



DESIGNING SCIENCE COMMUNICATION

A RHETORICAL TOOLSET



STRATEGIES

UNDERSTAND
YOUR VALUES

UNDERSTAND YOUR
AUDIENCE'S VALUES

IDENTITY AFFIRMATION

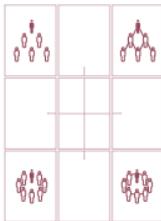
NON-THREATENING
MESSAGING

PLURALISTIC ADVOCACY

EMOTIONAL RESONANCE



VALUES



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EXERCISES

ROLE PLAY

PIN THE VALUES
ON THE MESSAGE

DO OVER

WRITE FOUR VERSIONS

UNIFY WITH METAPHOR

WRITE THE ENDING FIRST



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PERSPECTIVES:

CLIMATE CHANGE

NUCLEAR POWER

NANOTECHNOLOGY

HPV VACCINATION

STUDIES:

PUBLIC PERCEPTIONS OF CONSENSUS

THE POLARIZING IMPACT
OF SCIENCE LITERACY

BIASED ASSIMILATION &
CULTURAL CREDIBILITY

FRAMING INFORMATION FOR
IDENTITY AFFIRMATION



SUPPLEMENTAL MATERIALS

SAMPLE METAPHORS

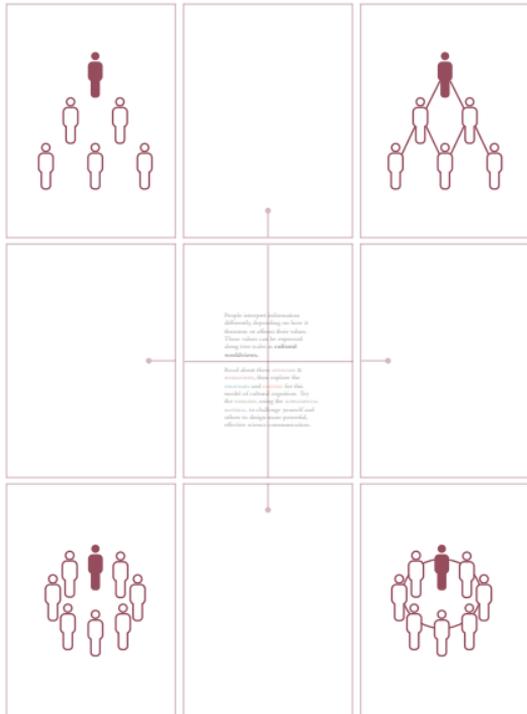
SAMPLE TOPICS

SAMPLE QUOTES

SAMPLE STORIES



VALUES



People interpret information differently, depending on how it threatens or affirms their values. These values can be expressed along two scales as **cultural worldviews**.

Read about these **ATTITUDES & WORLDVIEWS**, then explore the **STRATEGIES** and **CONTEXT** for this model of cultural cognition. Try the **EXERCISES**, using the **SUPPLEMENTAL MATERIAL**, to challenge yourself and others to design more powerful, effective science communication.



WORLDVIEWS

HIERARCHICAL INDIVIDUALIST



“Personal ambition is a virtue, not a vice.”

values personal freedom within a traditional social structure

unrestricted opportunities to compete and pursue individual interests

risks destabilization of traditional social and family structures

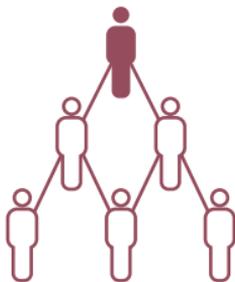
outsider interference and externally imposed restrictions





WORLDVIEWS

HIERARCHICAL COMMUNITARIAN



“What’s good for the goose is good for the gander.”

values strong community values in a traditional social structure

conventions that support the good of the community over individual needs

risks policies that threaten traditional family or social hierarchies

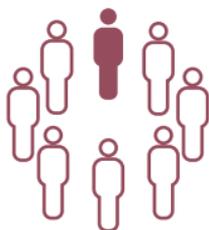
individual behaviors that undermine the strength of a community





WORLDVIEWS

EGALITARIAN INDIVIDUALIST



“Everyone should be free to choose their own path.”

values personal freedom & individual rights for everyone, regardless of context

unrestricted opportunities for individuals to compete as desired

risks patriarchal social conventions & government oversight

intrusions or restrictions on personal freedom

WORLDVIEWS

EGALITARIAN COMMUNITARIAN



“One for all & all for one!”

