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Science communication in the media – how is it changing?

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“Seminario Internacional: Culturas científicas e innovadoras: progreso social”
Fundación Ramón Areces and CIEMAT
Madrid, Spain, 28 October 2013



Definitions

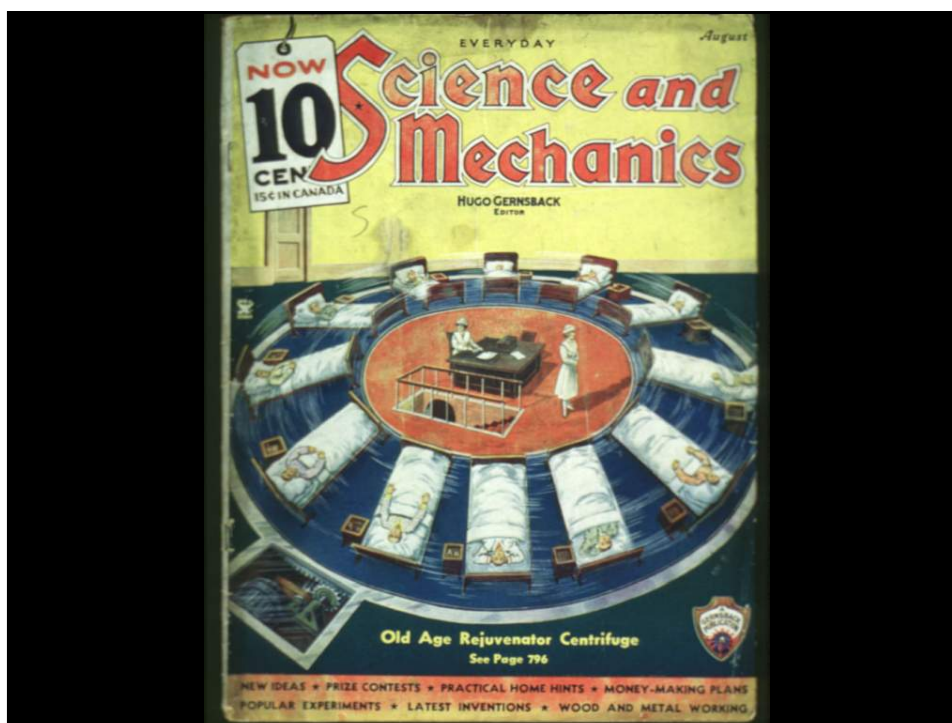
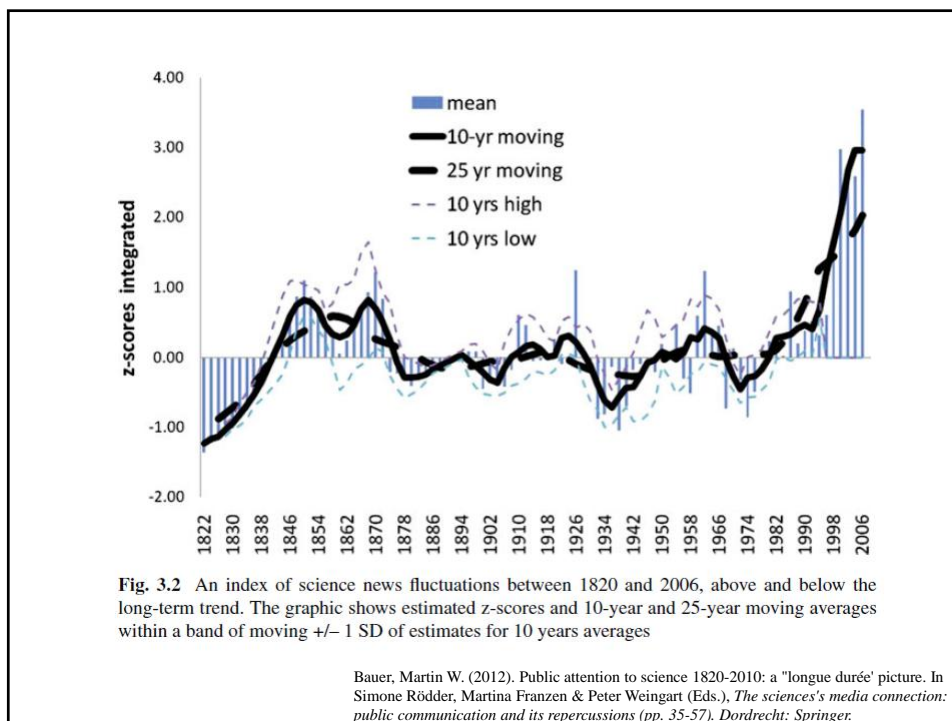
- ◆ *Culturas científicas* or *culture scientifique* or scientific culture
- ◆ *Apropiación social* or *divulgación* or popularization or PCST or science communication
- ◆ Media vs. news



