COMMUNICATING BIOENERGY IN SOCIAL AND POLITICAL CONTEXTS

Michael A. Cacciatore
Dietram A. Scheufele
&
Bret R. Shaw

Department of Life Sciences Communication
University of Wisconsin—Madison

"Communicating Scientific Information"
2012 Behavior, Energy, & Climate Change Conference
Sacramento, CA, November 12-14, 2012

THIS TALK … AN OVERVIEW

- Our intuitions about good communication … and why they're often wrong
- How we all make decisions about emerging technologies
- Values and politics … and why they matter for science
- The silver lining in all of this …

THIS TALK … AN OVERVIEW

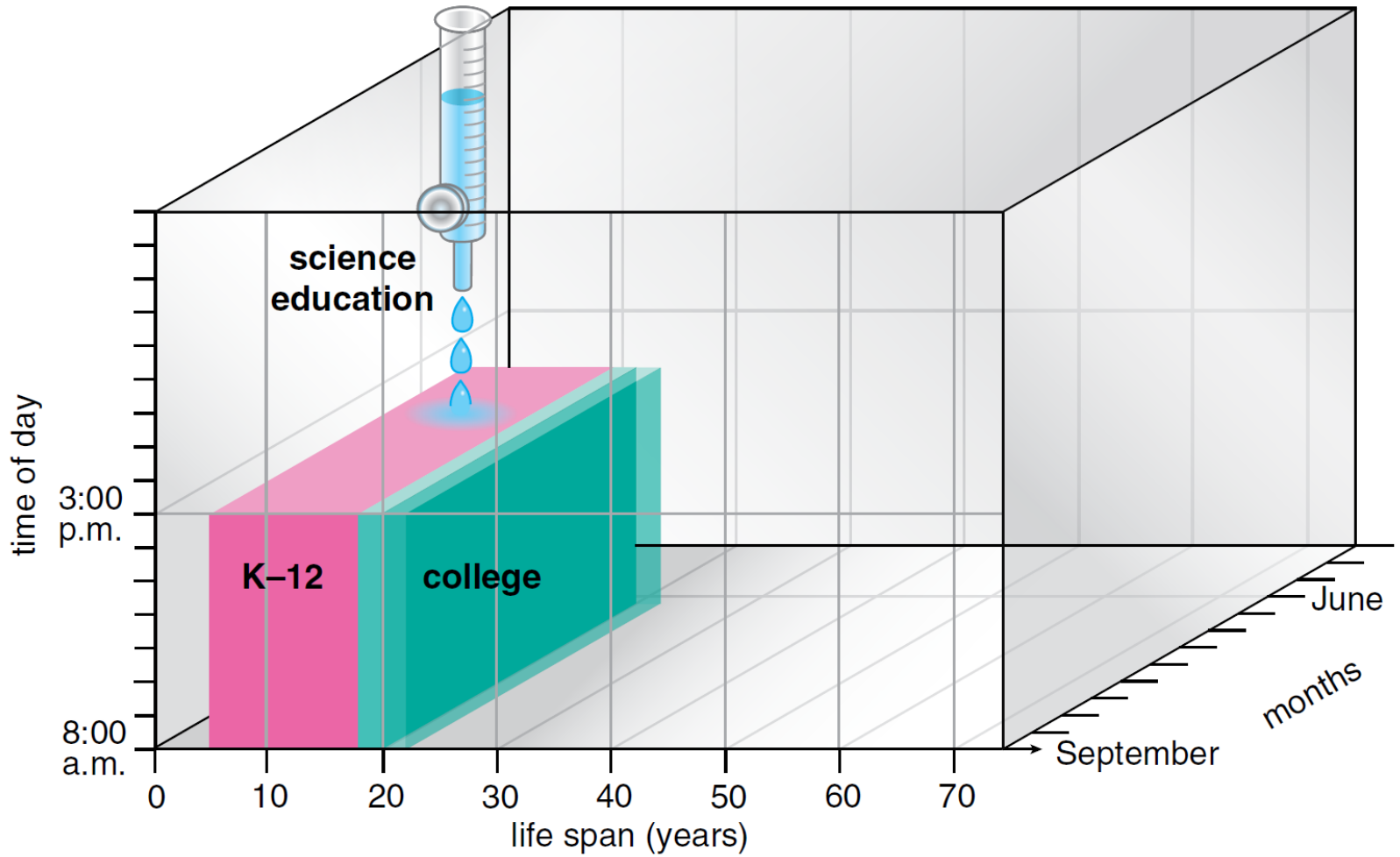
- Our intuitions about good communication … and why they're often wrong
- How we all make decisions about emerging technologies
- Values and politics … and why they matter for science
- The silver lining in all of this …

