At the Crossroads of Science and Humanity:

Reimaging nature through biotechnology

Systems of Thinking

SYSTEM 1

- Fast
- Coherence/patterns
- Certainty
- Normalcy
- Emotion/intuition
- Hard working/efficient
- Unconscious
- Belief bias

SYSTEM 2

- Slow
- Uncertainty
- Surprise
- Deliberative
- Statistics/evidence/logic
- Lazy
- Taxing
- Unbelieving

Kahneman, Daniel, “Thinking Fast Thinking Slow” (2011)

Biotech Breaks and Remakes our Worldviews

Piaget - developmental psychology; schema; assimilation; accommodation; disequilibrium.

Kahneman - Nobel Prize winner in Economics, cognitive psychology; categories/coherence; use of memory, recent events to create associations/patterns; drive toward certainty and belief/comfort.

Biotechnology reimagines what human nature is, what nature is and forces us to redefine what's 'normal'.

Blurs and breaks our water-tight categories of knowing.

Threatens the relationships that are central to our lives, and knowing how to act and relate to the world around us. Baylis' Moral Confusion

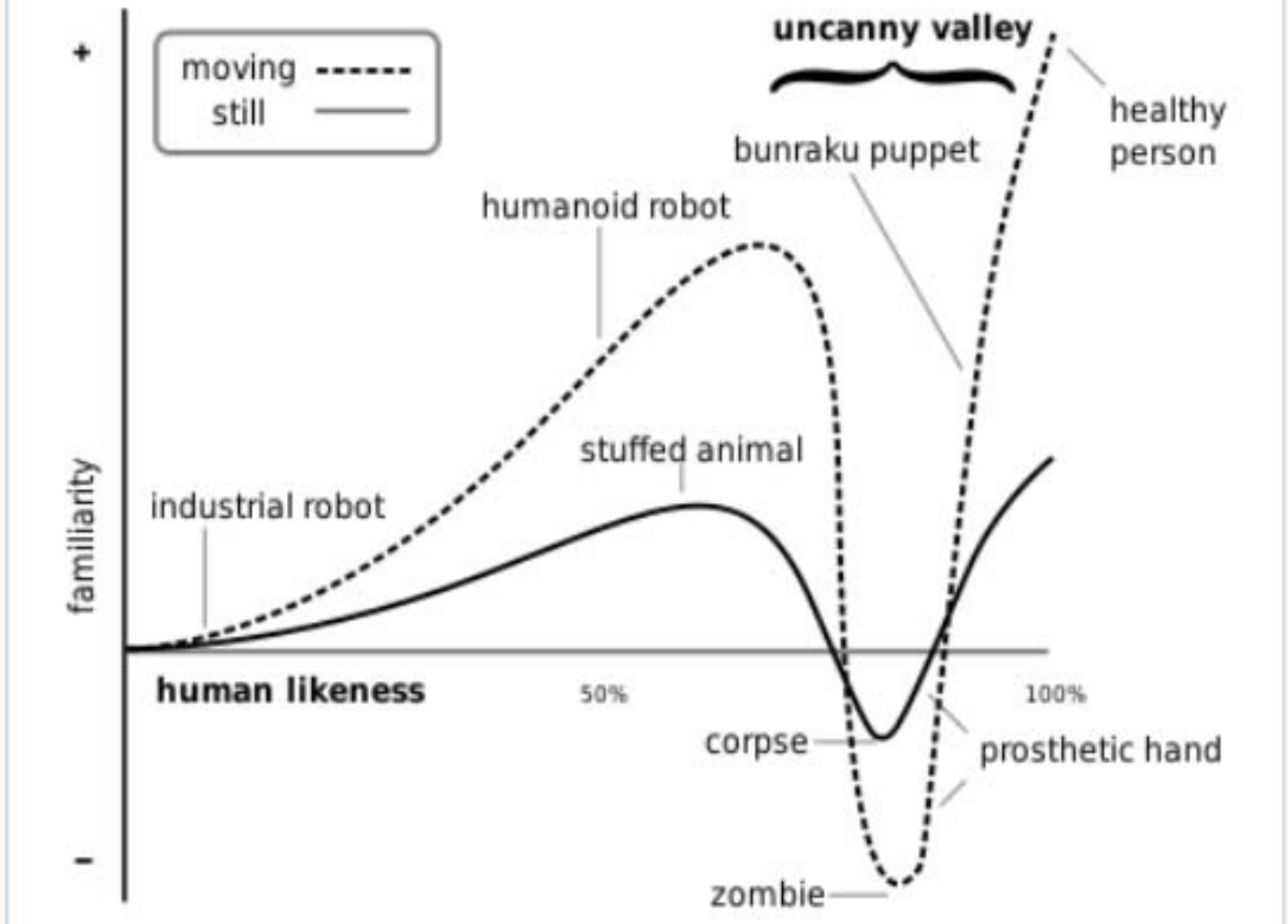
Evening News

Meet Louise, the world's first test-tube arrival

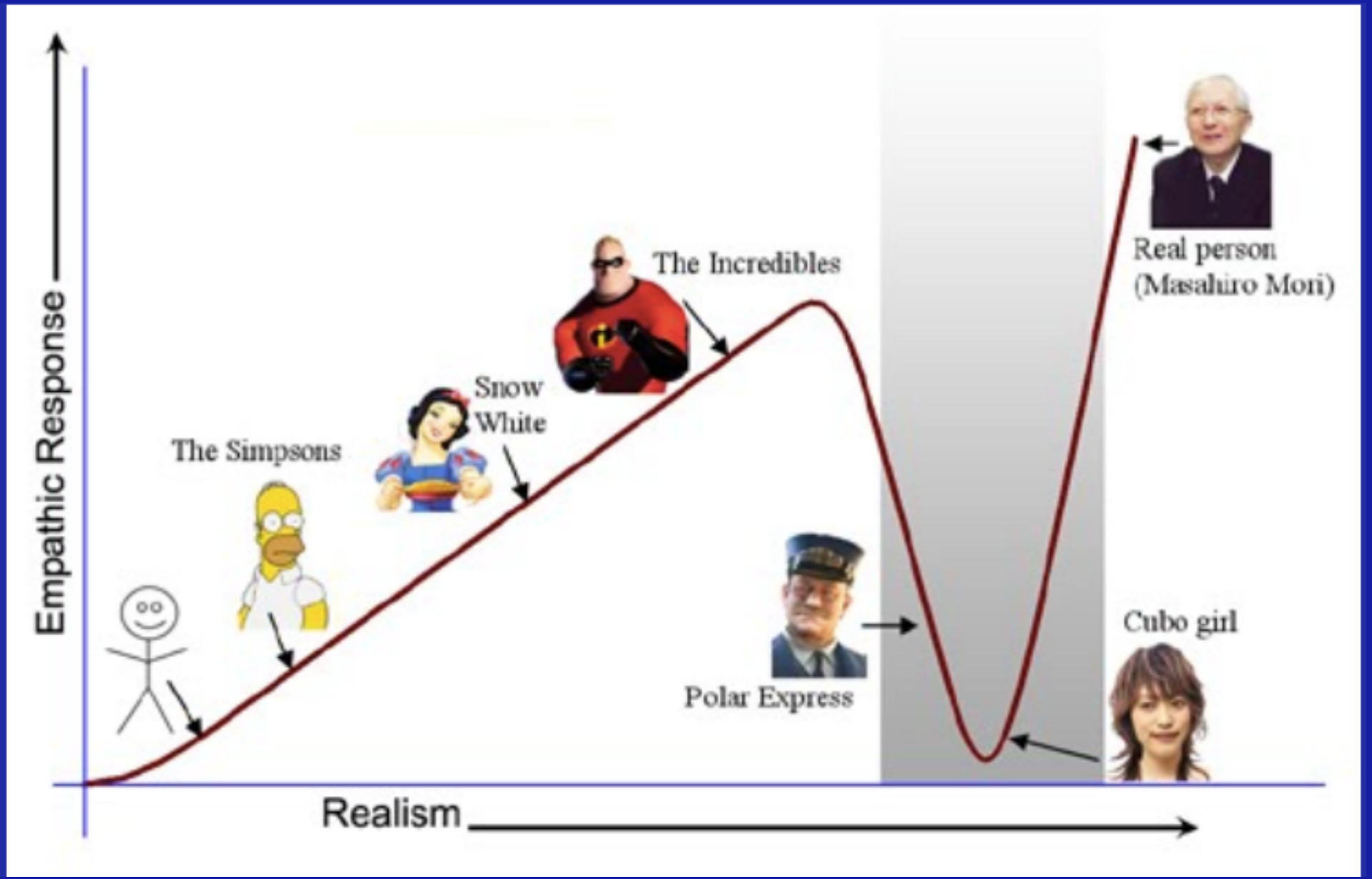
SUPERBABE

Wide-eyed Louise Brown pictured in hospital 18 hours after she was born. Today she's doing well. See Page Three

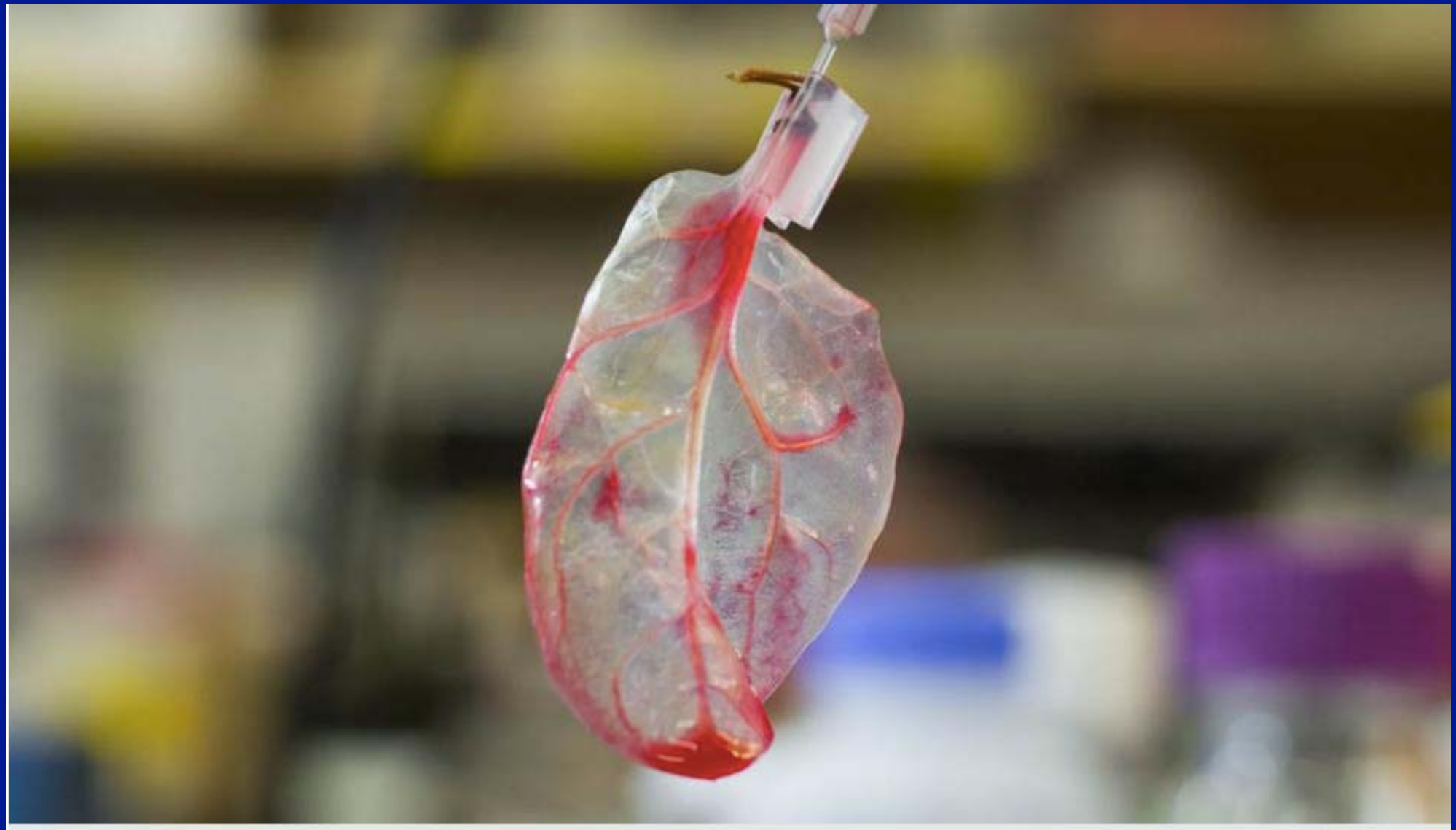

CNBC



Hypothesized emotional response of subjects is plotted against anthropomorphism of a robot, following Mori's statements. The uncanny valley is the region of negative emotional response towards robots that seem "almost". Movement amplifies the emotional response.[10]


Empathic Response
Realism
The Simpsons
Snow White
The Incredibles
Polar Express
Real person (Masahiro Mori)
Cubo girl