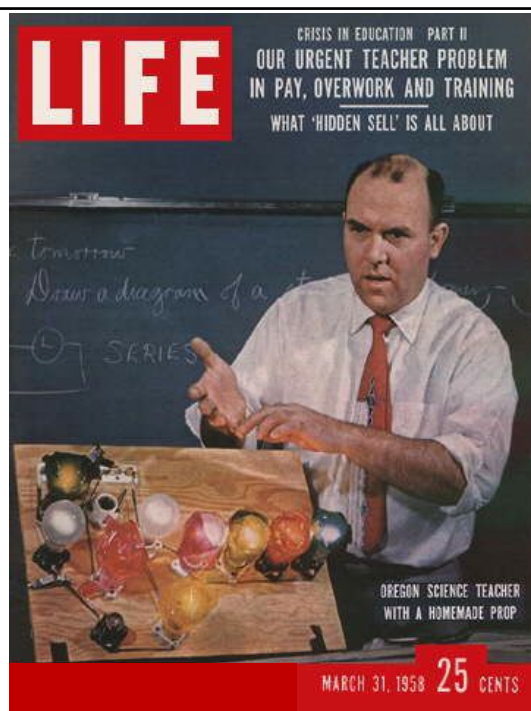
Key ideas

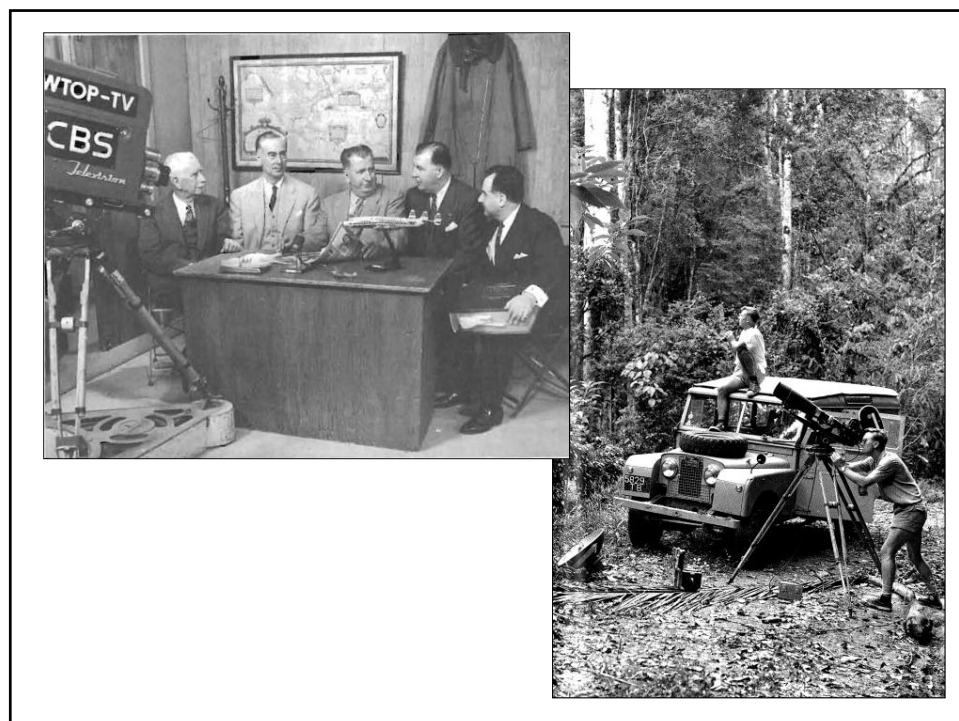
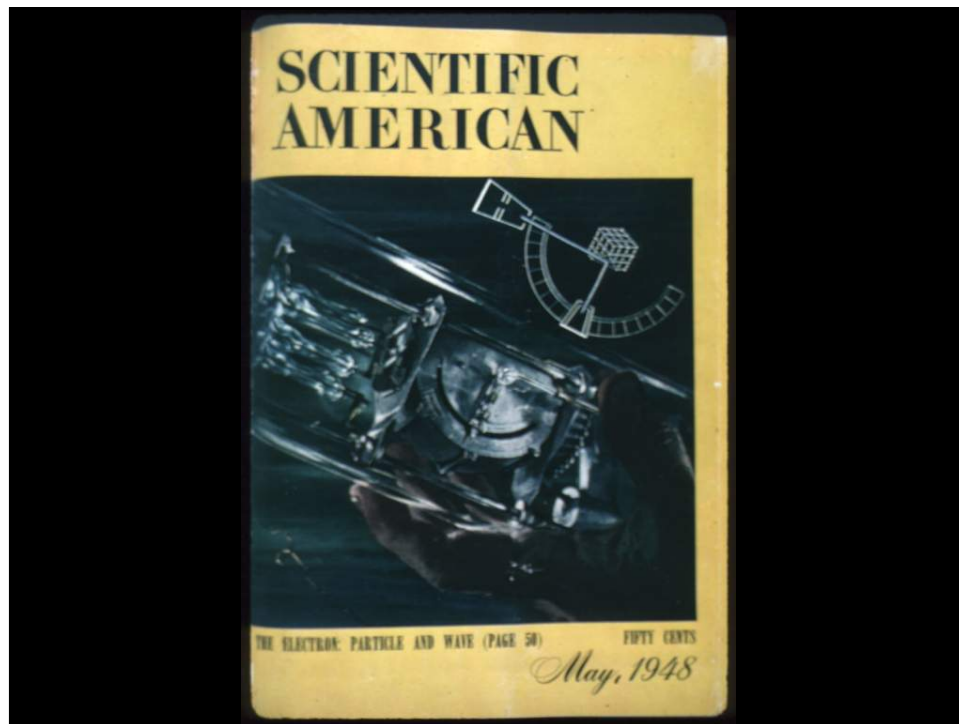
- ◆ Growth, especially since 1980s
- ◆ Adaptations to new media (in every era): new forms, new interactions
- ◆ Difference between science “news” (journalism) and other kinds of science in media
- ◆ Strong preference for medicine/health over natural sciences
- ◆ Many open questions

