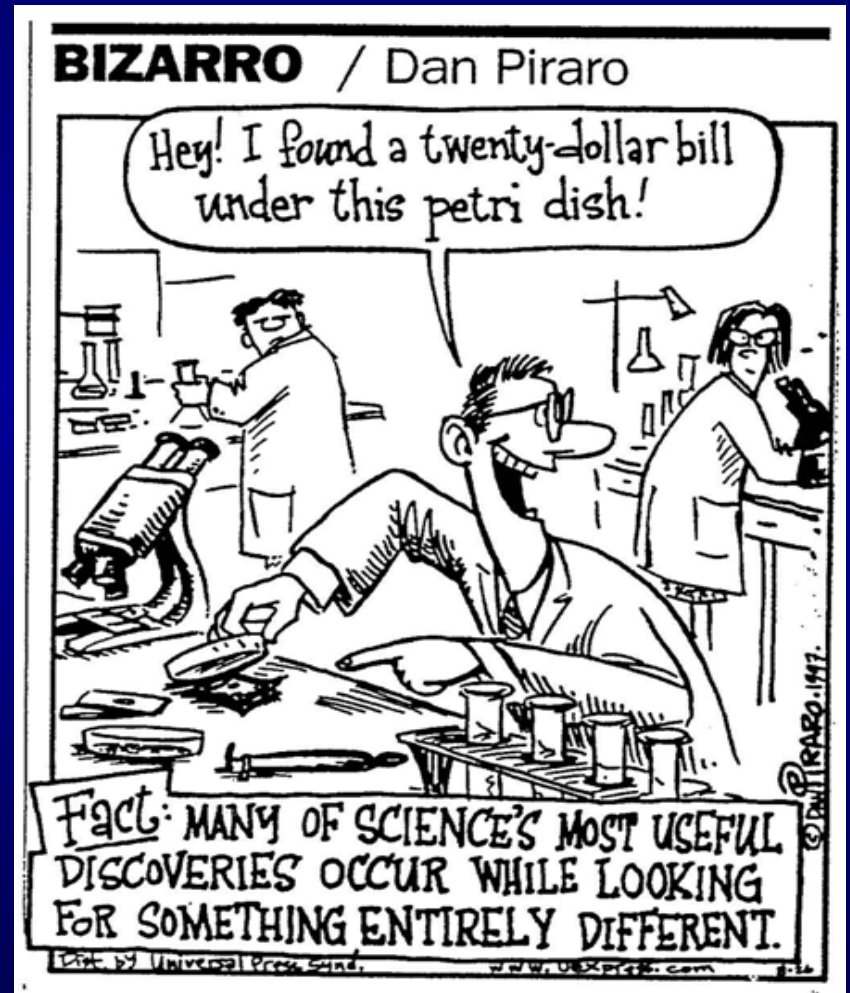
Many Members of Congress View Science as a “Means to and End”



*By Cartoonist Sidney Harris
American Scientist*

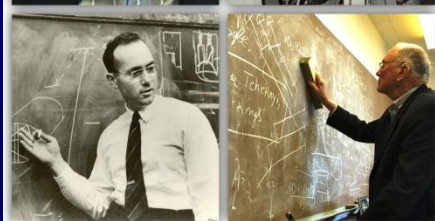
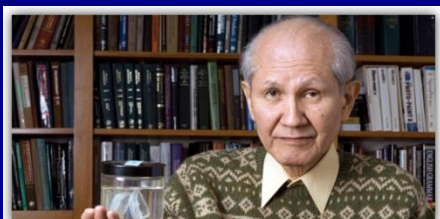
Why Science has a Difficult Time Delivering what Policymakers Want

- Cannot predict the outcomes of science
- Value is often not immediately known
- Investment in science creates jobs in the long-term, but not many in the short-term