PhotosByLei.com | preserve happy



Worcester Polytechnic Institute

Unpacking our Intuitions and Opinions

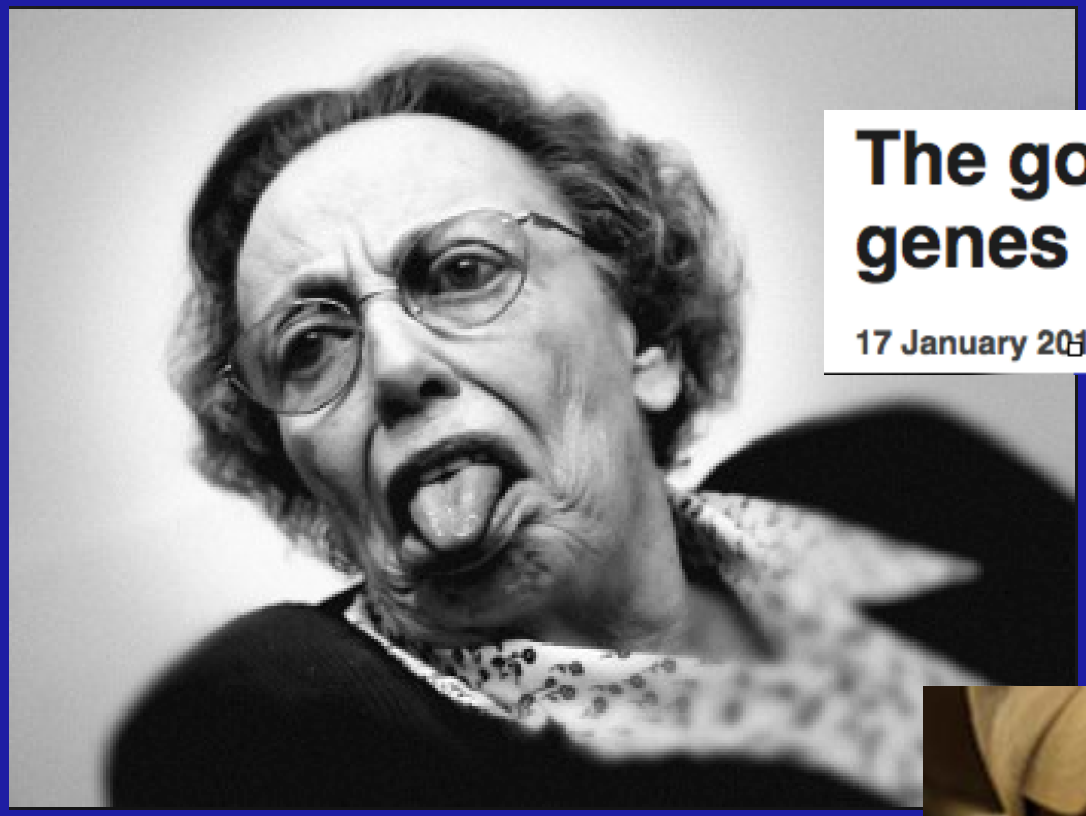
The Yuck Factor and the “Wisdom of Repugnance?”

Scientific literacy - the deficit model

Framing: media and scientists

Screening the facts

The importance of values

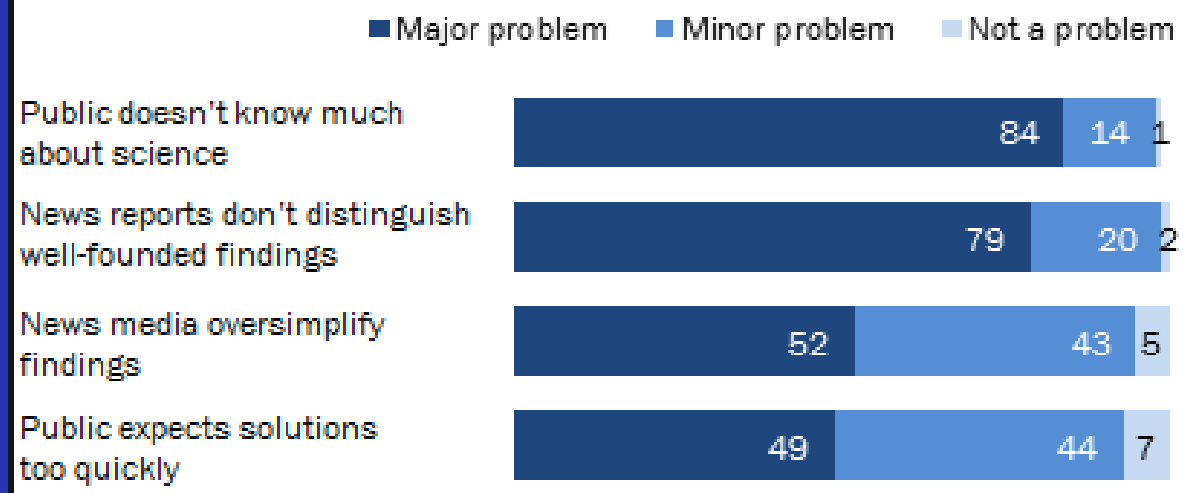


The goats with spider genes and silk in their milk

17 January 2012 Last updated at 00:14 GMT

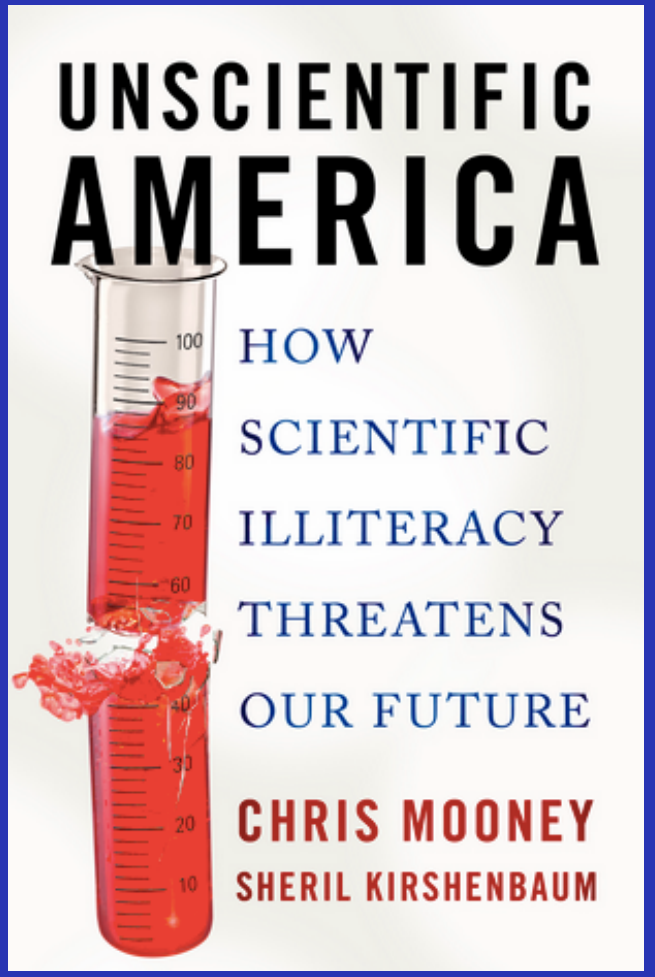
Most Scientists See Lack of Public Knowledge and Media Reports as Problems for Science