values community stewardship

equal access & participation for everyone,
regardless of class, gender, race, age or
other context

risks restrictions on participation or access for
certain populations

conventions that reinforce social
inequalities or undermine community

ATTITUDES

HIERARCHICAL

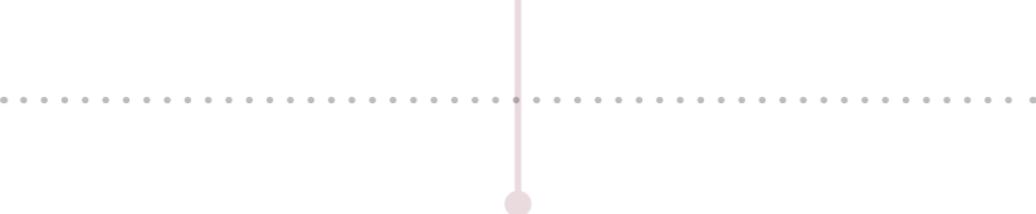
“” It’s ok to acknowledge and even emphasize differences.

It’s ok to distribute wealth and duty according to class, or expertise.

Policy and social conventions should support traditional hierarchies and stability.

Roles should be differentiated in a traditional manner.





ATTITUDES

EGALITARIAN

“““ *Discrimination is harmful.*

Everyone deserves equal representation in duty and fair distribution of wealth.

Everyone should be allowed to participate; diversity is good.

Everyone should have access; non-traditional roles are ok.

ATTITUDES

INDIVIDUALIST

“““ *Interference from outsiders limits personal freedom.*

Collective assistance and welfare structures hold us back.

People should fend for themselves and leave others alone.

Freedom and competition lead to human resourcefulness and innovation.



ATTITUDES

COMMUNITARIAN

“” *Human interaction and compassion are important.*

People have a responsibility to take care of each other.

Everyone should be willing to both help and depend on others.

Collaboration and solidarity make strong, safe communities.



STRATEGIES

**UNDERSTAND
YOUR VALUES**

**UNDERSTAND YOUR
AUDIENCE'S VALUES**

IDENTITY AFFIRMATION

**NON-THREATENING
MESSAGING**

PLURALISTIC ADVOCACY

EMOTIONAL RESONANCE



STRATEGIES

UNDERSTAND YOUR VALUES

See **WORLDVIEW** cards.



See **CONTEXT** cards.



Considering how your own values and cultural worldview manifest in practice can help put things in perspective and improve your communication. Even when scientists aim to communicate scientific information with objectivity, their personal values influence the message.

Choices in tone, voice, narrative style, metaphors, and visuals all frame information, sometimes very subtly.

Awareness of your own tendencies is the critical first step in the process of communicating more effectively.

consider

*Which of the **WORLDVIEW** cards resonate most with **you**?*

*Where have **you** traditionally fallen in your attitudes toward the perspectives described in each of the **CONTEXT** cards?*



STRATEGIES

UNDERSTAND YOUR AUDIENCE'S VALUES

See EXERCISES:



ROLE PLAYING

PIN THE VALUES
ON THE MESSAGE

Understanding your audience is crucial for effective communication. More than age, gender, education, or political leaning, a person's values and worldview influence how he or she interprets information, especially about technical and risk related information.

It's not essential that you know your individual audience members' worldviews, specifically. In fact, that would be impossible. It's more effective, and certainly more practical, to develop an empathetic understanding of the values within each worldview and build an intuitive sense for the type of information framing that threatens or affirms each one.

consider

*Which of the perspectives described in the **CONTEXT** cards have you debated with others? How might you approach a topic differently if you held a different set of values, or if your audience held a different set of values?*



STRATEGIES

IDENTITY AFFIRMATION

When communicating about scientific topics, look for ways to share information that does not lead to a single, one-sided judgment. Instead, consider a multiplicity of interpretations that may still point to the same general conclusion.

Design your message to allow for slightly different interpretations so that people with different worldviews may reach conclusions that affirm their values.

Consider the following appeals to each of the different values:

hierarchical *stability, authority, expertise*

egalitarian *equality, access, participation*

individualist *resourcefulness, independence, privacy*

communitarian *collaboration, community, stewardship*



STRATEGIES

NON-THREATENING MESSAGING

Sometimes, it's not practical to affirm all cultural worldviews' values in a single message. However, it's important to at least *avoid* threatening or alienating specific worldviews, which can contribute to polarization on a given topic. By becoming more mindful of the way information is framed and how certain judgments may threaten particular worldviews, we can communicate with a wider audience more effectively.

Consider the following threats to each of the different values, and try to **avoid highlighting them where possible**:

hierarchical *harsh criticism of traditional social roles and industry*

egalitarian *denial of participation, access, or status*

individualist *interference, constraints on personal freedoms*

communitarian *unrestricted competition, threats to social supports*



STRATEGIES

PLURALISTIC ADVOCACY

For **CONTEXT**, see:



STUDY cards

PERSPECTIVE cards

People tend to assign greater credibility to experts who share their own values. Because of this tendency, people are less likely to become polarized on a topic when they observe trustworthy people who share their values advocating unexpected positions.