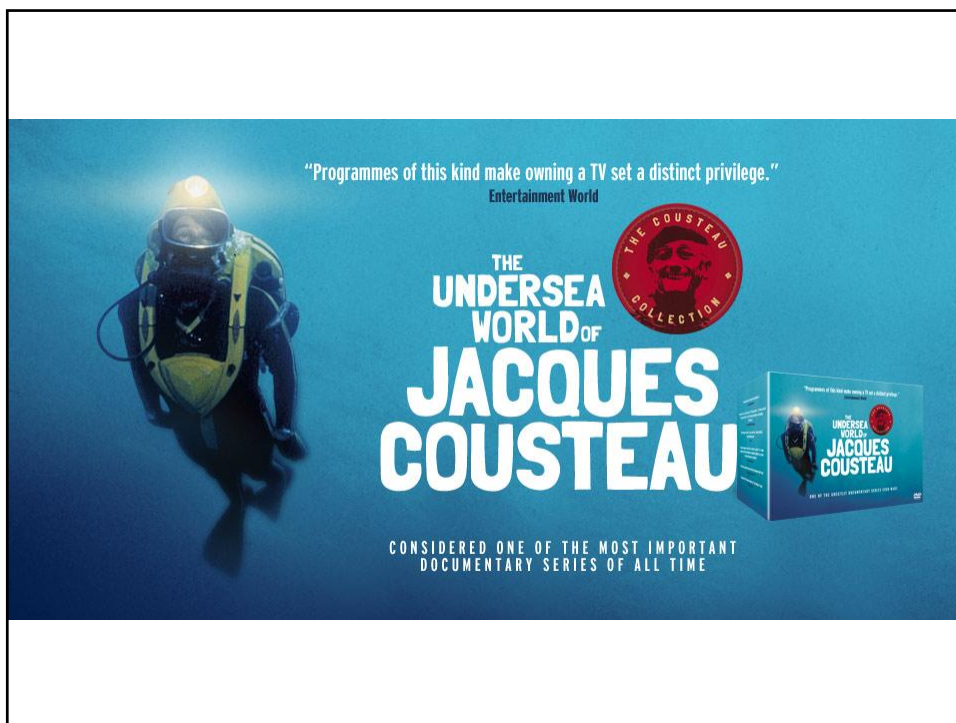


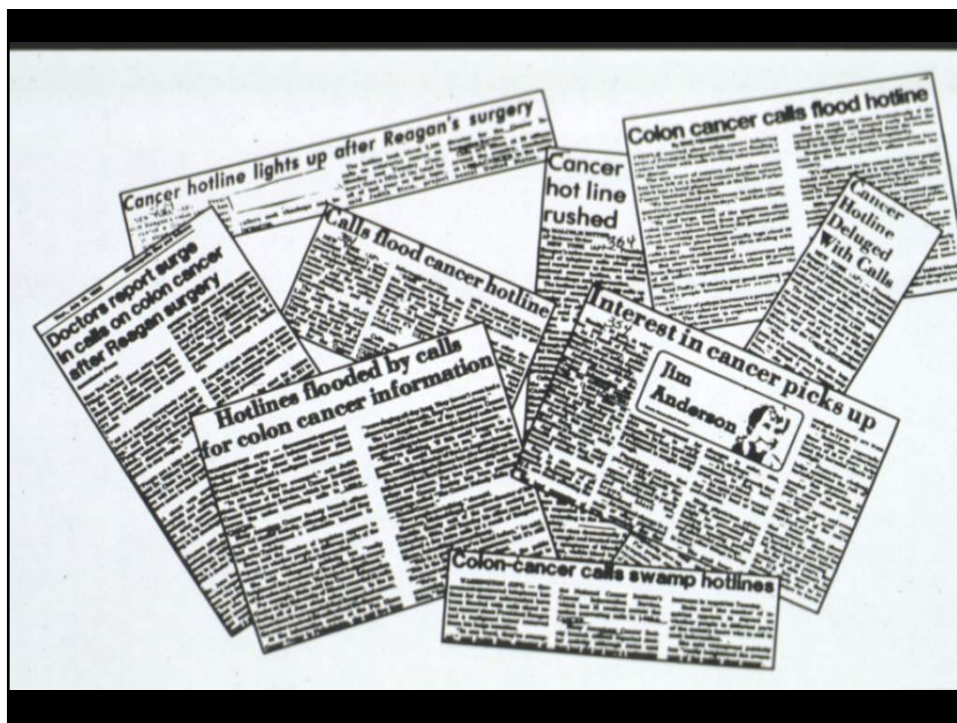


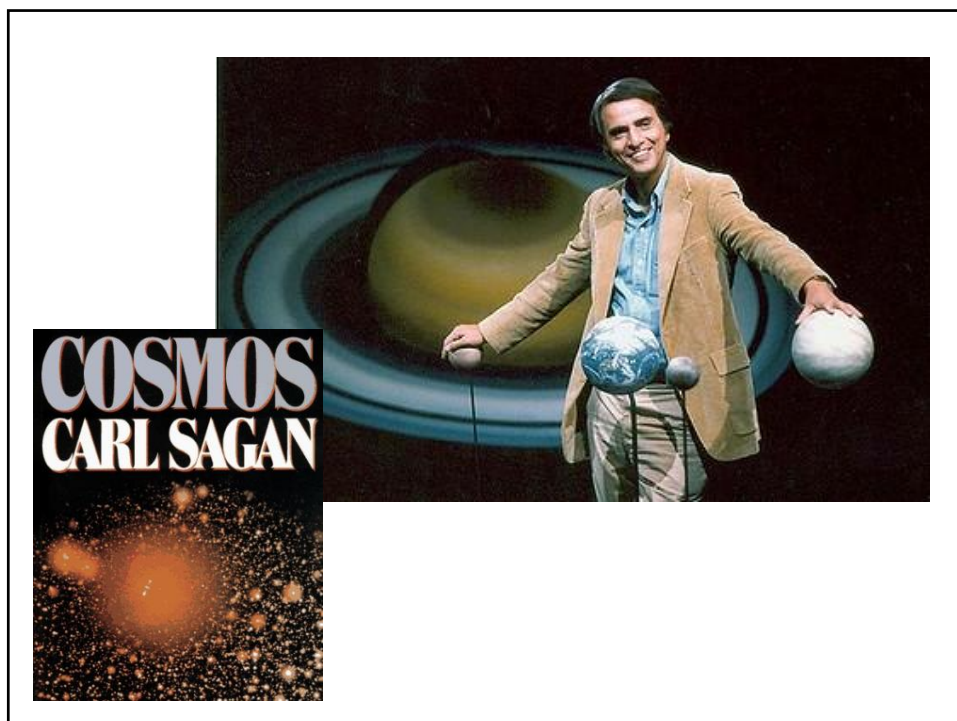
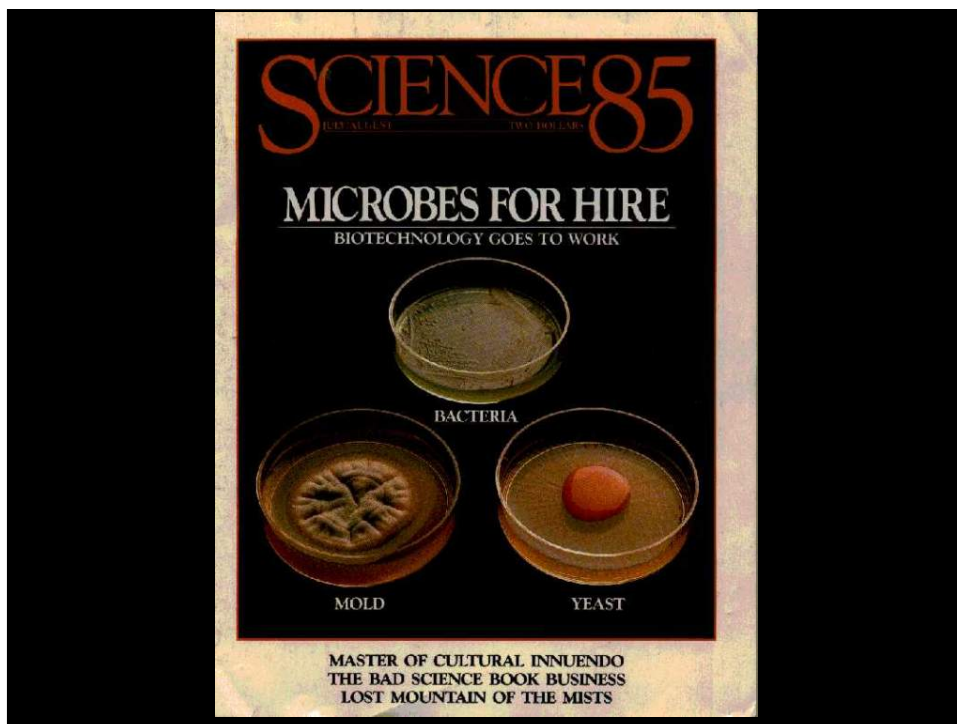
Watson Davis,
Science Service
(*Science Newsletter*)