% of AAAS scientists saying each is a ... for science in general

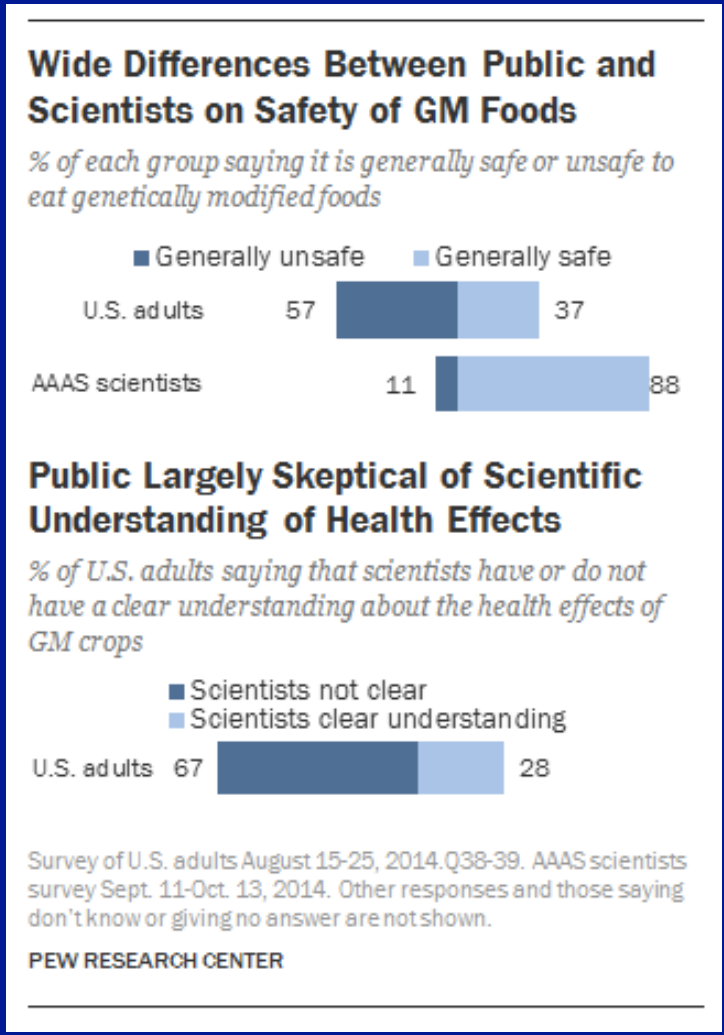


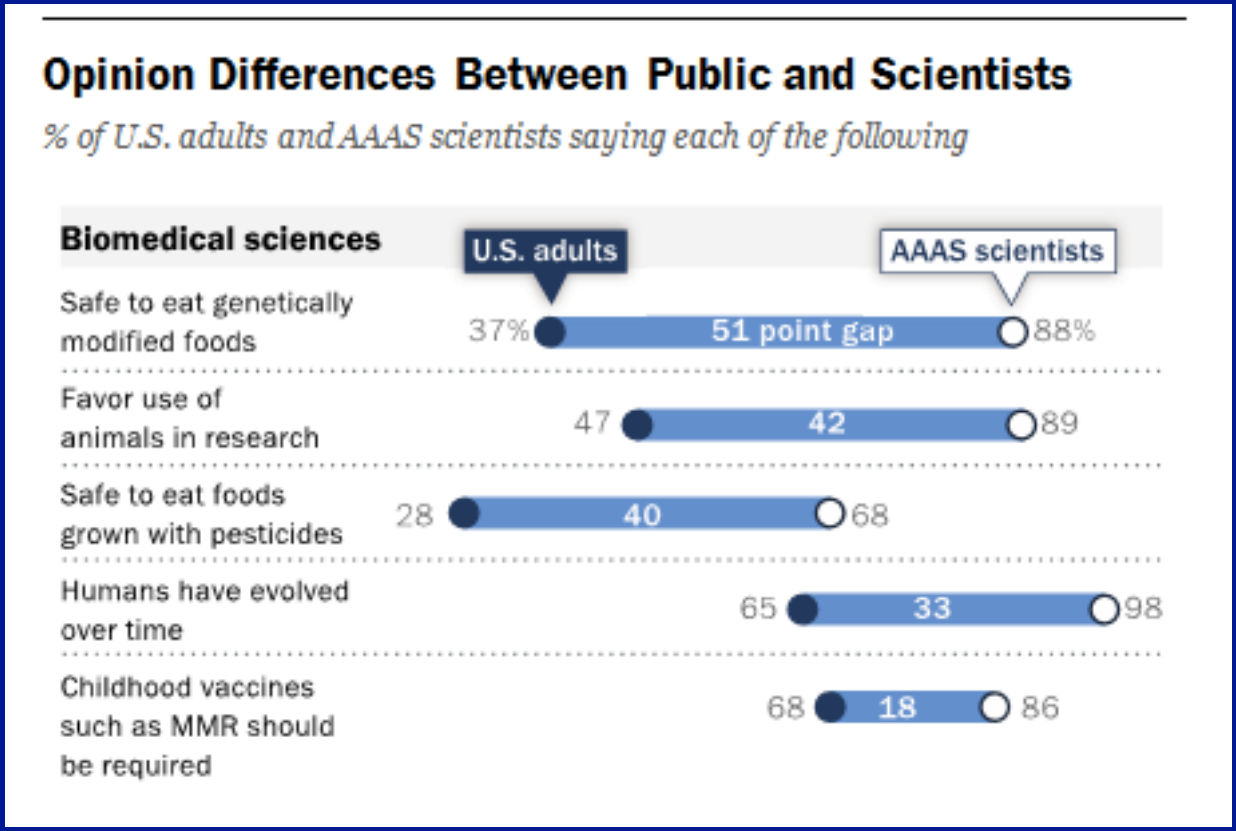
AAAS scientists survey Sept. 11–Oct. 13, 2014. Q5a-d Those giving no answer are not shown.

PEW RESEARCH CENTER



The largest differences between the public and the AAAS scientists are found in beliefs about the safety of eating genetically modified (GM) foods. Nearly nine-in-ten (88%) scientists say it is generally safe to eat GM foods compared with 37% of the general public, a difference of 51 percentage points.