THE GOLDEN GOOSE AWARD



THE BIG PICTURE

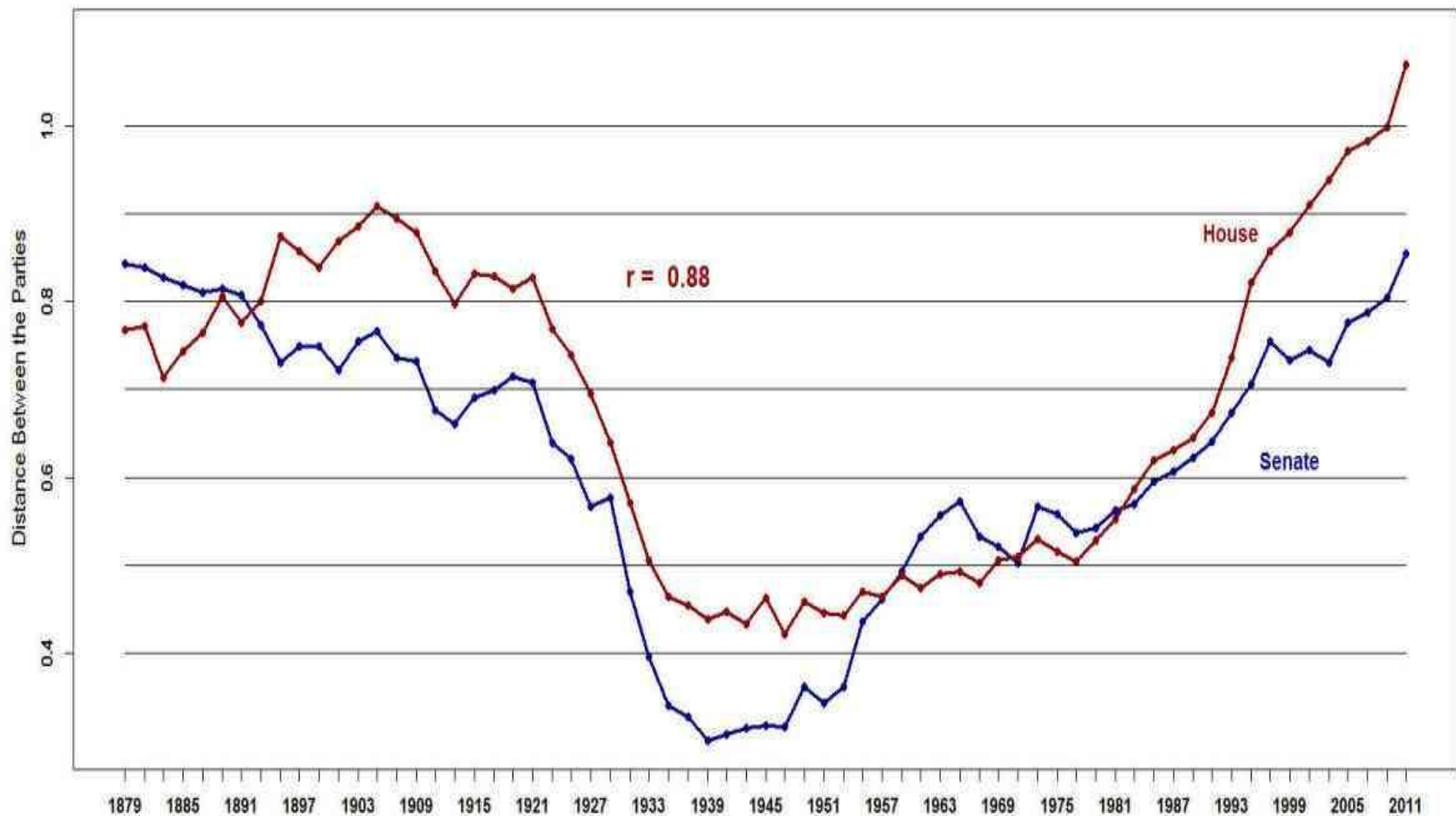


“In a real sausage plant, everybody is on the same team, trying to produce bratwurst or knockwurst. In the legislative sausage factory, at least half the people don’t want to make sausage. Or they want to make a different kind. For the last few years, Republicans have said, ‘We won’t make sausage unless we control the recipe.’ ”