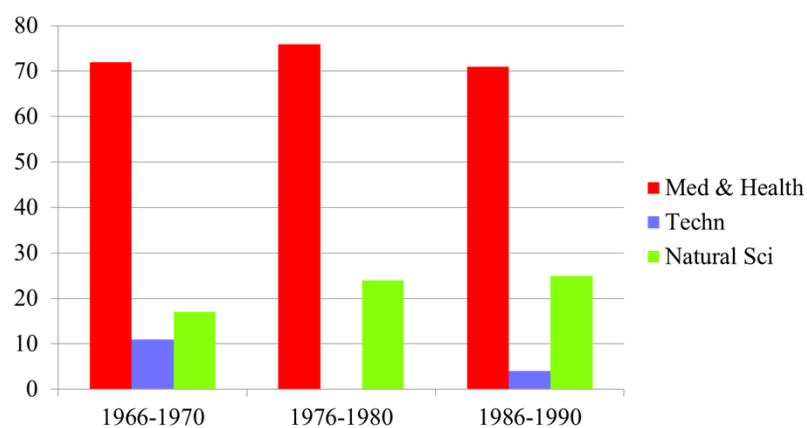


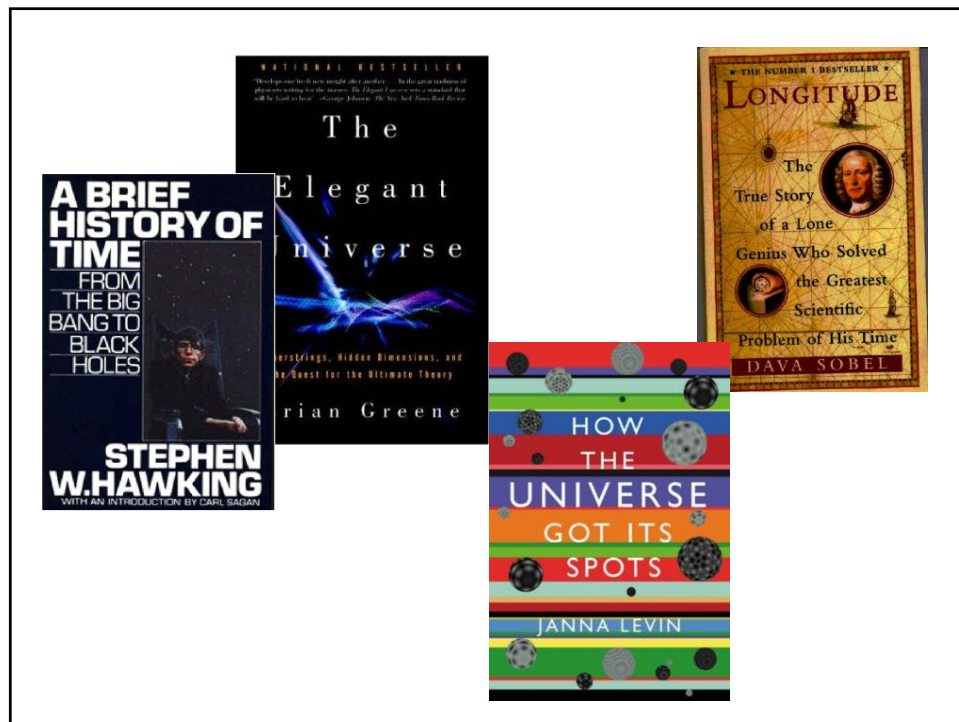




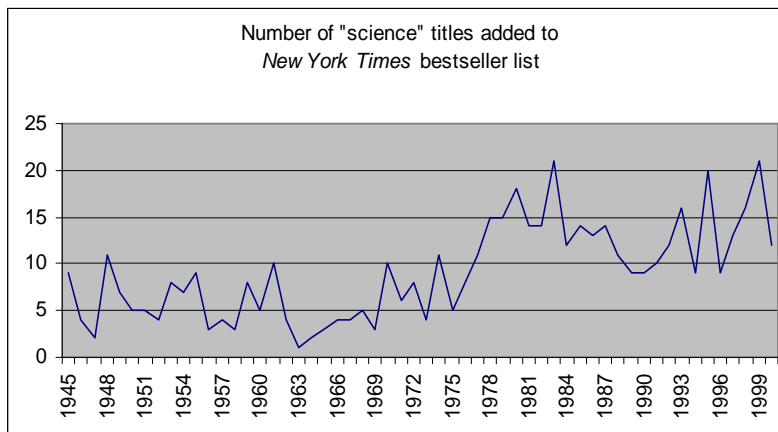


Trends in science coverage





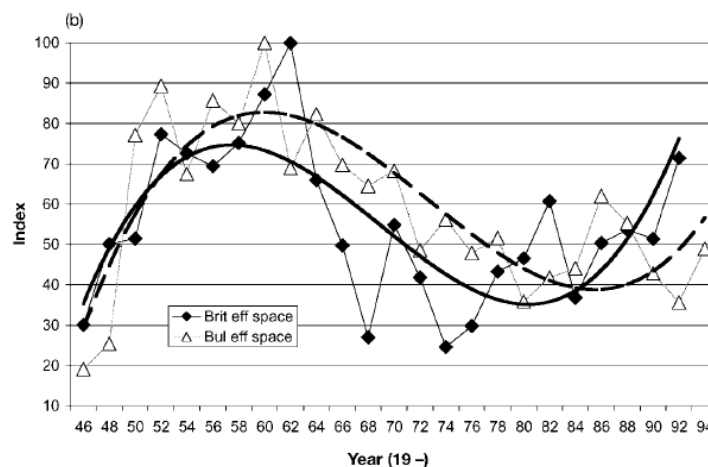
Bestsellers over time



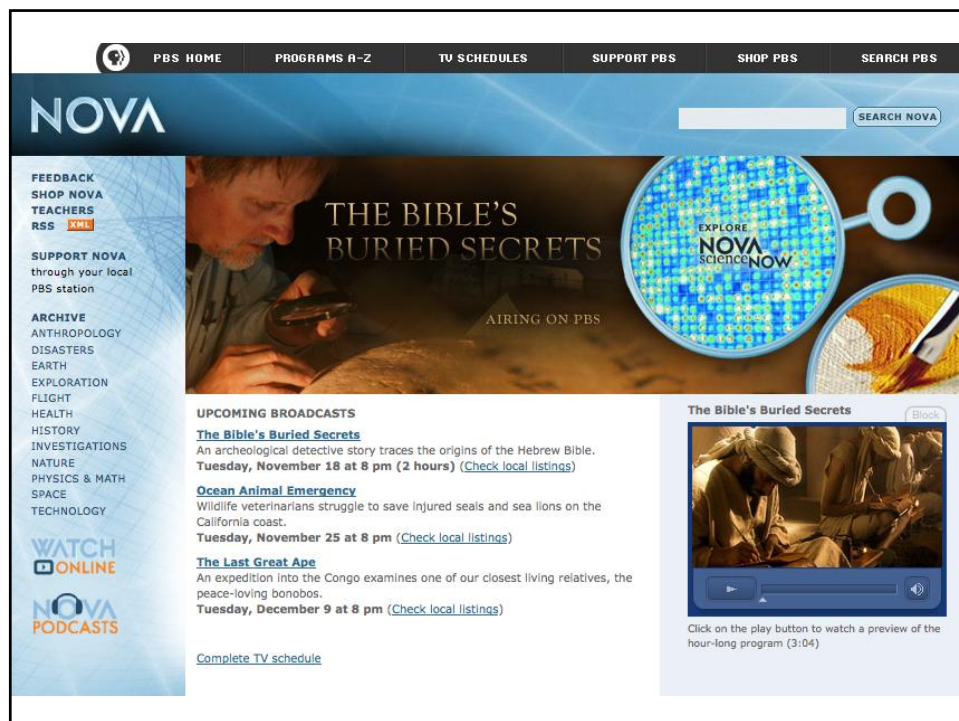
Data compiled by Diane Renbarger, Cornell Univ., 2001



(b) The intensity of science coverage relative to the potential news space. News space is defined as: Estimated annual total number of pages minus estimated advertising pages. The fitted curves are third-order polynomials, a thick line for Britain, a dashed one for Bulgaria; the peak year index = 100 in both contexts.



Bauer, Martin W., Petkova, Kristina, Boyadjieva, Pepka, & Gornev, Galin.
 (2006). Long-Term Trends in the Public Representation of Science Across the
 'Iron Curtain': 1946-1995. *Social Studies of Science*, 36(1), 99-131



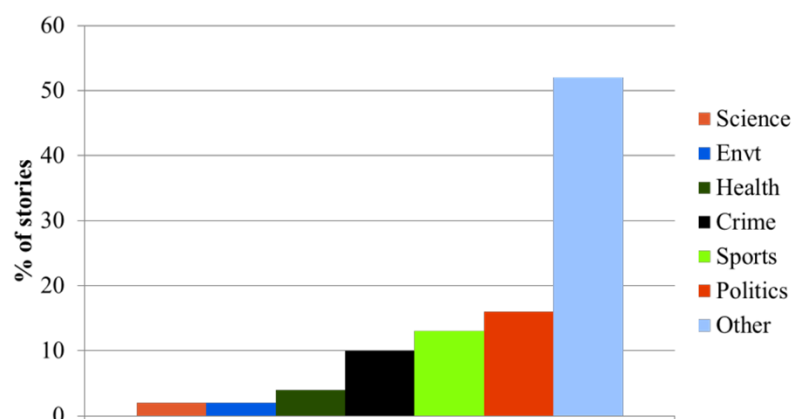
Spanish science TV news (early 2000s)

- ◆ 3.5% of TV news about science
- ◆ Of that: 60% about medicine, 13% telecommunications, 12% food, everything else less than 10% (astrophysics, environment, energy, paleontology, etc.)
- ◆ Scientists as sources: 92%
- ◆ Primarily national, not international
- ◆ Focus on positive, hope



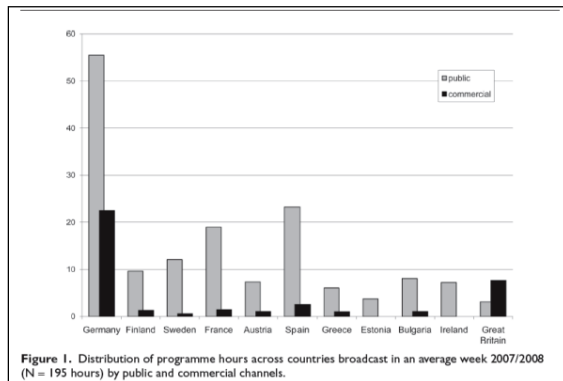
Moreno Castro, Carolina. (2004). Medios de comunicación e información científica. *Sistema*(179-180), 159-170.