Citizens' and scientists' views diverge sharply across a range of science, engineering and technology topics. Opinion differences occur on all 13 issues where a direct comparison is available. A difference of less than 10 percentage points occurs on only two of the 13.

Pew Research Center, Public and Scientist Views on Science and Society. http://www.pewinternet.org/2015/01/29/public-and-scientists-views-on-science-and-society/pi_2015-01-29_science-and-society-00-02/

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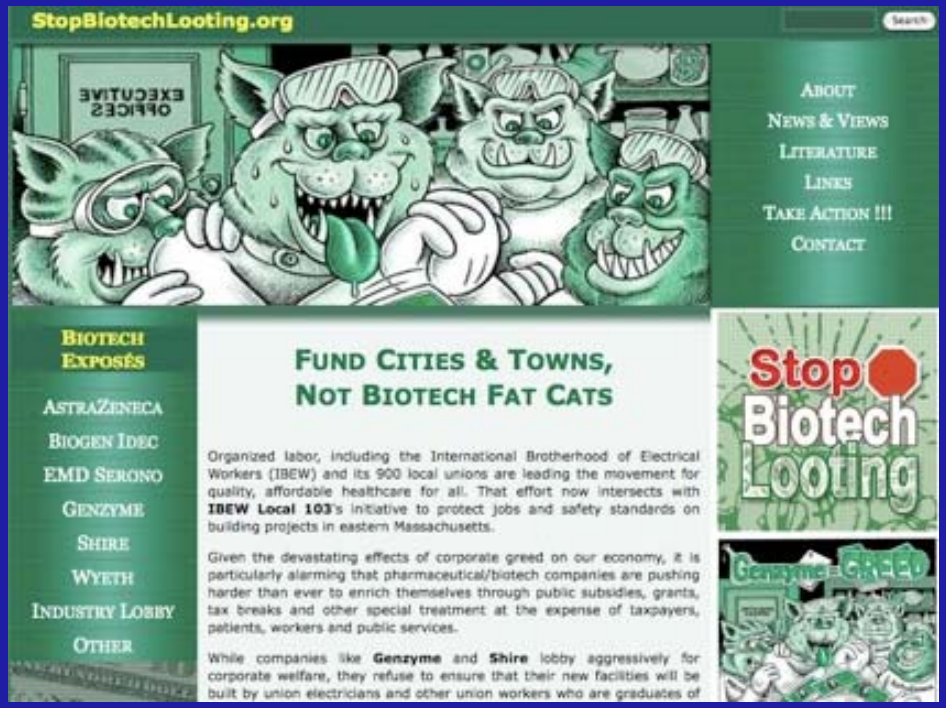
Kahneman, Daniel, “Thinking Fast Thinking Slow” (2011)

Frames

Frames in social science are concepts and theories about how individuals, groups and societies organize, perceive and communicate about reality.

Frames organize central ideas, defining a controversy to resonate with core values and assumptions. Frames pare down complex issues by giving some aspects greater emphasis. They allow citizens to rapidly identify why an issue matters, who might be responsible, and what should be done.

- Stem Cell Science: “scientific progress” “comparative competitiveness” or “moral status of the embryo”
- Climate Change: “scientific uncertainty” “unequal burdens”
- Genetically modified food: “Feed the world” or “corporate greed and consolidation”


StopBiotechLooting.org
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About
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Links
Take Action !!!
Contact
Biotech Exposés
AstraZeneca
Biogen Idec
EMD Serono
Genzyme
Shire
Wyeth
Industry Lobby
Other
Fund Cities & Towns, Not Biotech Fat Cats
Organized labor, including the International Brotherhood of Electrical Workers (IBEW) and its 900 local unions are leading the movement for quality, affordable healthcare for all. That effort now intersects with IBEW Local 103's initiative to protect jobs and safety standards on building projects in eastern Massachusetts.
Given the devastating effects of corporate greed on our economy, it is particularly alarming that pharmaceutical/biotech companies are pushing harder than ever to enrich themselves through public subsidies, grants, tax breaks and other special treatment at the expense of taxpayers, patients, workers and public services.
While companies like Genzyme and Shire lobby aggressively for corporate welfare, they refuse to ensure that their new facilities will be built by union electricians and other union workers who are graduates of
Stop Biotech Looting
Genzyme GREED


FOOD FOR PEOPLE
NOT FOR PROFIT


I WANT
EUROPE


These chemical companies control the global seed, pesticide and agricultural biotechnology markets.
syngenta
MONSANTO
DUPONT
"What you are seeing is not just a consolidation of seed companies, it's really a consolidation of the entire food chain."
—Robert Fraley, co-president of Monsanto's agricultural sector
Dow
BASF
The Chemical Company
Bayer CropScience
GMOINSIDE


FOOD FOR PEOPLE
NOT FOR PROFIT


Label GMOs
NOW!


No
Animal
The Human
Family Hybrids


No Soy Un
Experimento
Científico


I AM NOT
A SCIENCE
EXPERIMENT
SAY NO TO
MONSANTO!