… AND THAT INCLUDES THE IDEA THAT KNOWLEDGE CORRELATES WITH POSITIVE SCIENCE ATTITUDES

- Different labels
  - Knowledge deficit models
  - Familiarity hypothesis
  - etc.
- Assumption
  - If people were only more informed, they would be more supportive of science
  - Effective communication is about explaining the science better
- Unfortunately
  - Little empirical support …

MOST EMERGING TECHNOLOGIES ARE DEBATED OUTSIDE OF INFORMATIONAL ENVIRONMENTS

Falk, J. H., & Dierking, L. D. (2010). The 95 percent solution: School is not where most Americans learn most of their science. *American Scientist, 98*, 486-493.



THIS TALK … AN OVERVIEW

- Our intuitions about good communication … and why they're often wrong
- How we all make decisions about emerging technologies
- Values and politics … and why they matter for science
- The silver lining in all of this …

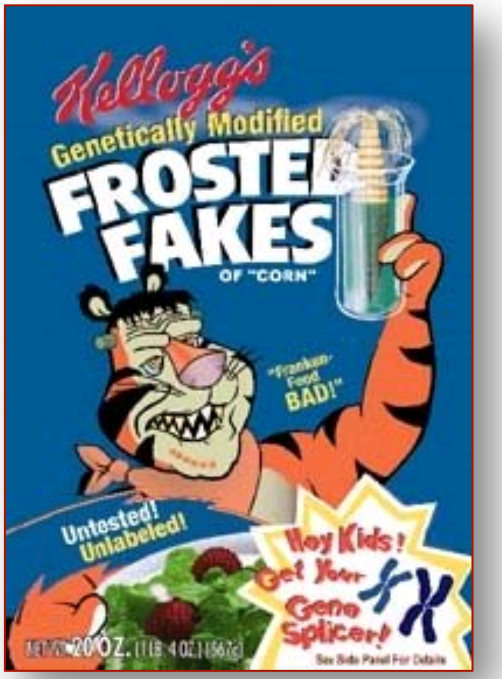
WE ARE ALL COGNITIVE MISERS

Scheufele, D. A. (2006). Messages and heuristics: How audiences form attitudes about emerging technologies. In J. Turney (Ed.), *Engaging science: Thoughts, deeds, analysis and action* (pp. 20-25). London: The Wellcome Trust.

- It does not make sense for most of us to develop an in-depth understanding of complex issues ("low information rationality")
- But we develop policy preferences even in the absence of sufficient information
- Values, heuristics, etc. become powerful replacements or tools for interpreting information about S&T

FRAMES AS A KEY HEURISTIC FOR MAKING COMPLEX DECISIONS

Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication, 49*(1), 103-122.



The Atlantic Monthly (October 2003)

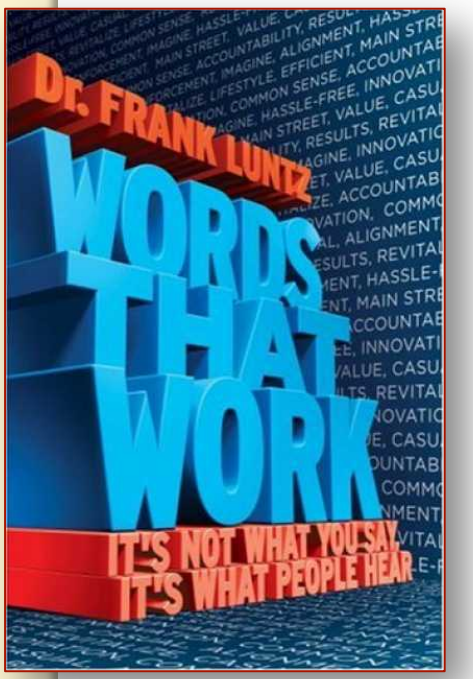
WHY FRAMING IS PARTICULARLY POWERFUL FOR EMERGING TECHNOLOGIES

Bruner, J. S., & Minturn, A. L. (1955). Perceptual identification and perceptual organization. *Journal of General Psychology, 53*, 21-28.