Rather than seeking different ‘spokespeople’ for each set of values to share your message with each cultural worldview, it’s a lot more realistic (and equally effective) to find quotes and references and use particular metaphors that appeal to a variety of worldviews.

for example

If you are communicating about a topic related to environmental risk, you might try to include quotes or references from both traditionally egalitarian-communitarian sources (such as The Union of Concerned Scientists) as well as hierarchical-individualist organizations (such as Young Conservatives for Energy Reform) to illustrate and support your message.



STRATEGIES

EMOTIONAL RESONANCE

See EXERCISES:



UNIFY WITH
METAPHORS

WRITE THE
ENDING FIRST

When information is shared in a compelling narrative form that uses vivid metaphors, not only are the language processing parts of the brain activated, but other areas in the brain that we would use when experiencing the events of the story are engaged too. Studies show that people remember facts told in the context of a story better than any other form.

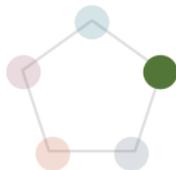
Tell a compelling story.

**consider these
“must-read” books**

Don't Be Such A Scientist by Randy Olson

Resonate by Nancy Duarte

Story Wars by Jonah Sachs



EXERCISES

ROLE PLAY

PIN THE VALUES
ON THE MESSAGE

DO OVER

WRITE FOUR VERSIONS

UNIFY WITH METAPHOR

WRITE THE ENDING FIRST



EXERCISES

ROLE PLAY



1. Select one of the **WORLDVIEW** cards.



2. Select one of the **SAMPLE QUOTES** or **SAMPLE STORIES** from the **EXTRAS** cards.

3. **Imagine** yourself adopting the cultural worldview described by the card you selected. Consider how your values will shape the way you interpret the quote or story you read.

4. **Answer** the following questions, and share your reasoning with others.

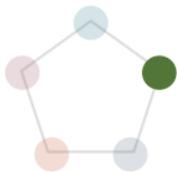
consider

What about this message might be threatening to your values?

What about this message might affirm your values?

Do you feel the author shares your values?

Would you be likely to discuss this quote or story with others that share your values?



EXERCISES

PIN THE VALUES ON THE MESSAGE

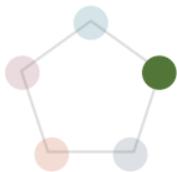


1. Select one of the **SAMPLE QUOTES** or **SAMPLE STORIES** from the **EXTRAS** cards.
2. **Identify** which cultural **WORLDVIEW** you think this message will resonate with most.
3. **Answer** the following questions, and share your reasoning with others.

consider

What about this message affirms the worldview you identified? Tone, voice, vivid language, examples?

How might you improve this message to make it resonate even more with this particular worldview?



EXERCISES

DO OVER



1. Select one of the **WORLDVIEW** cards.



2. Select one of the **SAMPLE QUOTES** or **SAMPLE STORIES** from the **EXTRAS** cards.

3. **Rewrite** the **QUOTE** or **STORY** in a manner that would be less threatening and affirm the values of the **WORLDVIEW** you selected.

Consider the following as you write:

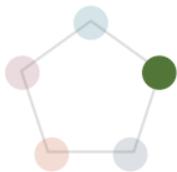
tone *More relaxed? More authoritative?*

metaphor *What comparisons will resonate most?*

example *What examples are most familiar and identity-affirming?*

pluralistic advocacy *Are you drawing on experts or references that represent only one worldview? Try to incorporate more than one worldview.*

open interpretation *Is the reader able to draw individually constructed conclusions that aren't threatening?*



EXERCISES

WRITE FOUR VERSIONS



1. Select a topic from the **SAMPLE TOPICS EXTRAS** card.

See **WORLDVIEW** cards.



2. **Write** a brief explanatory statement (several sentences) about that topic. Repeat this process for a total of *four versions*; each version of the statement should appeal directly to one of the four worldviews.



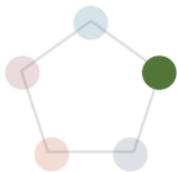
3. **Choose** a noun from the **SAMPLE METAPHORS EXTRAS** cards, (or choose your own), and incorporate that metaphor into each of the four versions.



4. (optional) Continue to the **UNIFY WITH METAPHORS EXERCISE**.

for example

How might you explain the fundamentals of evolution to each worldview, separately?