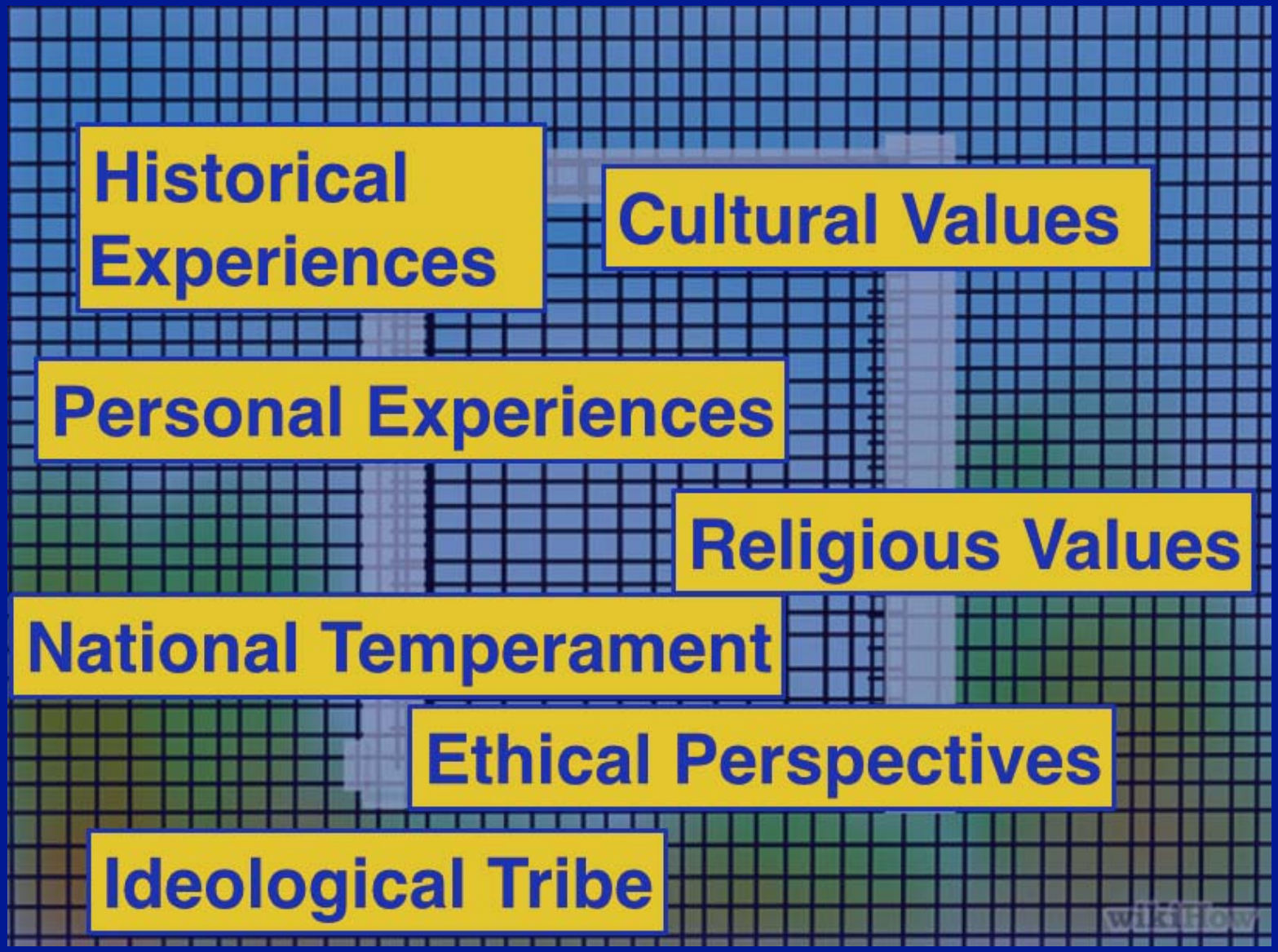

GM CAN
DESTRO
US
WHY SO
SECRET?
#NOGM
NO GM
in our
MUSTA
SAY
NO
TO
GM
FOOD
NO
POISON
in our
FOOD
WHY SO
SECRET?
#NOGM
SARSON


HELL
NO
GMO

Screening

- Neurologically - shortcuts - screening according to our value predispositions
- The role of fact - grabbing the facts that support our case; rejecting “their” experts
- Value predispositions may come from historical, cultural, religious, national or personal contexts and experiences
- Different ethical perspectives

Value Predispositions



Value Predispositions

- Historical
- German Nazi regime
- US Tuskegee Syphilis scandal
- Cultural values
- UK (freedom of science)
- US (individual liberty)
- Religious values
- Irish, Italian
- National temperaments
- US (distrust of government intrusion)
- Canadian (distrust of unfettered individualism)
- Cultural Tribe
- Ethical Perspective


RIGHT
IT DEPENDS
WRONG


rights
duties


the greater good

Cultural Cognition Thesis

Certain type of group affinities are central to the mental processes people use to assess risk.

When positions on facts become associated with opposing social groups ….everyday networks of people linked by common moral values, political outlooks, and social norms — individuals selectively assess evidence in patterns that reflect their group identities.

[Kahan, 2011].

Is this scientist an "expert" on global warming?

Robert Linden

Position: Professor of Meteorology, Massachusetts Institute of Technology

Education: Ph.D., Harvard University

Memberships:

- American Meteorological Society
- National Academy of Sciences

"High risk"

"It is now beyond reasonable scientific dispute that human activity is causing 'global warming' and other dangerous forms of climate change. . . .

"Low risk"

"Judged by conventional scientific standards, it is premature to conclude that human $C0_2$ emissions—so-called 'greenhouse gasses'—cause global warming. . . .

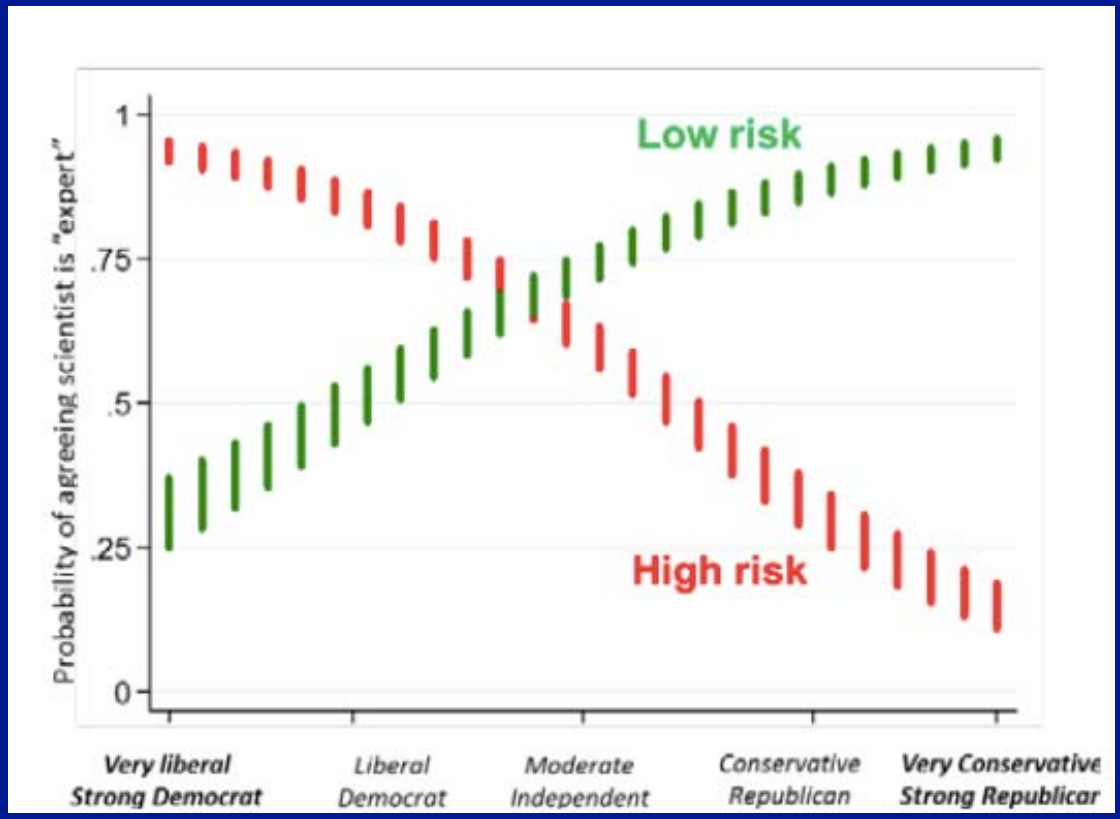


Figure 3. Biased perceptions of scientific expertise. Colored bars reflect 0.95 confidence intervals (N = 1336) [K
Jenkins-Smith and Braman, 2013].