- Daniel Kahneman and Amos Tversky:
  "Perception [of ambiguous stimuli] is reference-dependent."
- Science as complex, ambiguous stimulus, and framing as a way to reduce this ambiguity by contextualizing the information

FRAMES AS HEURISTICS: THE "PICTURES IN OUR HEADS"

(Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda-setting, and priming: The evolution of three media effects models. *Journal of Communication, 57*(1), 9-20.)



- Frames are not about offering new facts
- Rather: Frames differ in how they present issues
  - Bank bailout vs. rescue package
  - Exploring for energy vs. drilling for oil
  - etc.
- They are also important journalistic tools to help audiences
  - determine why an issue is important
  - efficiently process new information by connecting it to what we already know

… BIOFUELS FRAMING CHALLENGES

The New York Times

Weather Risks Cloud Promise of Biofuel

Steve Pope/European Pressphoto Agency

Corn plants in Blairstown, Iowa, were pounded by hail recently and perpetual rains for weeks.

By JAD MOUAWAD
Published: July 1, 2008

The record storms and floods that swept through the Midwest last month struck at the heart of America's corn region, drowning fields and dashing hopes of a bumper crop.

Multimedia

They also brought into sharp relief a new economic hazard. As America grows more reliant on corn for its fuel supply, it is becoming vulnerable to the

… AND MORE FRAMING CHALLENGES

The New York Times

Food Report Criticizes Biofuel Policies

By ANDREW MARTIN
Published: May 30, 2008

Agriculture Secretary Edward T. Schafer is preparing to walk into a buzzsaw of criticism over American biofuels policy when he meets with world leaders to discuss the global food crisis next week.

Enlarge This Image

Yuri Cortez/Agence France-Presse — Getty Images

A dried-out cocoa plant in Los Chiles, Costa Rica.

Mr. Schafer took the offensive at a press conference on Thursday that discussed the food summit, planned for Rome. He said an analysis by the Agriculture Department had determined that biofuel production was responsible for only 2 to 3 percent of the increase in global food prices, while biofuels had reduced consumption of crude oil by a million barrels a day.

"We think that policy-wise in the United States of America — and certainly in the rest of the world — as we see the

TWITTER
LINKEDIN
SIGN IN TO E-MAIL OR SAVE THIS
PRINT
REPRINTS
SHARE

Related

Managing Globalization

… STILL MORE FRAMING CHALLENGES

The New York Times

How Biofuels Could Starve the Poor

By C. FORD RUNGE AND BENJAMIN SENAUER
Published: May 7, 2007

From the May/June 2007 issue of Foreign Affairs.

SIGN IN TO E-MAIL OR SAVE THIS

PRINT

from the Council on Foreign Relations

- Top CFR Headlines
- CFR Backgrounders
- CFR Task Force Reports

FOREIGN AFFAIRS

- In the Current Issue
- Foreign Affairs Bestseller List
- Subscribe to Foreign Affairs

C. Ford Runge is Distinguished McKnight University Professor of Applied Economics and Law and Director of the Center for International Food and Agricultural Policy at the University of Minnesota. Benjamin Senauer is Professor of Applied Economics and Co-director of the Food Industry Center at the University of Minnesota.

THE ETHANOL BUBBLE

In 1974, as the United States was reeling from the oil embargo imposed by the Organization of Petroleum Exporting Countries, Congress took the first of many legislative steps to promote ethanol made from corn as an alternative fuel. On April 18, 1977, amid mounting calls for energy independence, President Jimmy Carter donned his cardigan sweater and appeared on television to tell Americans that balancing energy

THIS TALK … AN OVERVIEW

- Our intuitions about good communication … and why they're often wrong
- How we all make decisions about emerging technologies
- Values and politics … and why they matter for science
- The silver lining in all of this …