EXERCISES

UNIFY WITH METAPHORS



1. Try the **WRITE FOUR VERSIONS EXERCISE**.



2. Select at least four nouns from the **SAMPLE METAPHORS EXTRAS** card.

3. Within each of the four statements you have written, **complete** the following sentence:

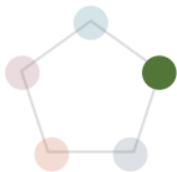
_____ **is like a** _____ **because...**
(topic) (noun)

4. **Continue** this process, exploring different metaphors and comparisons until one shows potential to explain your topic for all four worldviews by serving multiple interpretations.

5. **Unify** your four statements into a single message, using the metaphor you have crafted and affirming diverse values where possible.

for example

To explain the benefits and risks of childhood vaccines, how might a seat belt be used as a unifying metaphor? Seat belts provide known life saving benefits but some people still associate them with a risk (being trapped) or bristle at the idea of mandatory seat belt laws. Are there similarities to vaccination?



EXERCISES

WRITE THE ENDING FIRST



1. Try the **WRITE FOUR VERSIONS EXERCISE**.

2. With the four statements you have written, **identify** the type of *conclusion* or *implication* for each version that affirms the values of that worldview.

3. **Combine** these four conclusions into one, by devising a scenario where all four conclusions could come together in a unified message.

See **CONTEXT** cards.



4. Working backward from that single conclusion, **rewrite** the four statements into a unified piece that allows readers with different values room to reach the same general conclusion through different interpretations.

for example

To write about nuclear power as a positive alternative energy source, how might hierarchical-individualists and egalitarian-communitarians arrive at the same conclusion? How can nuclear power be framed as a symbol of innovation and boon for industry, as well as a safe, clean technology that promotes egalitarian ideals for universal access to electricity, in one message?



CONTEXT

PERSPECTIVES:

CLIMATE CHANGE

NUCLEAR POWER

NANOTECHNOLOGY

HPV VACCINATION

STUDIES:

PUBLIC PERCEPTIONS OF CONSENSUS

THE POLARIZAIING IMPACT
OF SCIENCE LITERACY

BIASED ASSIMILATION &
CULTURAL CREDIBILITY

FRAMING INFORMATION FOR
IDENTITY AFFIRMATION



CONTEXT

PERSPECTIVE A: CLIMATE CHANGE

Environmental risk perception is an excellent illustration of the different worldviews. While an increasing number of climate scientists have reached consensus on various aspects of anthropocentric climate change, polls continue to show that different parts of the public discredit this consensus.

See **WORLDVIEW** cards.



HIERARCHICAL-INDIVIDUALISTS are likely to be very dismissive of climate change risk because crediting those risks would lead to restrictions on commerce and industry. Acknowledging this risk also implies an indictment of the authority of social elites.

Meanwhile, **EGALITARIAN-COMMUNITARIANS** perceive unregulated commerce and industry as sources of unjust social disparities and symbols of self-serving and community harming behavior. They find it more natural to credit claims of environmental risk, which affirm their own values and criticize others.

consider

Groups like the conservative Energy & Enterprise Initiative frame their messaging about energy reform as an expression of traditional values and free trade rights. How does this type of framing affirm hierarchical-individualist values?



CONTEXT

PERSPECTIVE B: NUCLEAR POWER

Nuclear power is often framed as a relatively clean energy source and alternative to fossil fuels. One might expect environmentally-concerned audiences to embrace it. However, nuclear power has historically been perceived as a greater risk by those with strongly **EGALITARIAN-COMMUNITARIAN** worldviews.

See **WORLDVIEW** cards.



Nuclear power can be threatening to egalitarian and communitarian values when concerns about long term waste management and safety fears are dismissed with risk statistics.

Meanwhile, **HIERARCHICAL-INDIVIDUALISTS** view nuclear power as a less threatening risk because it empowers industry and commerce and does not threaten traditional hierarchical structures. In fact, many hierarchical-individualists are more willing to accept the existence of climate change when solutions that include nuclear power are highlighted.

consider

How would you change the discussion about nuclear power if you wanted to avoid threatening egalitarian-communitarian values?



CONTEXT

PERSPECTIVE C: NANOTECHNOLOGY

Studies have shown that even for topics that are relatively new or unknown to the general public, such as nanotechnology, individuals exposed to opposing sets of anonymous arguments divide along predictable lines. The gap between people who are inclined to credit and those inclined to dismiss claims of risk widens dramatically after exposure to such arguments.

For **CONTEXT**, see:



STUDY C

However, when information about nanotechnology *is* attributed to identifiable advocates, the impact of the arguments is highly sensitive to the perceived cultural worldviews of the advocates. In other words, people respond to information very differently depending on whether it comes from someone whose values they share.