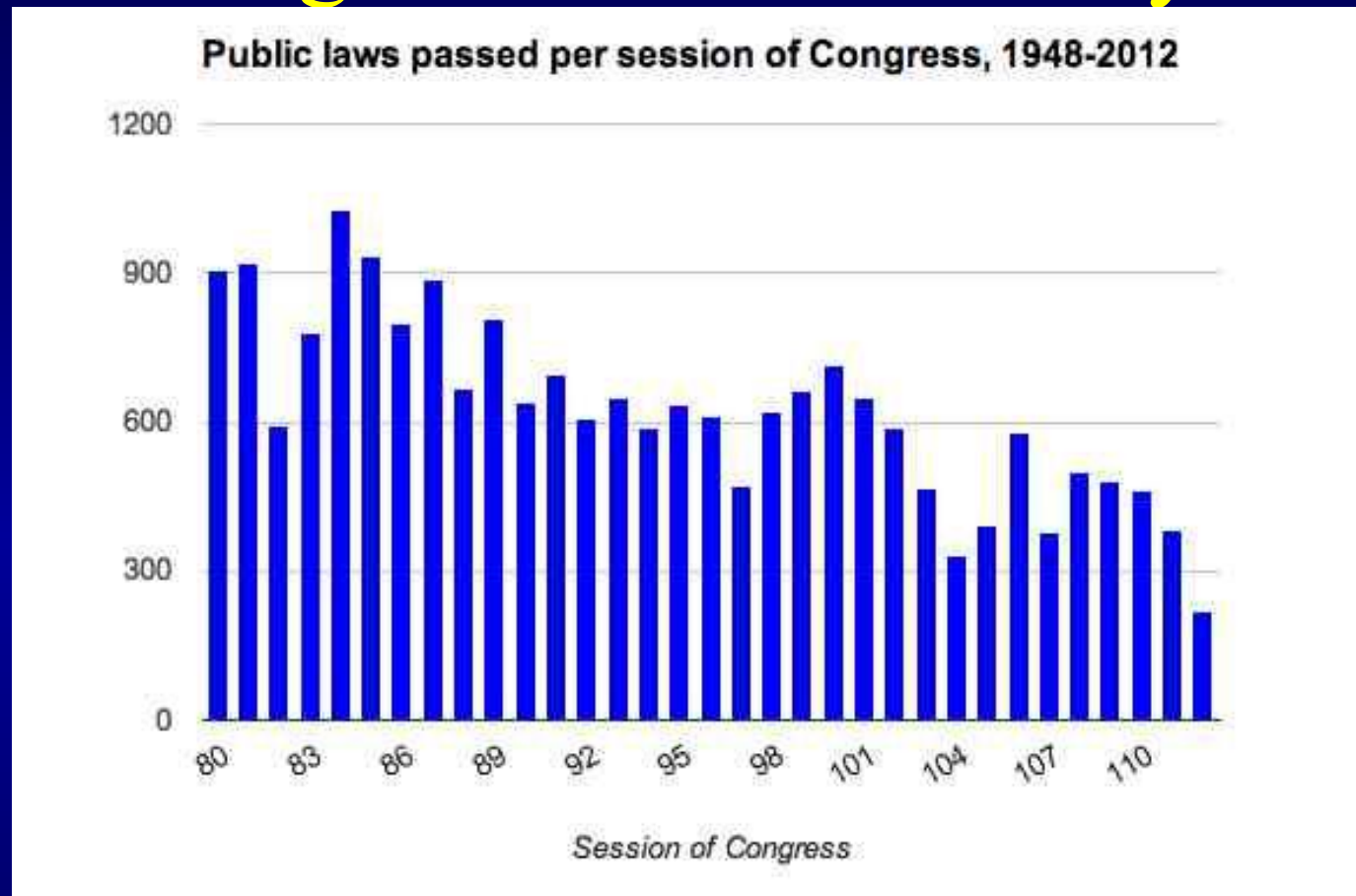
--Alan Rosenthal, Professor of Public Policy , Rutgers University
New York Times, “If Only Laws Were Like Sausages,” December 4, 2010