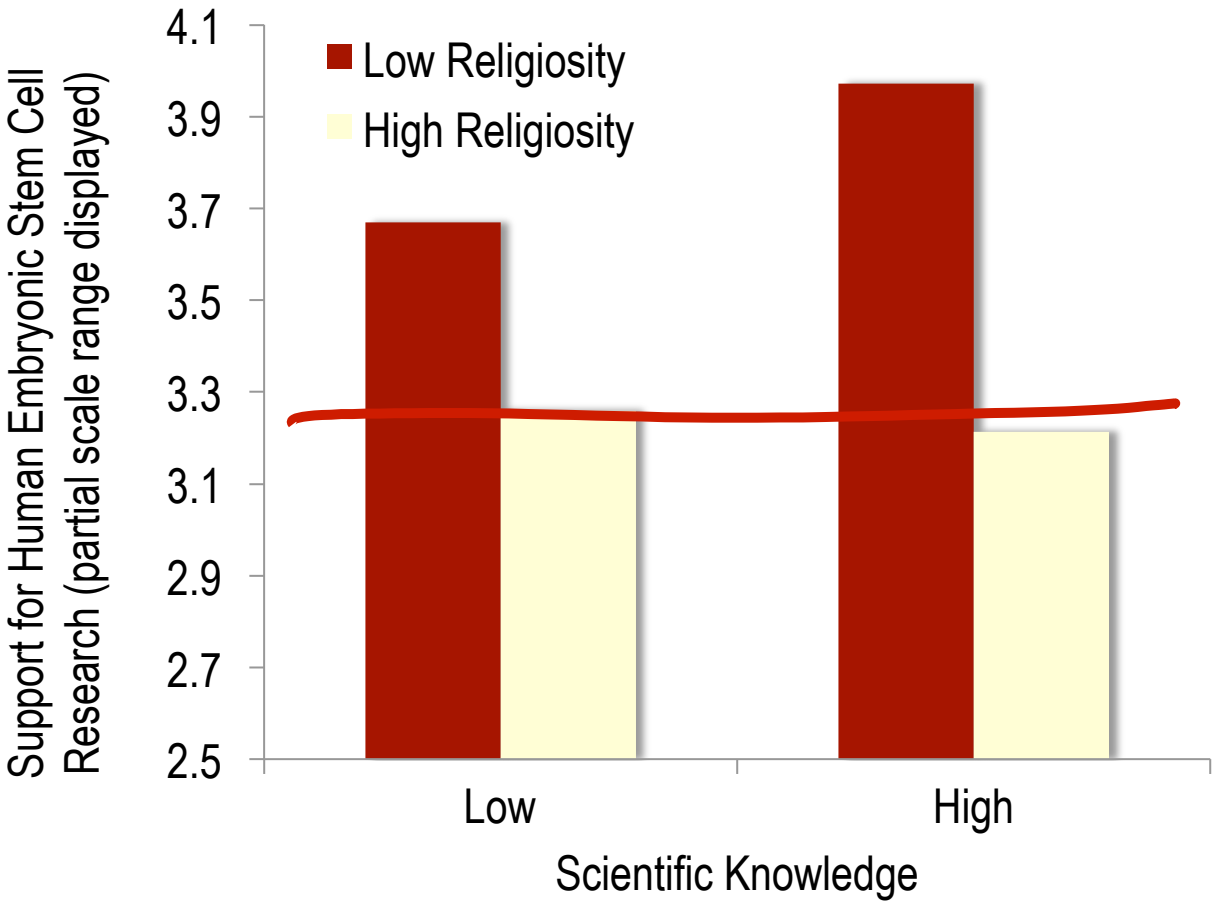
… IN FACT, INFORMATION IS HIGHLY SUSCEPTIBLE TO SELECTIVE INTERPRETATION

Scheufele, D. A. (2006). Messages and heuristics: How audiences form attitudes about emerging technologies. In J. Turney (Ed.), *Engaging science: Thoughts, deeds, analysis and action* (pp. 20-25). London: The Wellcome Trust.

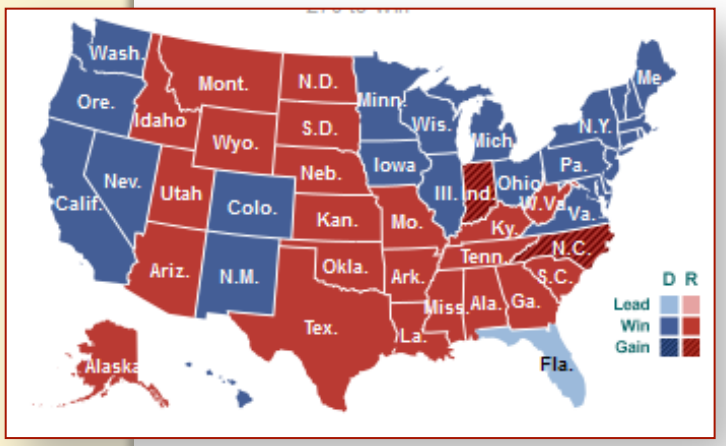
- We all process information through various perceptual filters, including
  - religious beliefs
  - moral schemas
  - trust
  - etc.
- As a result: Any given fact may mean different things to different people