See **STRATEGY**:



**PLURALISTIC
ADVOCACY**

consider

Knowing that people's risk perceptions and interpretation of information are heavily influenced by their sense for whether the source shares their values, how might the antidote to that effect- pluralistic advocacy- look in practice? When multiple sources with diverse worldviews cannot be recruited to argue on your behalf, what strategies can you use to still provide authority from multiple worldviews?



CONTEXT

PERSPECTIVE D: HPV VACCINATION

When the FDA approved an HPV vaccine, and the CDC recommended universal vaccination for adolescent girls and young women, the public response featured intense division:

See **WORLDVIEW** cards.



Conservative religious groups (**HIERARCHICAL-COMMUNITARIAN**) challenged the vaccine's effectiveness and raised concerns about side-effects. They also argued that vaccination would increase teen pregnancy and other STDs by giving girls a false sense of security, leading to unprotected, promiscuous sex.

Women's advocacy groups & mandate proponents (**EGALITARIAN-COMMUNITARIAN**) dismissed these arguments as pretexts motivated by animosity toward violation of traditional gender norms.

consider

Information about the risks and benefits of the HPV vaccine came with culturally charged messaging. The opposing values of hierarchical and egalitarian worldviews were highlighted by a handful of advocacy groups and their stances became cues for ordinary, largely apolitical individuals to take sides.

How might you reframe the discussion to affirm values on both sides of the debate?



CONTEXT

STUDY A: PUBLIC PERCEPTIONS OF CONSENSUS

*Kahan, Dan M., Jenkins-Smith,
Hank and Braman, Donald,
Cultural Cognition of Scientific
Consensus (February 7, 2010).
Journal of Risk Research, Vol.
14, pp. 147-74, 2011.*

This study tests the theory of cultural cognition of scientific consensus as an explanation for continued questioning of established consensus in the scientific community. It presents evidence confirming that cultural cognition shapes individuals' beliefs about the existence of scientific consensus, and the process by which they form such beliefs, relating to climate change, the disposal of nuclear wastes, and the effect of permitting concealed possession of handguns.

main conclusion

People's trust in expertise depends on how closely an expert's values are perceived to match their own.



CONTEXT

STUDY B: THE POLARIZAIING IMPACT OF SCIENCE LITERACY

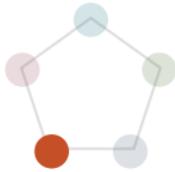
Kahan, Dan M., Peters, Ellen, Wittlin, Maggie, Slovic, Paul, Ouellette, Lisa Larrimore, Braman, Donald and Mandel, Gregory N., *The Polarizing Impact of Science Literacy and Numeracy on Perceived Climate Change Risks* (December 23, 2012). *Nature Climate Change*, Vol. 2, pp. 732-735, 2012.

Public apathy over climate change is often attributed to a deficit in comprehension. The public knows too little science, we often assume, to understand the evidence or avoid being misled. Widespread limits on technical reasoning aggravate the problem by forcing citizens to use unreliable cognitive heuristics to assess risk.

This study finds no support for this position. Members of the public with the highest degrees of science literacy and technical reasoning capacity were not the most concerned about climate change. **Rather, they were the ones among whom cultural polarization was greatest.**

main conclusion

Public divisions stem not from the public's incomprehension of science but from a distinctive conflict of interest between values and worldviews. Greater levels of education and literacy are actually correlated to greater polarization between worldviews.



CONTEXT

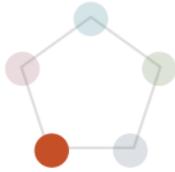
STUDY C: BIASED ASSIMILATION & CULTURAL CREDIBILITY

Kahan, Dan M., Slovic, Paul, Braman, Donald, Gastil, John, Cohen, Geoffrey L. and Kysar, Douglas A., *Biased Assimilation, Polarization, and Cultural Credibility: An Experimental Study of Nanotechnology Risk Perceptions* (February 4, 2008). Harvard Law School Program on Risk Regulation Research Paper No. 08-25.

This study finds that members of the public, most of whom know little or nothing about nanotechnology, polarize along cultural lines when exposed to information about it. Polarization along expected lines grew even more extreme when subjects of diverse cultural outlooks observed an advocate whose values they share advancing an argument they were predisposed to accept, and an advocate whose values they reject advancing an argument they were predisposed to resist. But when those same advocates were assigned the *opposite* positions, subjects formed risk perceptions diametrically opposed to the ones normally associated with their own cultural predispositions. Finally, when there was no consistent relationship between the perceived values of advocates and positions taken on nanotechnology risk and benefits, cultural polarization was neutralized.

main conclusion

Polarization is increased when people observe advocates whose values they share arguing for the expected position, and decreased when those same advocates argued for the opposing position.



