



Science in Public

Part 1: Science in Popular Culture
Part 2: Public Understanding of Science

Science in Popular Culture

Part 1

Questions we'll answer...

- ▶ What does it mean for science to be 'public'?
- ▶ How does science fit into our understanding of culture?
- ▶ What is the relationship of 'popular culture' to science?

So...what's 'culture', anyway?

Culture in general...

- ▶ A particular society at a particular point in its history.
- ▶ Tastes in art and manners that are favored by a particular social group.
- ▶ Attitudes and behaviors that are characteristic of a particular social group.

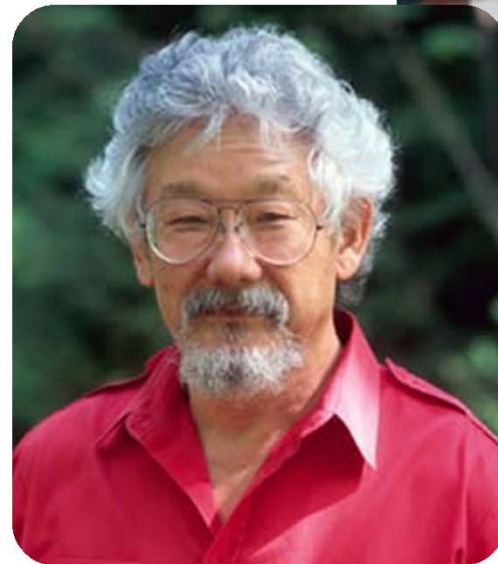
Science culture in particular...

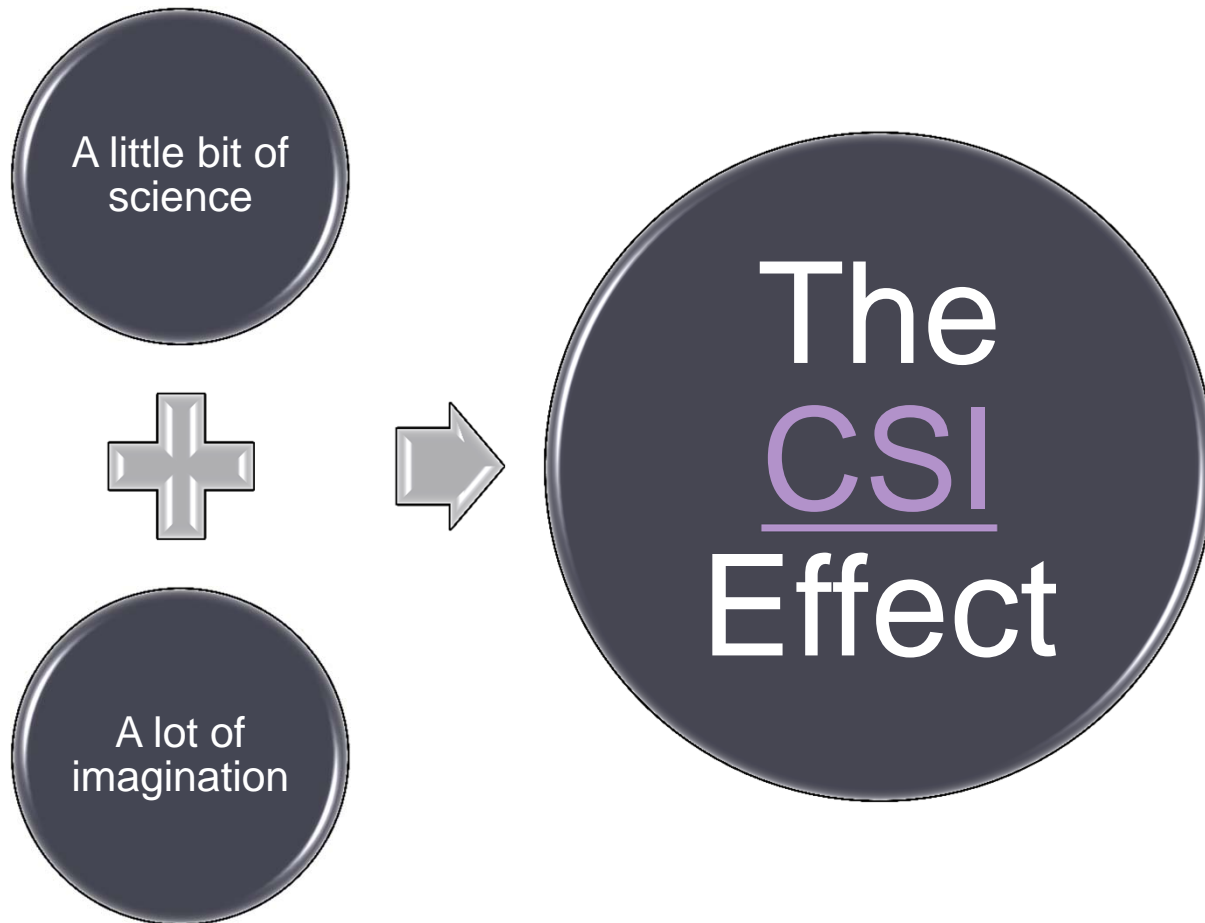
- ▶ The so-called 'two cultures':
 - ▶ Science
 - ▶ Humanities
- ▶ The 'third culture'
 - ▶ Science interfaces directly with non-scientists without a third party