European science news (2003-2004)



León, Bienvenido. (2008). Science related information in European television: a study of prime-time news. *Public Understanding of Science*, 17(4), 443-460. doi: 10.1177/09636625056073089

The overall European case (2007-2008)



- ◆ Information, 8%
- ◆ Popularization, 46%
- ◆ Edutainment, 19%
- ◆ Advice, 23%
- ◆ Advocacy, 5%



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Lehmkuhl, Markus, Karamanidou, Christina, Möri, Tuomo, Petkova, Kristina, Trench, Brian, & AVSA-Team. (2012). Scheduling science on television: A comparative analysis of the representations of science in 11 European countries. *Public Understanding of Science*, 21(8), 1002-1018. doi: 10.1177/0963662511436070

Science Update

HOME ABOUT ARCHIVES PODCAST CONTACT

daily ON THE AIR

MONDAY, NOV 17
SELF-STEREOTYPING
 Both men and women do worse on an online math test when assigned a female avatar.
[LISTEN](#) [DOWNLOAD](#) [TRANSCRIPT](#)

FRIDAY, NOV 14
TECH ROUNDUP
 Plug-in electric cars could store wind and solar power at night.
[LISTEN](#) [DOWNLOAD](#) [TRANSCRIPT](#)

THURSDAY, NOV 13
PRICEY WINE
 The price of a wine arbitrarily influences how pleasurable it is to drink.
[LISTEN](#) [DOWNLOAD](#) [TRANSCRIPT](#)

WEDNESDAY, NOV 12
NANOPARTICLES & SKIN
 Nanoparticles are common ingredients in cosmetics, but scientists are finding that they're more than skin deep.
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TUESDAY, NOV 11
FOOD ALLERGIES
 Scientists are developing an unconventional but surprisingly straightforward treatment for food

web exclusive

Sunscreens used to go on white, but thanks to nanotechnology, their modern replacements are nearly invisible (Jupiter Images)

this week's PODCAST

FRIDAY, NOV 14
TECHNOLOGY UPDATE: Could sunscreens be more than skin deep? Why headphones and pacemakers don't mix and a new use for electric cars.
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[WHAT IS PODCASTING?](#)

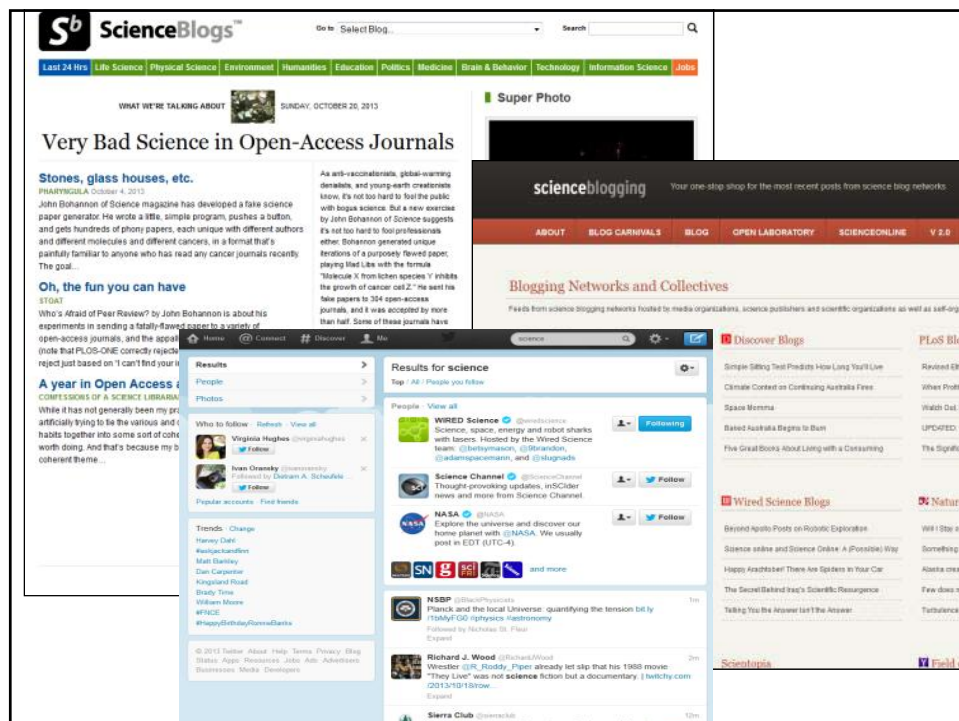
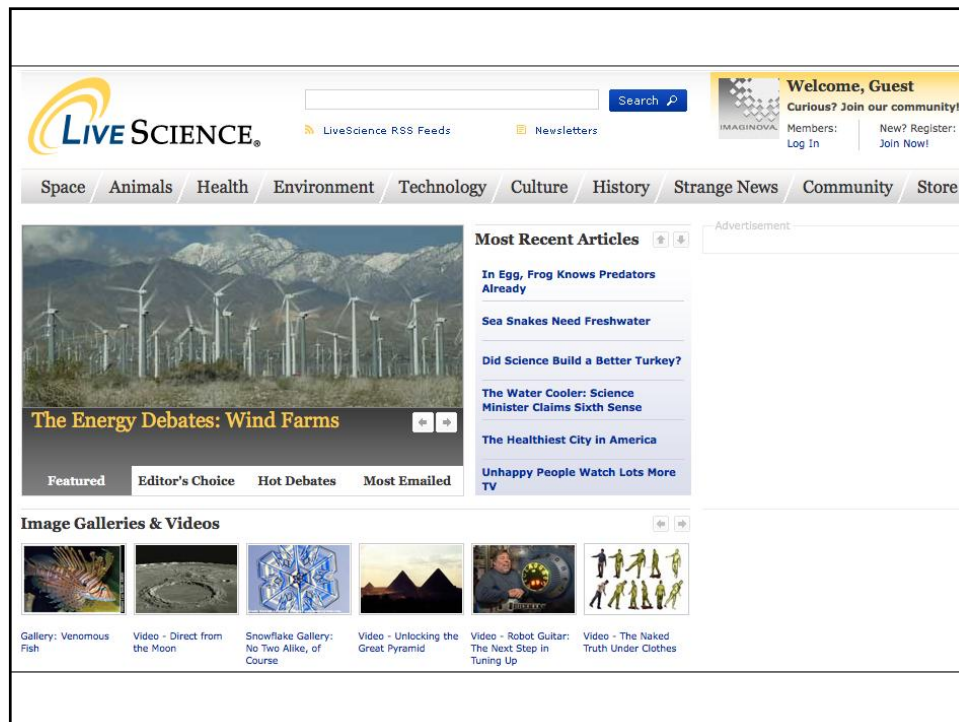
Win a Science Update mug!
[ASK A SCIENCE QUESTION](#)