EVEN FACTS ARE (RE)INTERPRETED BASED ON OUR PRECONCEIVED IDEAS AND VALUES

Ho, S. S., Brossard, D., & Scheufele, D. A. (2008). Effects of value predispositions, mass media use, and knowledge on public attitudes toward embryonic stem cell research. *International Journal of Public Opinion Research, 20*(2), 171-192.



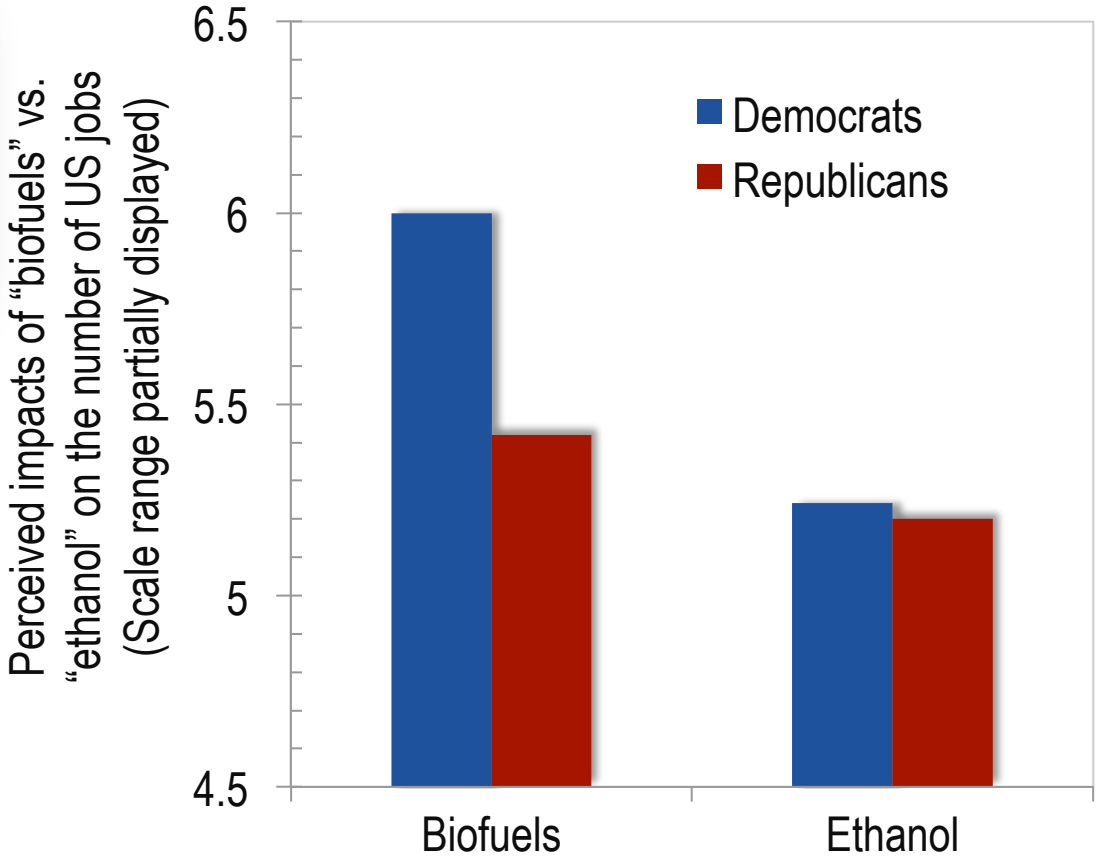
BIOFUELS ARE NOT ANY DIFFERENT



- Knowledge deficits are not responsible for a lack of support … in fact, knowledge levels *negatively* predict support for biofuels
- Instead, we're seeing
  - Heuristic/framing effects
  - Motivated reasoning along partisan lines …