CONTEXT

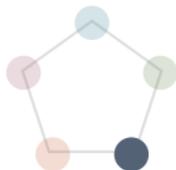
STUDY D: FRAMING INFORMATION FOR IDENTITY AFFIRMATION

*A National Survey of
Republicans and Republican-
leaning Independents On
Energy and Climate Change:
Edward Maibach, Connie
Roser-Renouf, Emily Vraga,
Brittany Bloodhart, Ashley
Anderson, Neil Stenhouse and
Anthony Leiserowitz*

This survey of people who identified themselves as Republican or Republican-leaning Independent finds that 77% support expanding US reliance on clean and renewable energy. It also measured how this population responded to two carefully crafted messages, which were framed to appeal to the conservative sense of moral purity in one case, and individualistic, free market values in the other. After reading the conservative argument, 64% of respondents agreed that the US should take action on climate change. After reading the free market argument, 60% of respondents supported climate action. This contrasts with past research that has shown that messaging that focuses on anti-pollution environmental regulation and community responsibility actually increases denial among this conservative audience.

main conclusion

Framing arguments about climate change and alternative energy in ways that affirm hierarchical and individualist values produces a positive response from those conservative audiences.



SUPPLEMENTAL MATERIALS

SAMPLE METAPHORS

SAMPLE TOPICS

SAMPLE QUOTES

SAMPLE STORIES



EXTRAS

SAMPLE METAPHORS

tablecloth	sock	horse	weapon
curtain	television	seat belt	armor
pizza	book	car	spoon
package	magazine	swing	elbow
cupcake	bag	sprinkler	watch
fridge	monkey	currency	eye
screen	adult	hammer	skin
mouse	train	light bulb	toe
leg	chocolate	highway	frown
stomach	pond	bumper cars	foot
dancer	river	insulation	lettuce
nurse	jam	tree	paper
nail	engine	ocean	floor
garden	bookcase	bear	tractor
bridge	continent	bottle	elephant
sand	planet	kidney	shoe
palm tree	rocket	street	shoulder
camel	star	bowl	tongue
room	wallet	boot	train
pajamas	children	pillow	lungs
socks	population	knee	toenail
dog	dress	shadow	child
dinosaur	lipstick	flowers	nose
subway	bus	soil	custard
sandwich	sandwich	daisy	slime
record	rectangle	fertilizer	beard
sun	waterfall	weed	caravan



EXTRAS

SAMPLE TOPICS

nanotechnology
climate change
HPV vaccination
GMO foods
childhood vaccination
evolution
animal testing
nuclear power
wind power
solar power
electric hybrid vehicles
higgs boson
large hadron collider
acid rain
ozone layer
severe weather
sea levels
biodiversity
fracking
marine biology
cosmology
meteorites
invasive species
mathematical modeling
interplanetary exploration



EXTRAS

SAMPLE QUOTES

Neil deGrasse Tyson *The good thing about science is that it's true, whether or not you believe in it.*

Richard Feynman *Science is the belief in the ignorance of the experts.*

Bill Nye *I say to the grownups, if you want to deny evolution and live in your world, that's completely inconsistent with the world we observe, that's fine. But don't make your kids do it. Because we need them. We need scientifically literate voters and taxpayers for the future. We need engineers that can build stuff and solve problems.*

Johann von Goethe *Science and art belong to the whole world, and before them vanish the barriers of nationality.*

George Shultz
Secretary of State
Reagan Admin. *We should make all forms of energy bear their full costs. Many forms of energy produce side effects, like pollution, that are a cost to society. The producers don't bear those costs; society does. There has to be a way to level the playing field and cause those forms of energy to bear their true costs.*



EXTRAS

SAMPLE QUOTES

Ron Paul *While it is evident that the human right to produce and use energy does not extend to activities that actually endanger the climate of the Earth upon which we all depend, bogus claims about climate dangers should not be used as a justification to further limit the American people's freedom.*

John Kerry *We can no longer allow America's dependence on foreign oil to compromise our energy security. Instead, we must invest in inventing new ways to power our cars and our economy. I'll put my faith in American science and ingenuity any day before I depend on Saudi Arabia.*

Ned Flanders
(The Simpsons) *Science is like a blabbermouth who ruins a movie by telling you how it ends! Well, I say there are some things we don't want to know! Important things!*

Russell Moore
Southern Baptist
Theological Seminary *The Apostle Paul says in Romans 1 that the Creation itself reflects God's eternal power and divine nature. Good science searches the order of that Creation; faith informs our response to that data. Bob Inglis tells me that the Energy and Enterprise Initiative will be a place of science that understands man cannot live by data alone, but also by awe, wonder, and action. That's a good objective.*



EXTRAS

SAMPLE STORY GMO FOODS

from
www.infowars.com

America has been decimated by the breakdown of the separation of powers between different branches of government. For example, the executive branch is negotiating laws in secret, and grabbing powers, without telling Congress. And life-and-death decisions about who the government labels an “enemy combatant” and assassinate are being kept away from the judges altogether. At the same time, government agencies like the FDA go to great lengths to cover up the potential health damage from genetically modified foods, and to keep the consumer in the dark about what they’re really eating. Remember, genetically engineered foods have been linked to obesity, cancer, liver failure, infertility and all sorts of other diseases.