Party Polarization: 1879 - 2011

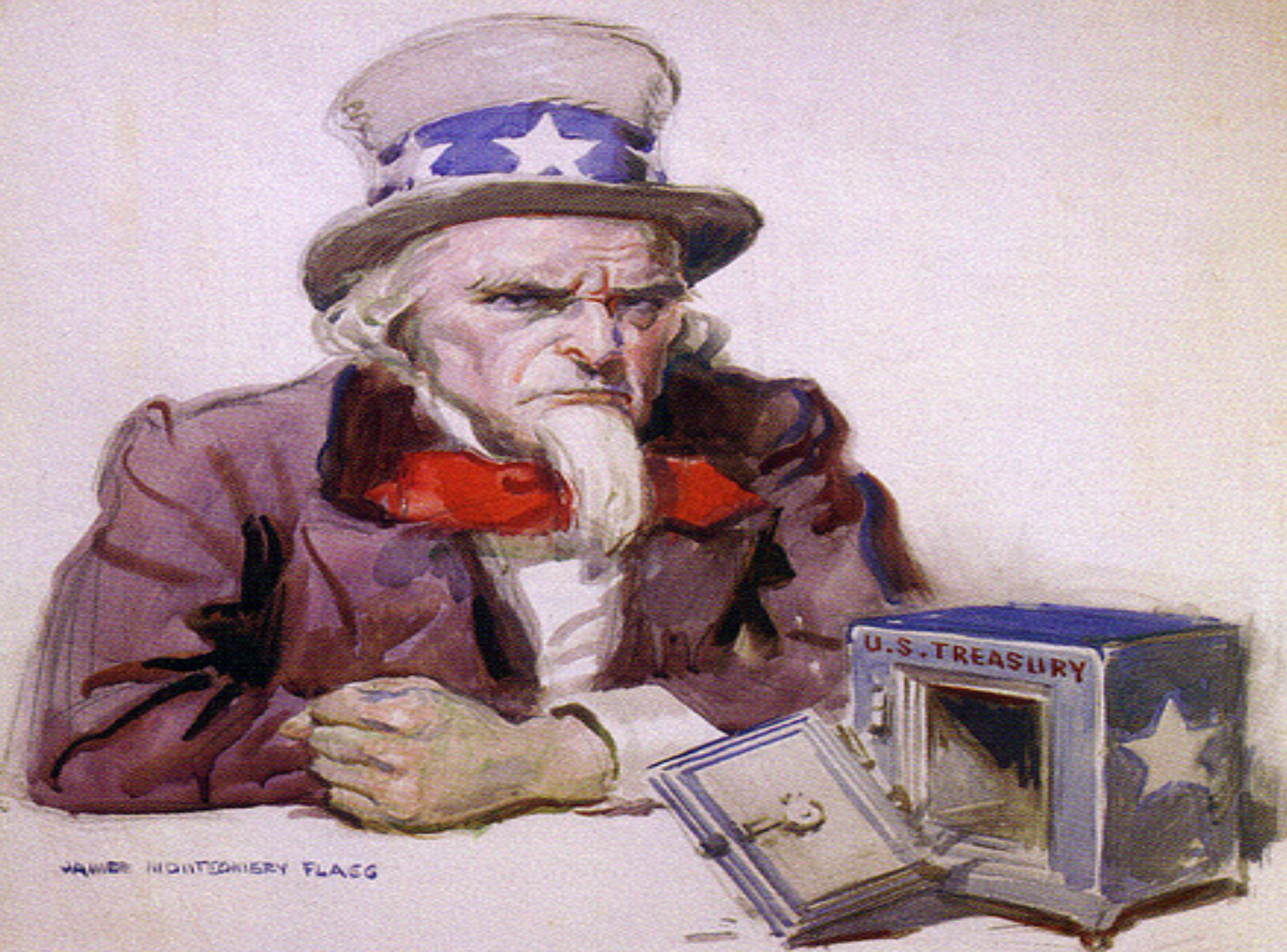
Party Polarization 1879-2011
Distance Between the Parties First Dimension



Legislative Productivity



- 112th Congress (2011-2012): 283 Public Laws
- 80th Congress (1947-1948) 900 Public Laws
- 113th Congress (as of Sept. 1st) 164 Public Laws