Monstrous GMO Bulls Now A Reality

07:00 aliens, bill gates, bulls, geneticlly modified, gmo, health, monsanto, nwo

Due to genetic selection and experiments, the Belgian Blue is a humongous species of Bull, packed with muscles and meat.

This amazing super species of cattle is known to have more than 40% additional muscle mass. They

Popular Tags Blog Archives

Scientist Photographs The Soul Leaving The Body

The timing of astral disembodiment in which the spirit leaves the body has been captured by Russian scientist Konstantin Korotkov, who photo...

DNA Analysis of Paracas Elongated Skull Released – With Incredible Results

Paracas is a desert peninsula located within the Pisco Province in the Ica Region, on the south coast of Peru. It is here were

Moving beyond Moral Impasse

Expect controversy and profound intuitive disagreement in areas of novelty and uncertainty.

Benefits vs Risks: Getting to WHY

Utility - both scientifically and socially

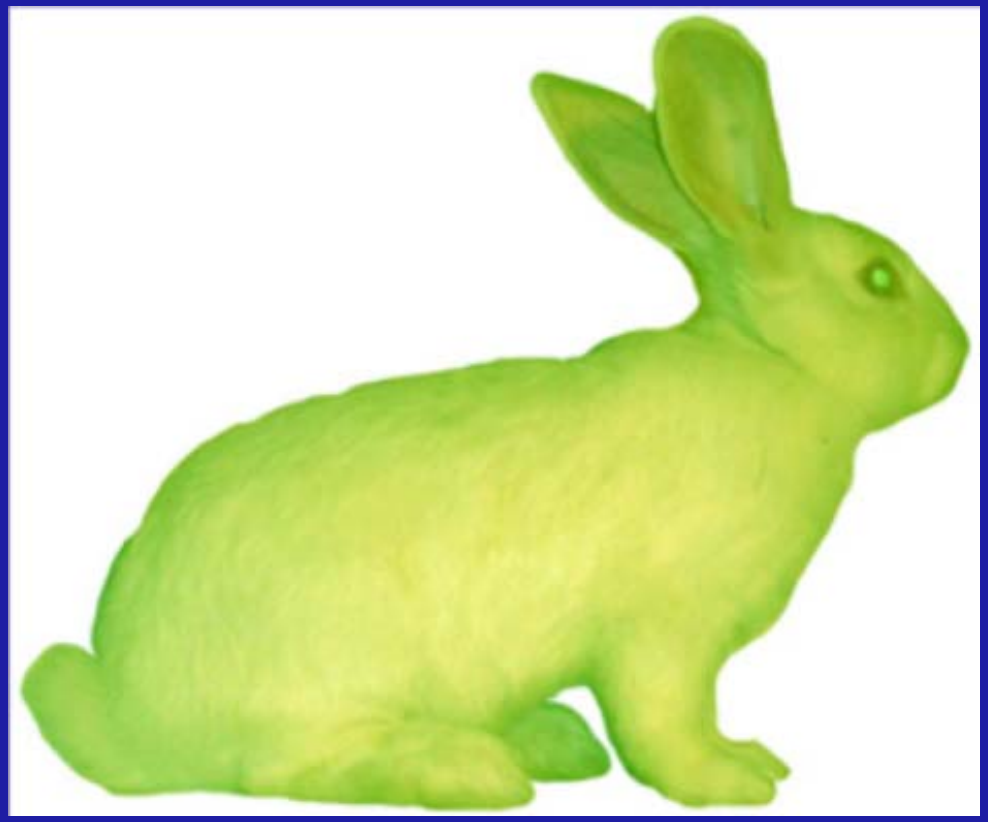
Lead with values, follow with facts

Use a narrative to create a coherent story

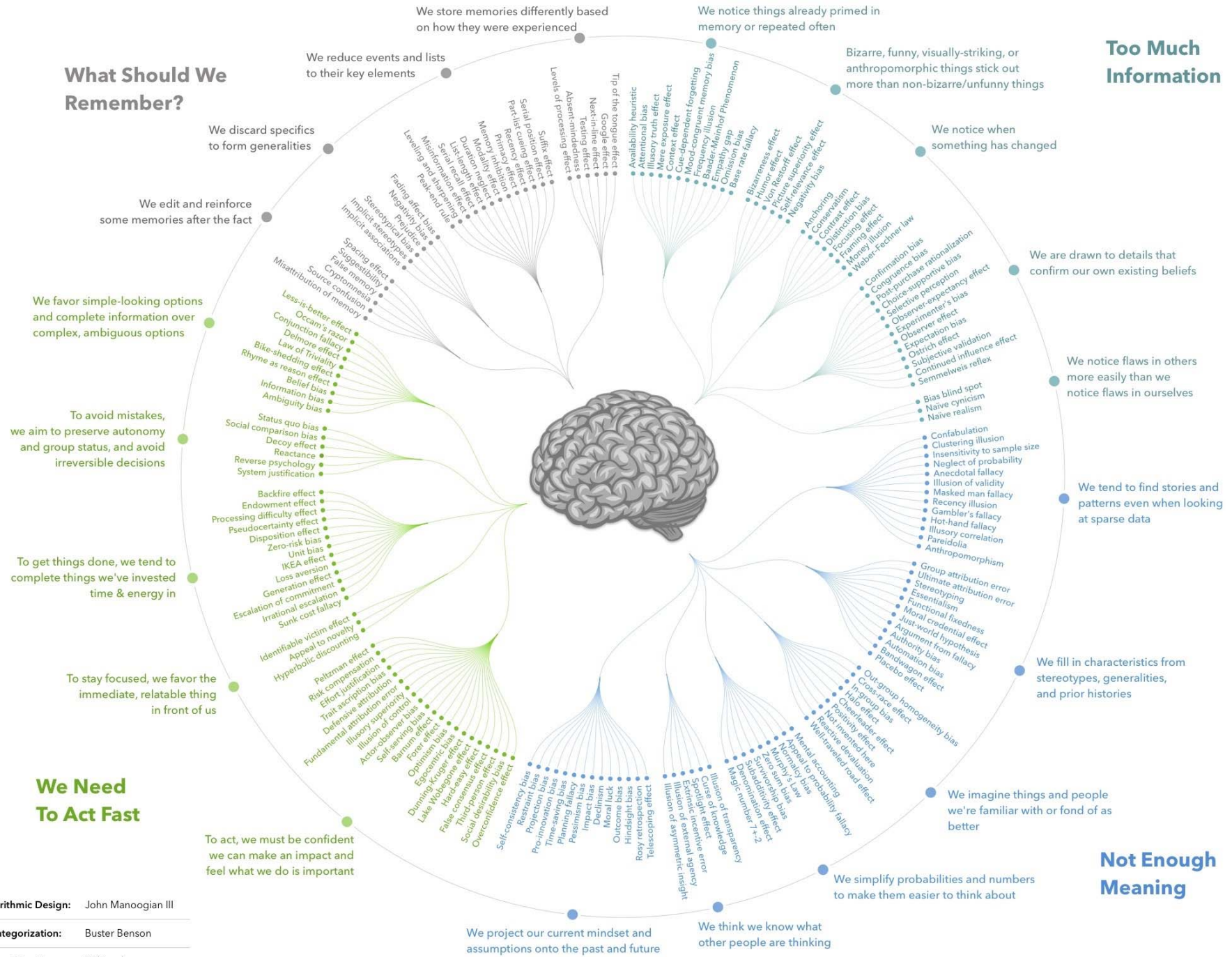
Expect it to take time

Listen without judgement


NEWS
NEWS



COGNITIVE BIAS CODEX



Visual & Algorithmic Design: John Manoogian III

Concept & Categorization: Buster Benson

List of 188 Cognitive Biases: Wikipedia

designhacks.co

20 COGNITIVE BIASES THAT SCREW UP YOUR DECISIONS

1. Anchoring bias.

People are **over-reliant** on the first piece of information they hear. In a salary negotiation, whoever makes the first offer establishes a range of reasonable possibilities in each person's mind.

2. Availability heuristic.

People **overestimate the importance** of information that is available to them. A person might argue that smoking is not unhealthy because they know someone who lived to 100 and smoked three packs a day.

3. Bandwagon effect.

The probability of one person adopting a belief increases based on the number of people who hold that belief. This is a powerful form of **groupthink** and is reason why meetings are often unproductive.

4. Blind-spot bias.

Failing to recognize your own cognitive biases is a bias in itself. People notice cognitive and motivational biases much more in others than in themselves.

5. Choice-supportive bias.

When you choose something, you tend to feel positive about it, even if that **choice has flaws**. Like how you think your dog is awesome — even if it bites people every once in a while.

6. Clustering illusion.

This is the tendency to **see patterns in random events**. It is key to various gambling fallacies, like the idea that red is more or less likely to turn up on a roulette table after a string of reds.

7. Confirmation bias.

We tend to listen only to information that confirms our **preconceptions** — one of the many reasons it's so hard to have an intelligent conversation about climate change.

8. Conservatism bias.

Where people favor prior evidence over new evidence or information that has emerged. People were **slow to accept** that the Earth was round because they maintained their earlier understanding that the planet was flat.

Easiest way to live a happy life? Pose! Use the powers of nonverbal communication to achieve greatness!

A New Replication Suggests 'Power Posing' Is a Waste of Time, but Here's Why You'll Still Be Told to Do It for Years to Come

Over a year ago *by* SIMON OXENHAM

How a study about Chronic Fatigue Syndrome was doctored, adding to pain and stigma

March 22, 2017 9.06pm EDT

Dr. Ellen Wright Clayton, who has worked with those who have Chronic Fatigue Syndrome, spoke to an open committee at the Institute of Medicine in February 2015 about the biomedical nature of CFS. Susan Walsh/AP

The public relies on scientists to report their findings accurately and completely, but that does not always happen. Too often, researchers announce only their most favorable outcomes, while keeping more disappointing results well out of sight.