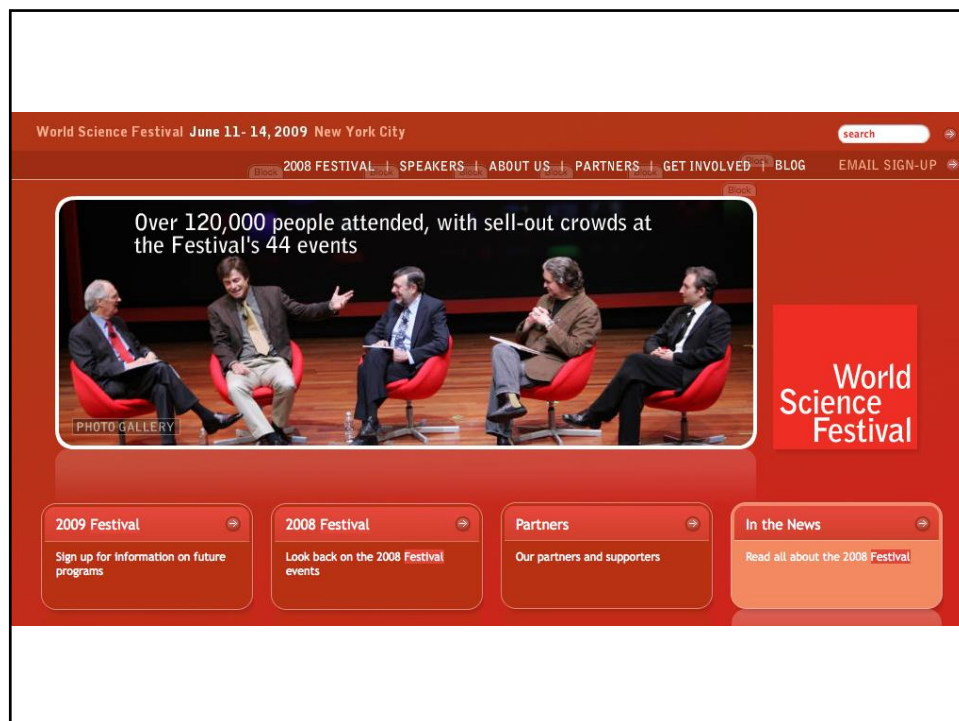
Science Update Classroom
 Use the latest science news to teach standards-based science.