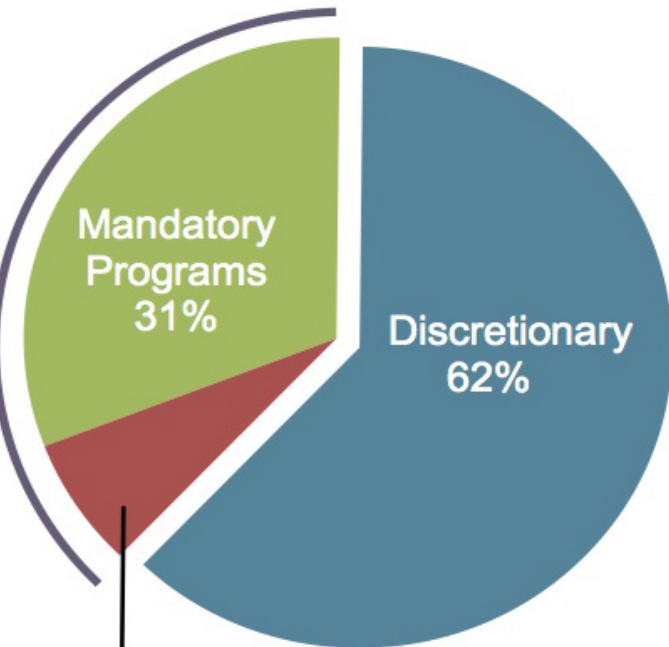


JAMES MONTGOMERY FLAGG

Growth in Entitlements

1970

Total Mandatory 38%

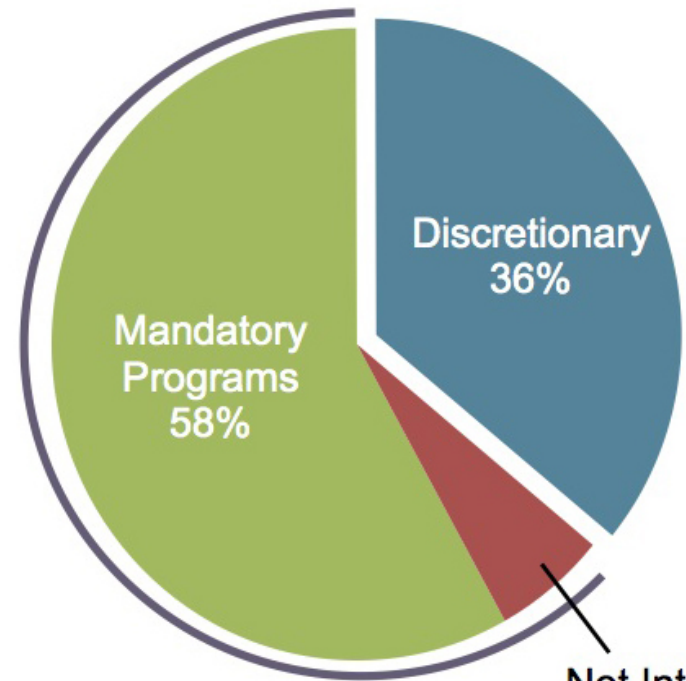


Net Interest
7%

**Total Spending:
\$900 Billion**

2012

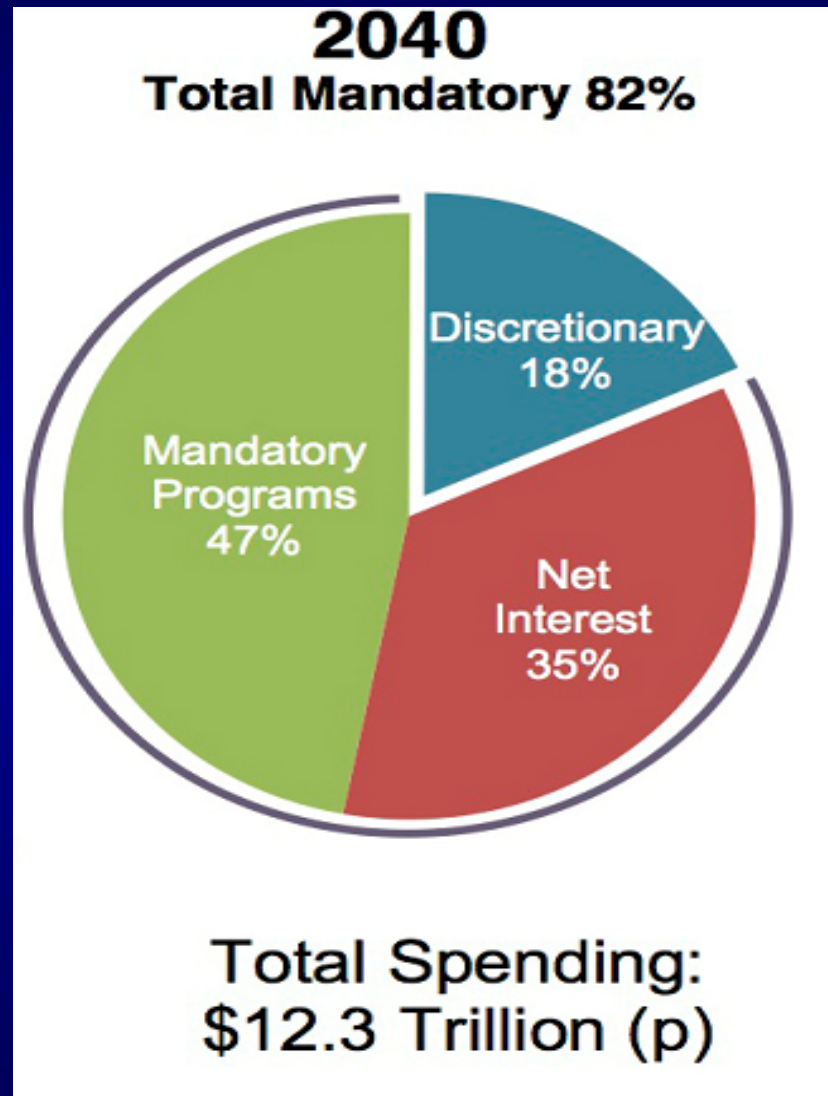
Total Mandatory 64%



Net Interest
6%

**Total Spending:
\$3.4 Trillion**

Growth in Entitlements



Source: Office of Management and Budget, Government Accountability Office,
Congressional Budget Office data via the Peter G. Peterson Foundation.
Data Note: All figures are in constant 2009 dollars. Authors' calculations for 2012.
Produced by Jason Fichtner and Veronique de Rugy, Mercatus Center at George Mason University.

Sequestration and the Growing Innovation Deficit



<http://www.innovationdeficit.org>

Why Effective Advocacy is Critical for the Research Community

- 1) Tight budget means potential cuts for key science agencies and programs.
- 2) Questions will be asked concerning if past funding for science has been well spent and what has resulted from it.
- 3) A new Congress with new Members and new Committee Chairs.
- 4) To defend against unfavorable Congressional actions and to prevent regulations that can harm scientists ability to conduct science.
- 5) To help shape better public policy by providing scientific and technical input.