Things are about to get a lot worse within the next week... unless we stand up and say “NO!” Specifically, a law has been snuck into the Agriculture Appropriations bill – which will be approved by March 27th – which would destroy the separation of powers by stripping courts of the power to challenge genetically modified foods.

How? The “Monsanto Rider” (section 735) uses “farmer-friendly” happy talk, but is an iron-fisted ploy to allow GMO crops to be planted even if a court has ruled that planting them is illegal.

If the United States Department of Agriculture, which suffered “regulatory capture” by the big food companies decades ago, approves a genetically modified food without any testing, a court can enjoin (i.e. halt) production of that food until testing occurs. Yet the Monsanto Rider would strip the courts of power, and would allow GMO crops to be planted and put in our food.



EXTRAS

SAMPLE STORY

ENERGY REFORM PART I

from
www.NPR.com

Former South Carolina Rep. Bob Inglis has already paid a price for being out of step with his party. In 2010, amid a Tea Party surge, the Republican lost his congressional seat, attacked for, among other things, accepting climate science. These days, Inglis heads the Energy and Enterprise Initiative at George Mason University, making a free market case for tackling global warming. “We think free enterprise has the answer to energy and climate,” Inglis said at a recent meeting of students with the Wharton Energy Club at the University of Pennsylvania. “There’s an incredible opportunity in energy, if we just get the economics right.”

Inglis proposes eliminating government incentives: no more tax breaks for solar panels or electric cars; no more subsidies for oil companies. Then, he says he would impose a carbon tax on fossil fuels. We already pay more, he says, just in hidden ways, like detrimental health impacts from coal-fired power plants or higher insurance costs from extreme weather linked to greenhouse gases. This “market distortion,” he says, leaves fossil fuel companies unaccountable. “I get to privatize my profits and socialize my cost,” he says, referring to how fossil fuel companies might view the status quo. “That’s a pretty good deal as long as you’ll let me get away with it.”

Much better, he tells the business students, to pay the true cost at the gas pump or on your electric bill. “Then, I, as a consumer out of enlightened self-interest, would seek out the company that you’re going to found, that’s going to supply me with the alternative,” Inglis says, speaking to about three dozen students who intend to pursue careers in the energy sector.



EXTRAS

SAMPLE STORY

ENERGY REFORM PART II

from
www.NPR.com

Inglis knows any tax is a turn-off. He'd offset his carbon tax with a cut in other taxes, on work, income, or capital, to keep it revenue neutral. The business students seem receptive, though doubtful that such a thing would fly with the current GOP. In fact, energy's become a surprisingly hot topic this campaign season. A slew of TV ads, funded by fossil fuel interests, echo Republican positions, pushing for more domestic production of oil and gas. One ad by the American Coalition for Clean Coal Electricity touts coal as "affordable, abundant, and ours."

Inglis is confident he can win Republican converts. Inglis has thought long and hard about what he calls the "populist rejection" of climate science. "For conservatives," he says, "it's seen as an attack on our lifestyle. You can't live in the suburbs. You gotta give up that big car."

He knows people don't like to be told what to do. But Inglis remembers his dad teaching him to save gas by letting up on the pedal and coasting. He says a party that once valued thrift now touts a philosophy of "burn it up." "It's not conservative to waste stuff," Inglis says, "and to cause somebody else's kids to go on the sands of the Middle East to fight for that stuff that we're wasting." At stake, he says, is the most basic of conservative principles: whether we leave our children a place that's pleasant and livable.



EXTRAS

SAMPLE STORY

BPA PART I

from
Mother Jones
Magazine

Bisphenol-A (BPA) is an industrial chemical found in everything from food-can linings to cigarette filters to retail receipts. Nationwide testing by the Centers for Disease Control and Prevention found it in “nearly all” of its subjects. A growing body of research has established BPA as an endocrine-disrupting chemical that does harm at tiny doses. But is BPA no big deal, after all?

That’s the message of a presentation given at the annual American Association for the Advancement of Science last month by Justin Teeguarden, a scientist with the Pacific Northwest National Laboratory, a lab that operates under contract with the US Department of Energy. According to a PNNL press release about the presentation, Teeguarden analyzed 150 BPA exposure studies and found that “people’s exposure may be many times too low for BPA to effectively mimic estrogen in the human body.”