Who do you trust for your 'science'?



Who do you think the average person follows?





The CSI Effect

- Has the “CSI Effect” had any impact on you (even if you don’t watch the show)?

Science and social media



Storytelling...



What we need to understand...



The way that science is (and can be) portrayed in pop culture can make science “come alive” for everyone.

How science is presented in pop culture (and then how people perceive it) can skew public perception (for better or for worse).

Science communication does not exist in a vacuum.

‘Perception is reality.’

“Public Understanding of Science” & Science Literacy

Part 2

Questions we'll answer...

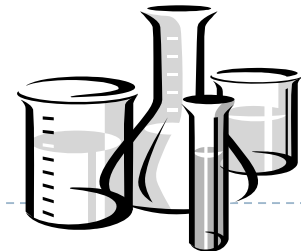
- ▶ How do people acquire science information?
- ▶ What is science literacy?
- ▶ What does 'public understanding of science' mean to science communication?
- ▶ Where did the concept of "PUS" originate?
- ▶ What are the different ways of approaching (conceptual models) PUS?
- ▶ How do the models compare in terms of effectiveness?

Science & the public...

- ▶ The public's views toward science & technology are relatively positive.
- ▶ The 1990's saw an increasing public & media mistrust of science.
- ▶ Historically, the public has used media as their main source of science information.
- ▶ The public, however, distrusts the media more than scientists.
- ▶ The use of the Internet for science information is increasing.

Defining science literacy...

- ▶ “... the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity. Scientific literacy means that a person can ask, find, or determine answers to questions derived from curiosity about everyday experiences.”
- ▶ http://www.windows2universe.org/teacher_resources/sci_schools/s3.html



- ▶ How much science people need to know (& what subject areas they need to know it in).
- ▶ Whether the public needs to know scientific facts or how science works or both.
- ▶ When we can actually call someone 'literate' in science (how can this be measured and what is the measurement?)
- ▶ What level of 'literacy' needs to be maintained?
- ▶ **Who gets to decide?**

Criticisms of science literacy...

(review from your text)

These aspects of "science" and "literacy" are unclear and there is no consensus surrounding them...

“Public Understanding of Science”



Models of PUS approaches...

- ▶ **The deficit model**
 - ▶ Recognizes that there is a gap in knowledge & understanding
 - ▶ Science communication 'fills the gap'
- ▶ **The contextual model**
 - ▶ Acknowledges that people respond to information depending upon their social and psychological traits.
 - ▶ Science communication takes into consideration the context.

Continued...

Models of PUS approaches...continued

- ▶ **The lay-expertise model**

- ▶ Based on the lives & histories of real communities.
 - ▶ Science communication is driven by empowerment of local communities using their expertise (can be considered anti-science).

- ▶ **The public engagement model**

- ▶ Focuses on a series of activities designed to enhance public participation in personal decision-making and science policy
 - ▶ Science communication uses public participation to democratize the process.

academia, AIDS, animals, bacteria, biotechnology, bioterrorism,
blogging, cell biology, censorship, children, computer modeling,
conferences, **creationism**, Darwin, developing countries,
dinosaurs, drugs, earthquake, education, entertainment, environment,
evolution, game theory, gender, genetics, geology, GMO,
health, history, internet review, language, materials, medical
profession, memory, movie, nanotechnology, neuroscience, nuclear
weapons, people, **personal**, physics, poetry, psychology, religion,
research, review, science, politics, **space**, stem cells, UFO,
virology