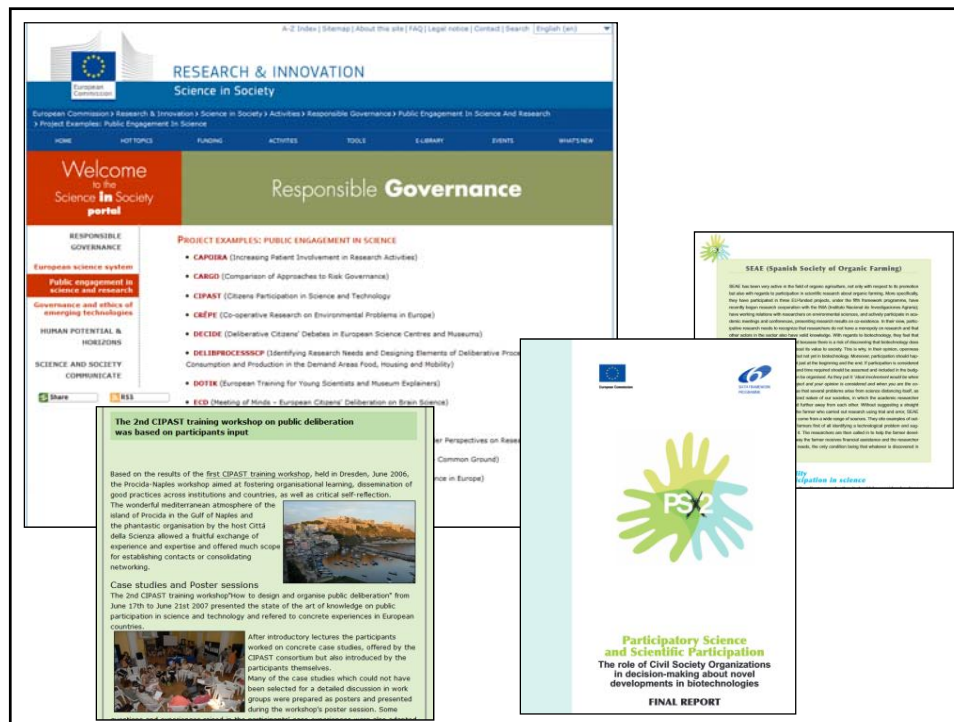
SPOTLIGHT on

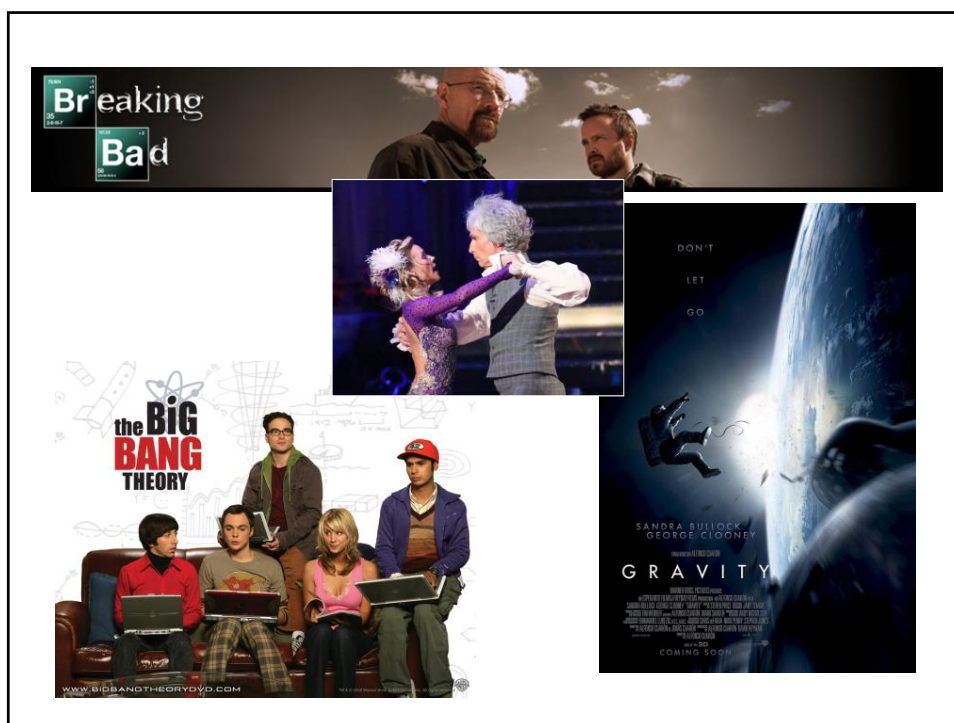
The Brain

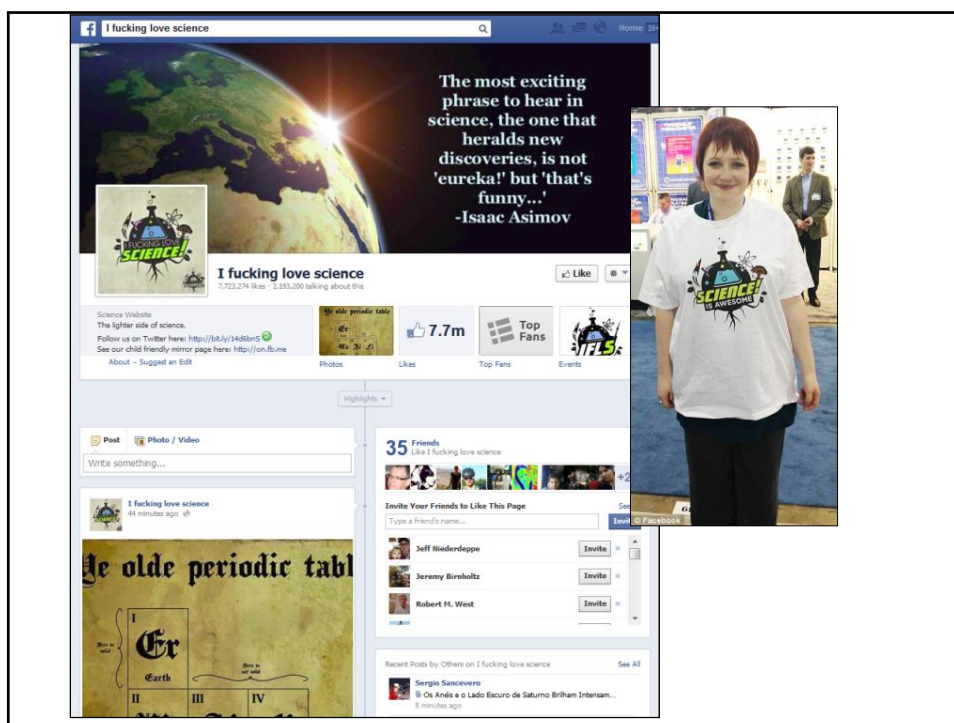
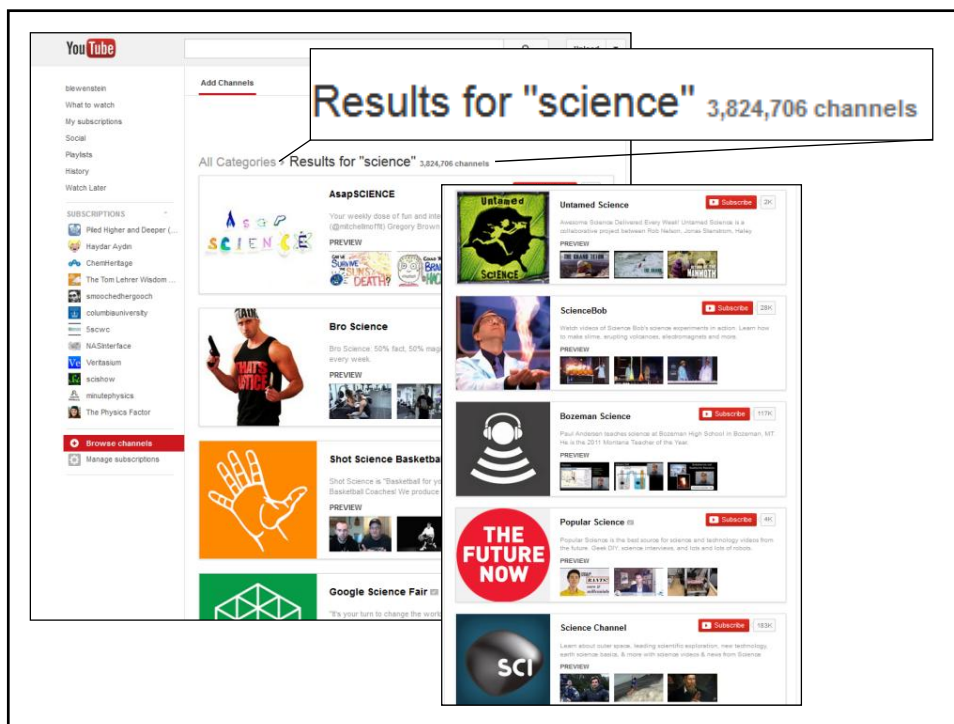
[MORE SPOTLIGHTS](#)

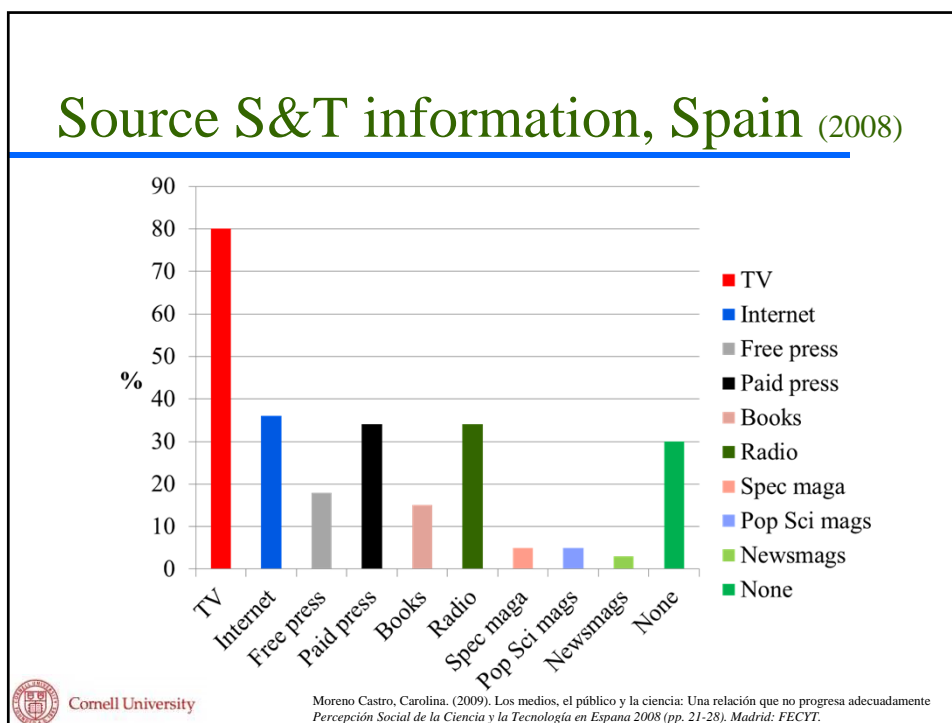
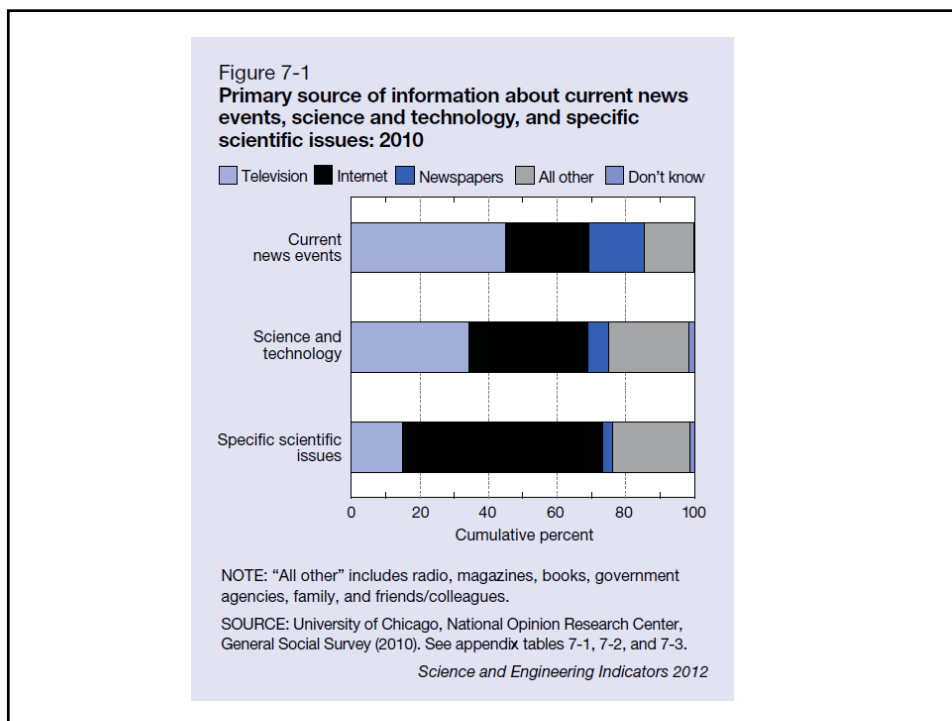