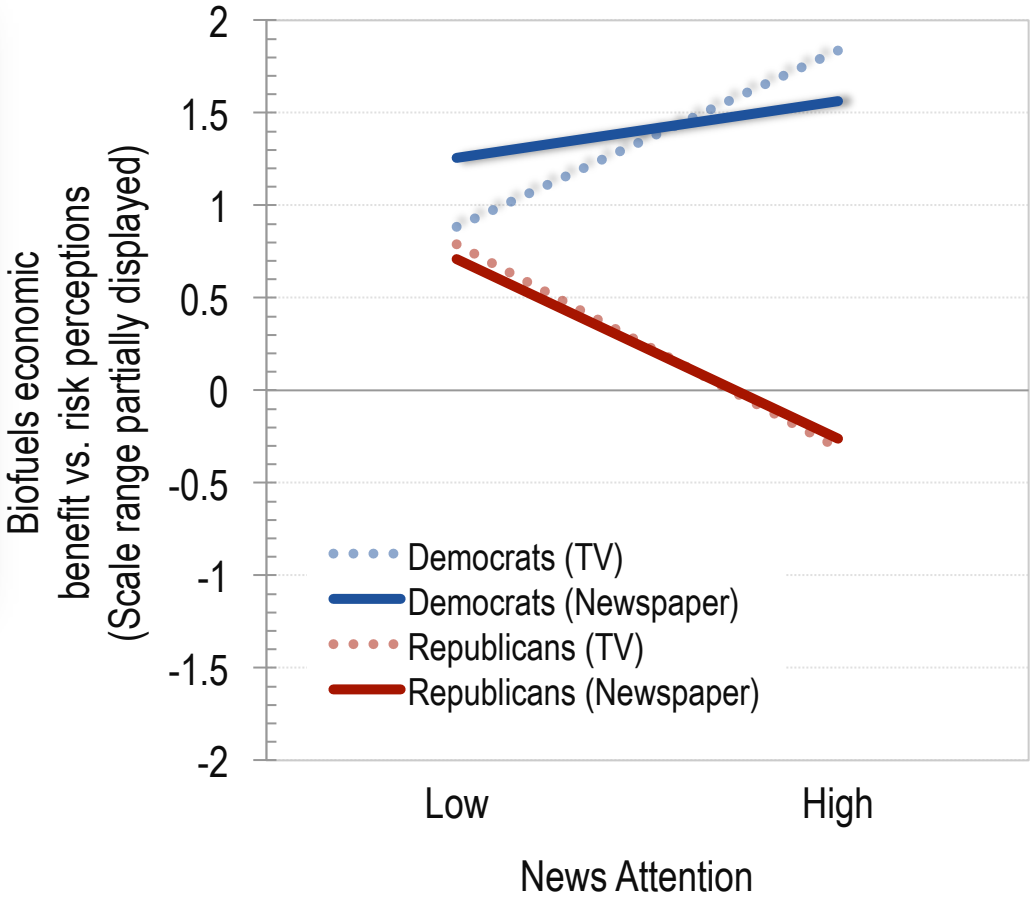
LABELING BIOENERGY: FRAMES RESONATE WITH DIFFERENT (PARTISAN) AUDIENCES

Cacciatore, M. A., Scheufele, D. A., & Shaw, B. R. (in press). Labeling renewable energies: How the language surrounding biofuels can influence its public acceptance. *Energy Policy.*



"IDEOLOGICAL" REASONING? INFORMATION MEANS DIFFERENT THINGS TO DIFFERENT PEOPLE

Cacciatore, M. A., Binder, A. R., Scheufele, D. A., & Shaw, B. R. (in press). Public attitudes toward biofuels: Effects of knowledge, political partisanship, and media use. *Politics and the Life Sciences.*

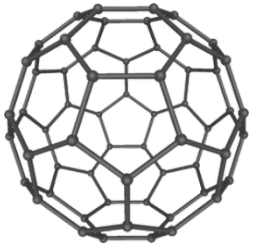


THIS TALK … AN OVERVIEW

- Our intuitions about good communication … and why they're often wrong
- How we all make decisions about emerging technologies
- Values and politics … and why they matter for science
- The silver lining in all of this …