“While I realize that scientists by nature often feel uncomfortable with advocacy, if we all stayed within our comfort zones, little would be accomplished. Though perhaps they are not well understood, scientists are highly respected in our society. They are also highly credible. When they speak with a unified voice, the people listen.”

~**Hon. John Edward Porter**, at White House Office of Science and Technology Policy 25th Anniversary Symposium

Useful Web Sites/Resources

- “Advocacy 101” at openthegovernment.org [http://www.openthegovernment.org/take action/advocacy](http://www.openthegovernment.org/take_action/advocacy)
- The Science Coalition’s “Science Matters” Advocacy Toolkit <http://www.sciencecoalition.org/science-matters>
- FASEB Advocacy Website: <http://www.faseb.org/Policy-and-Government-Affairs/Become-an-Advocate.aspx>
- AGU Policy Action Center <http://actioncenter.agu.org/> and Top Science Policy Issues in Congress <http://sciencepolicy.agu.org/us-elections/>
- Advocacy 101 for Women in Science [http://c.ymcdn.com/sites/www.awis.org/resource/resmgr/Research/AWIS Advocacy 101.pdf](http://c.ymcdn.com/sites/www.awis.org/resource/resmgr/Research/AWIS_Advocacy_101.pdf)

Thank you for your attention...



Discussion and Q&A

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