This phenomenon, first identified by the psychologist Robert Rosenthal in 1979, is called the "file drawer problem." Although it is widely recognized – affecting drug trials, psychology experiments and most other fields – it has seldom been documented, for obvious reasons. Suppressed results are, well, suppressed, and they are usually discovered only by chance.

It was therefore almost unprecedented when a group of patients, at the end of last year, successfully unmasked the skewed data behind an influential British study, first published in Lancet in 2011, of the devastating disease known as Chronic

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Disclosure statement

Steven Lubet does not work for, consult, own shares in or receive funding from any company or organization that would benefit from this article, and has disclosed no relevant affiliations beyond the academic appointment above.

Partners

View all partners

So, as we knew all along, chronic fatigue syndrome – or ME – is not a chronic illness at all.

The Oxford study suggests that what people suffering from ME need to do is quite simple: get out for a nice walk once in a while and maybe see a shrink. But I suppose the ME lobby will now turn its bizarre loathing on the university. Nothing will stop them believing it's a virus, or caused by pollution, or a conspiracy on the part of the government and health professionals.

–Rod Liddle , The Spectator

Why?

- “Researchers don’t p-hack in a vacuum - they (usually) don’t sit around smoking cigars contriving ways to gin up fake results and hoodwink the public. Rather, when they cut corners it’s partly because they are too confident in their theory.” (Bartlett, 2017)
- There are “true believers” who are unable to imagine that the results won’t support their theory.
- “The scientific establishment too frequently rewards dubious work and seems to prefer flashiness over rigor.” (Bartlett, 2017)

FIRST OPINION

Bad science misled millions with chronic fatigue syndrome. Here's how we fought back

By JULIE REHMEYER / SEPTEMBER 21, 2016

Social and Informational Biases

- Social biases influence connectivity with others - similarity attraction bias (homophile)/in-group dynamics
- Informational biases influence the weight given to other points of view or contrary evidence/observations - confirmation bias

"It is hard to attend to divergent ideas and even more so when they are delivered by those who are not in one's in-group" (Bourke 2016)

"(I) followed a golden rule, namely, that whenever a published fact, a new observation or thought came across me, which was opposed to my general results, to make a memorandum of it without fail and at once; for I had found by experience that such facts and thoughts were far more apt to escape from the memory than favorable ones."

–CHARLES DARWIN

Organizational Fixes

- Surface level diversity - group composition: race, gender, functional roles and educational disciplines
- Deep level diversity - combinations of mental frameworks for problem solving (process oriented, evidence oriented etc.…)
- Mitigation of bias that pulls towards the status quo: mindfulness and conscious effort
- Inclusive leadership that models collaboration, and creates an environment that respects and values diversity (generation of ideas/identification of risks) (Bourke 2016)

Changing the culture of a research enterprise

- Enhancing community between diverse people by providing opportunities for conversation and exchanges of ideas both formal and informal
- Creating a culture that respectfully questions all assumptions and generalizations, whether biased or not. (Murray 2016)
- Absolute adherence to ensuring all members of a group feel comfortable questioning assumptions - the anti-hierarchy.