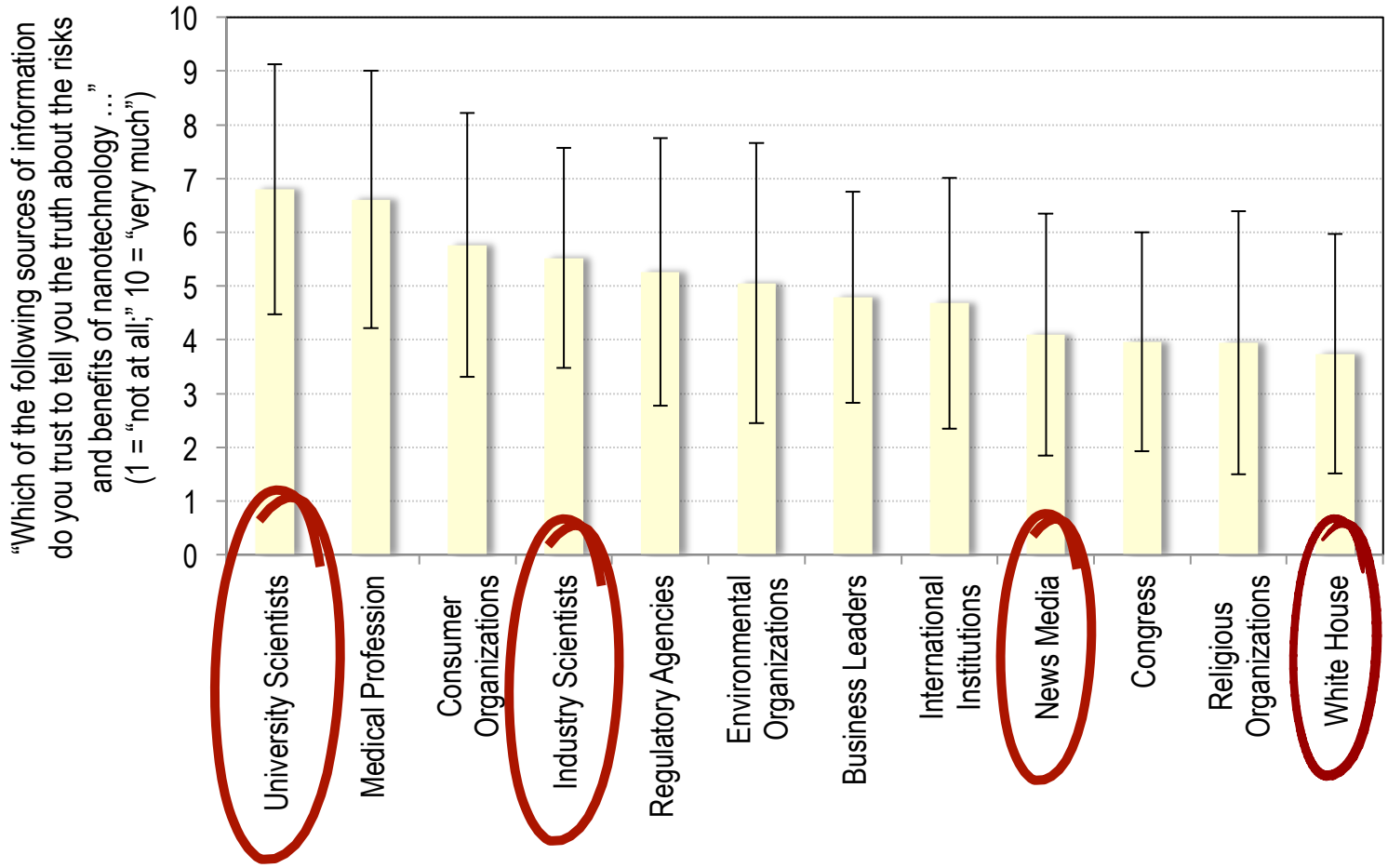
SUSTAINED SCIENCE-SOCIAL SCIENCE INTERFACES WILL BE CRUCIAL

- Growing body of established social science about stable principles and mechanisms behind science communication
- But we also face significant variations and changes in
  - the types of technologies we're dealing with
  - the ELSI concerns surrounding them
  - the political and communication environments they are embedded in