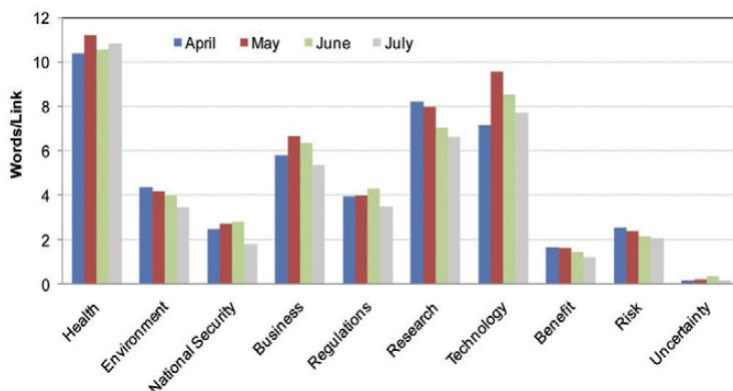








What do people find online?



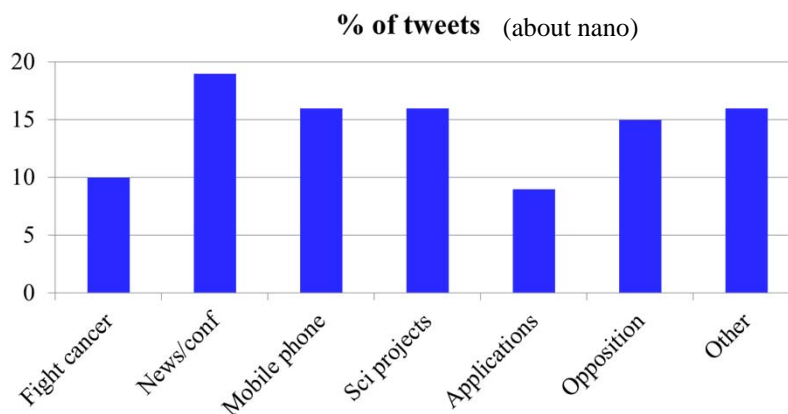
Nanotechnology-related keyword searches, as delivered by Google



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Ladwig, Peter, Anderson, Ashley A., Brossard, Dominique, Scheufele, Dietram A., & Shaw, Bret. (2010). Narrowing the nano discourse? *Materials Today*, 13(5), 52-54.

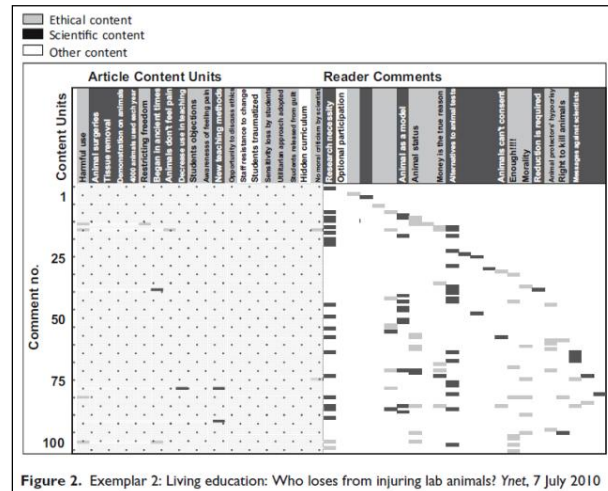
What do people say online?



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Veltri, Giuseppe Alessandro. (2013). Microblogging and nanotweets: Nanotechnology on Twitter. *Public Understanding of Science*, 22(7), 832-849. doi: 10.1177/0963662512463510

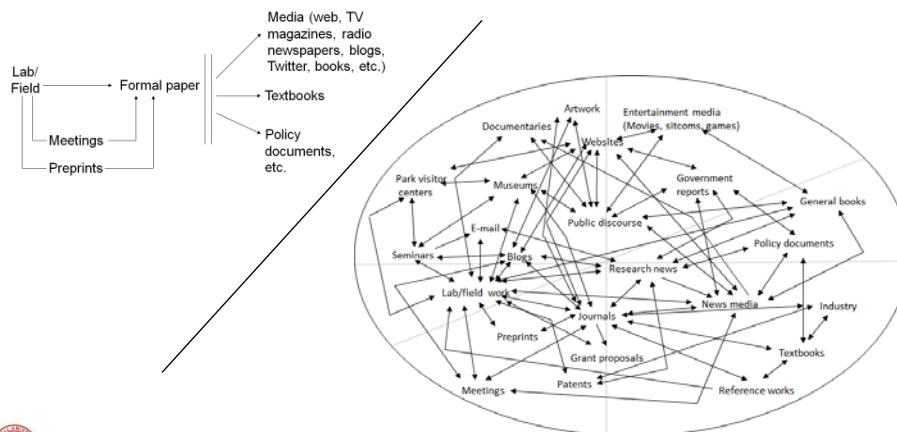
How do people use media?



Laslo, Esther, Baram-Tsabari, Ayelet, & Lewenstein, Bruce V. (2011). A growth medium for the message: Online science journalism affordances for exploring public discourse of science and ethics. *Journalism*, 12(7), 847-870. doi: 10.1177/1464884911412709

What we still don't know, 1

◆ Interactions of different media



What we still don't know, 2

◆ Does quantity or quality matter?

“Has there ever been a demonstrable positive correlation between quantity or quality of science information in the public marketplace and the quality of science policy or the quantity of science funding?”

◆ What is the true audience for science online?

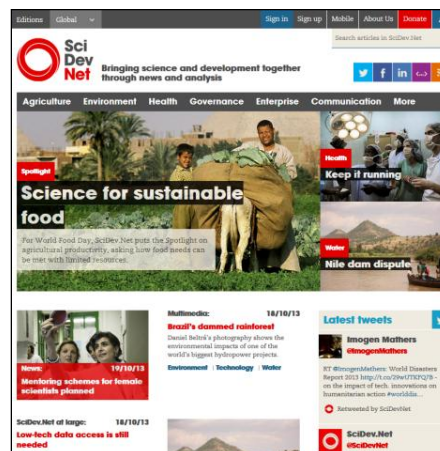
“Is there any truth to the oft-repeated assertion that there is a ready consuming public for science (of any stripe) whose reading/listening/attending needs are not being met?”



(Rick Borchelt, 17 Oct 2013)

What we still don't know, 3

◆ How does all this apply in developing world?



Key ideas

- ◆ Growth, especially since 1980s
- ◆ Adaptations to new media (in every era):
new forms, new interactions
- ◆ Difference between science “news”
(journalism) and other kinds of science in
media
- ◆ Strong preference for medicine/health over
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