But before you dust off that old BPA-laden sippy cup for your kid, it’s worth digging a little deeper into the source. First of all, all of those media reports neglected to mention that Teeguarden’s assessment has not been published—in a peer-reviewed journal or anywhere else. Teeguarden declined to speak to me but did answer some questions over email. I asked him if his study had been submitted for publication. “Not published yet,” he replied. I pressed him on the question of whether it had been submitted for publication. He didn’t respond. When I asked him if he would email me a copy of the Powerpoint presentation he gave at the AAAS conference, he replied, “Happy to share post acceptance,” meaning, I assume, that he would turn it over once it had been accepted for publication.



from
Mother Jones
Magazine

EXTRAS

SAMPLE STORY

BPA PART II

The lack of publication combined with Teeguarden's refusal to release a presentation he has delivered in a public forum make it extremely difficult to assess his project. Laura Vandenberg, a postdoctoral fellow at Tufts who has published research finding significant levels of BPA in human blood, told me that it's "highly unusual" for an unpublished work to generate so much attention. When a reporter asks her to comment on a study, she told me, "what I normally do is to ask for a copy of the manuscript," she said. In this case, of course, there is no manuscript available.

And it's not even the lack of peer review that makes it difficult to comment on the findings. "A lot of garbage gets published under peer review, but at least you can dig into the details," she told me. "This [Teeguarden's study] isn't written down anywhere."

And while the current study was funded by the EPA, in the past Teeguarden has received support from the plastics industry for research on BPA and other hormone disrupters—and has co-authored work with industry-employed scientists. His 2005 paper on the intricacies of measuring how humans metabolize BPA, for example, was funded by the American Plastics Council, the plastics division of the chemical industry trade group the American Chemistry Council (ACC).

Teeguarden and other researchers may yet show that our BPA exposure is too low to cause harm. But so far, they have proven nothing of the sor



from
Moms Who Vax

EXTRAS

SAMPLE STORY VACCINATION PART I

It may surprise you to know that the anti-vaccine movement has long claimed to speak for parents in this country when it comes to vaccines. And it is because they are so vocal and we are so, well, busy living our lives, that legislators, government officials, and even some public health organizations think that anti-vaccine activists who believe the MMR causes autism and that the decline of vaccine-preventable disease is due to “better hygiene” represent parents as a whole, when it comes to immunization in this country.

The vast--vast--majority of us choose to vaccinate our children for two reasons: one, we don't want our children to suffer from a preventable disease, possibly become seriously ill, or even die; and two, we don't want any of those things to happen to our neighbors either. Here's the problem: we don't talk about it. I suspect this is because we consider it commonsense. One mother on this blog wrote a post titled: “There's an Anti-Vaccine Movement?” because it had never occurred to her before she had children that people would willingly forgo something that has nearly eliminated one of the most dreaded diseases in human history (polio) and saved the lives of countless children and adults from other diseases that, if not kept in check by widespread immunization, cause unimaginable amounts of suffering.

We never thought we'd have to advocate for something that saves lives, especially the lives of children.



from
Moms Who Vax

EXTRAS

SAMPLE STORY VACCINATION PART II

But here we are, and our complacency and our silence has allowed a fringe minority to sit at the table of public health in our place. And there are now consequences for our silence. In Vermont, a common sense bill that would make it more difficult for parents to “conscientiously object” to vaccines and still be allowed to benefit from the public school system has been derailed and defanged because of a highly organized counterattack from anti-vaccine forces. In Oregon at this moment, legislators are considering a simple addition to immunization law that would require parents who opt-out of vaccines to receive educational materials about the risks of vaccine-preventable diseases. The fact that anti-vaccine activists objects even to this speaks for itself. These are the fears of anti-vaccine parents who do not want any obstacle in their quest to get their kids in school with the general population while not having to get those kids immunized.

Who have these legislators heard from? You guessed it: anti-vaccine parents and activists. And not just those living in Oregon. They are getting e-mails and letters from all over the country from people who will fight tooth and nail to preserve their ability to opt-out of immunization and keep their kids in school.

Who haven't they heard from? Us. The parents who vaccinate. The overwhelming majority of us who vaccinate our children because it's the right thing to do for us personally (our kids are protected) and because it's the right thing to do as human beings who live in a community (we protect others).



CREDITS

Developed by Jennifer Briselli as part of a master's thesis project during 2012-2013 at Carnegie Mellon University, School of Design, in the study of Communication Planning & Information Design.

Read more & share feedback:
www.designingscience.wordpress.com
jenbriselli@gmail.com

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www.culturalcognition.net