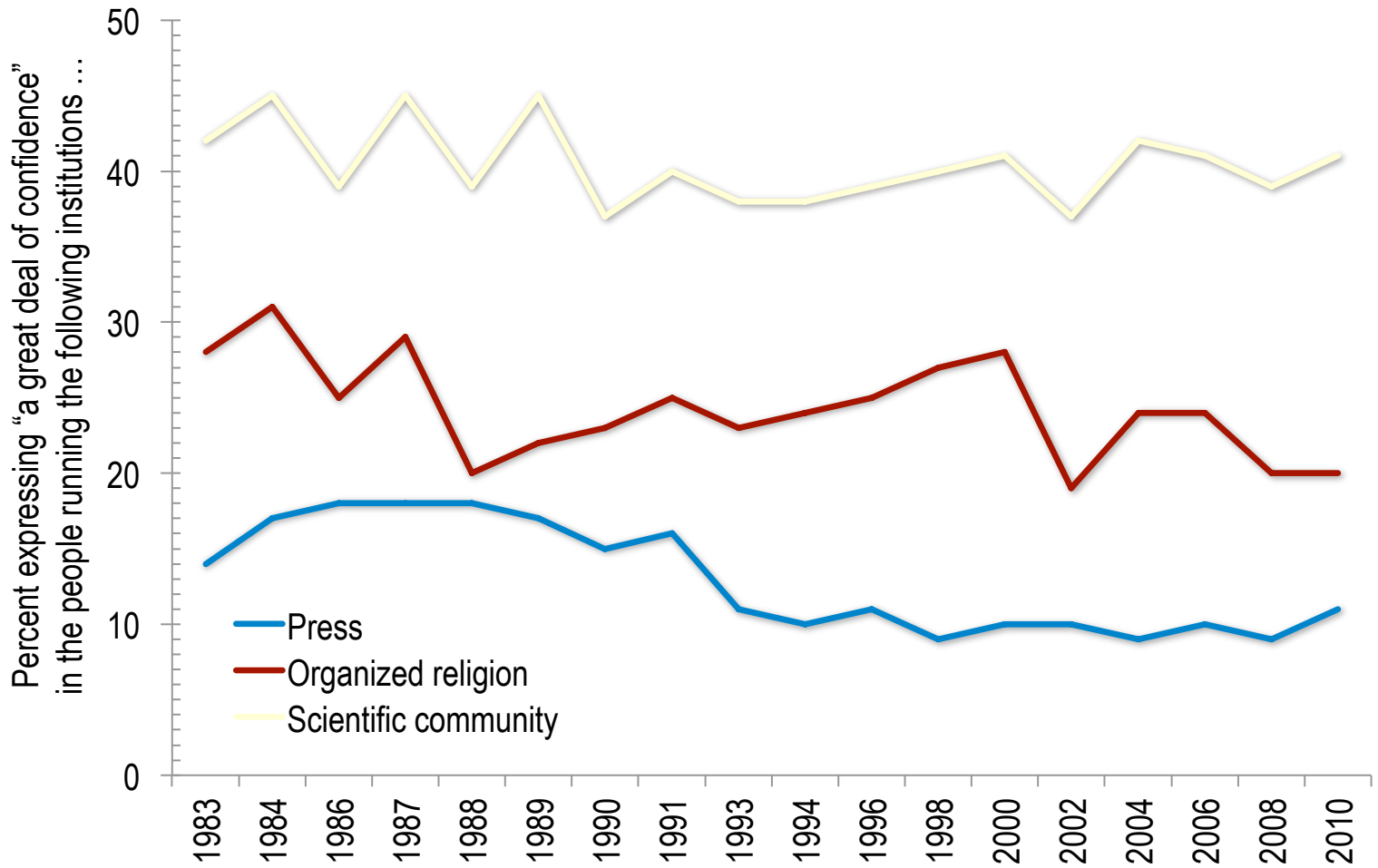
UNIVERSITIES CONTINUE TO SERVE AS KEY SCIENCE-PUBLIC CONDUITS

(Data based on: Scheufele, D. A., Corley, E. A., Shih, T.-j., Dalrymple, K. E., & Ho, S. S. (2009). Religious beliefs and public attitudes to nanotechnology in Europe and the US. *Nature Nanotechnology, 4*(2), 91-94. doi: 10.1038/NNANO.2008.361)



AS OTHER INSTITUTIONS DECLINE, UNIVERSITIES MAINTAIN PUBLIC TRUST

(Data based on National Opinion Research Center (NORC) personal interviews with national adult samples, collected as part of continuing series of social indicators since 1972)



THANK YOU

Michael A. Cacciatore | mcacciatore@wisc.edu

Funding:

U.S. Department of Agriculture

U.S. Department of Energy

University of Wisconsin—Madison Graduate School

… BUT, THIS DOES NOT MEAN THAT KNOWLEDGE CAN BE WHOLLY IGNORED AS PART OF THIS APPROACH