

A Brief History of Science (writing)

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Fall 2014

Review: What is Rhetoric?

“The **art** of using language effectively so as to persuade or influence others” ... “the study of principles and rules to be followed by a speaker or writer striving for eloquence”

The **analysis** of language as a means of persuasion.

Review: What is Science?

A branch of study that deals with a connected body of demonstrated truths or with observed facts systematically classified and more or less comprehended by general laws, and incorporating trustworthy methods (now esp. those involving the scientific method and which incorporate falsifiable hypotheses) for the discovery of new truth in its own domain.

Has science always been the same?

How has the meaning of science changed over time?

How has the way we talk about science changed over time?

Science in history

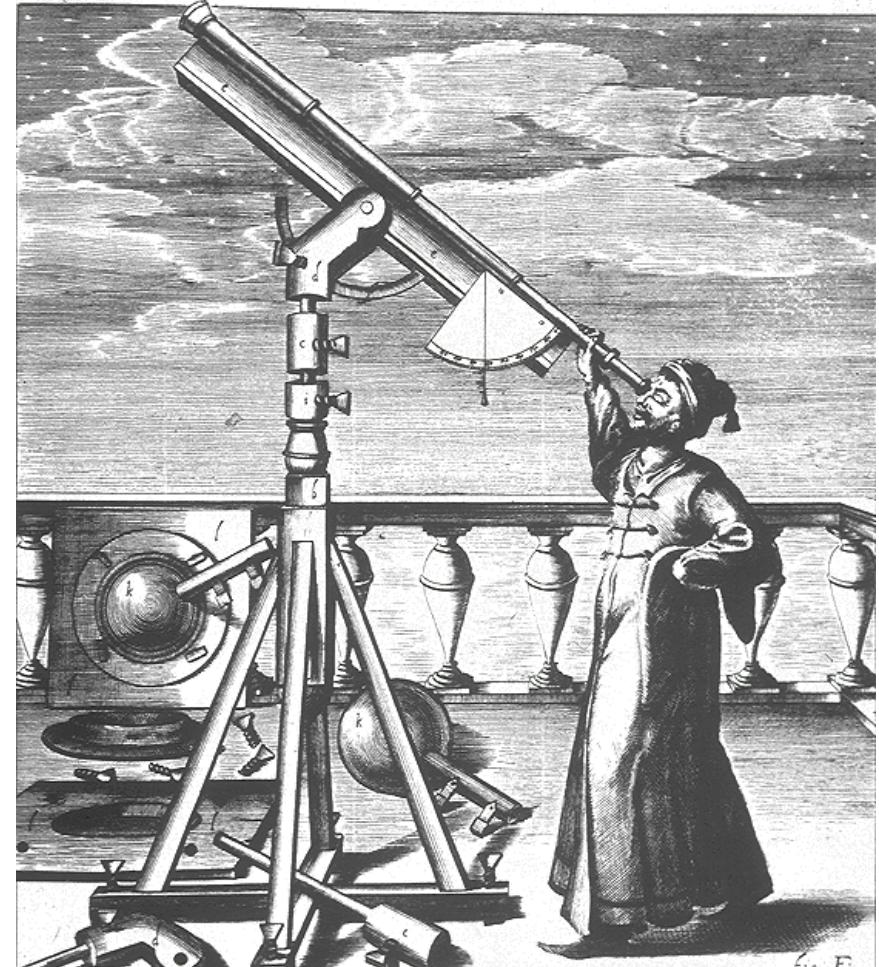
“Viewing science through the lens of historicism, as a social formation, to be studied as one would study other social formations.” (cambridge history of science)

The “Scientific Revolution”

- Medieval Science: not exactly “science”... but they still learned a whole lot of things
- Early Modern Science (1490-1730)
 - Efforts to explain natural phenomena using reason
 - Emphasis on observation
 - Efforts to describe & catalogue the world

Example: Astronomy & Astrology

- Concerned with the measurements of the cosmos (not its meanings)
- Supporting astrology & medicine in the courts
- Galileo and Kepler: objects in the heavens obey the same laws as things on earth



Example: Natural History

- Pliny the Elder (ca 22-78): the encyclopedic observation and description of everything found in or derived from nature.
- New emphasis on observation: collectors, illustrators, doctors, travelers to the New World.
- Importance of systematic organization of the world (Linnaeus)



Example: Linnaean Taxonomy (1767)

Primates – *Homo sapiens* -

- "Europaeus albus" -- white, sanguine, browny; with abundant, long hair; blue eyes; gentle, acute, inventive; covered with close vestments; and regulated by customs.
- "Americanus rubescens" --red, choleraic, righteous; black, straight, thick hair; stubborn, zealous, free; painting himself with red lines, and regulated by customs
- "Asiaticus fuscus" -- yellow, melancholic, stiff; black hair, dark eyes; severe, haughty, greedy; covered with loose clothing; and regulated by opinions.
- "Africanus niger" -- black, phlegmatic, relaxed; black, frizzled hair; silky skin, flat nose, tumid lips; females without shame; mammary glands give milk abundantly; crafty, sly, careless; anoints himself with grease; & regulated by will.
- [monstrosus]

Changes in modern science

- ~1800: “Science” comes to mean “organized pursuit of knowledge”
- Rise of the “scientific method”: the recognition and formulation of a problem, the collection of data through observation and experiment, and the formulation and testing of hypotheses
- Institutionalization of the sciences

Science Writing

Changes in science writing

St Mary Hill, May 31, 1771

Dear Sir,

I take the first opportunity, after my return from Colchester, to send you some particulars relating to the wheat lately found there, under a Roman pavement, in the kitchen garden of Doctor Piggot, a physician, in Angel Lane in that town.

Between two and three years ago the Doctor having observed that some of his fruit trees, which stood in one continued line, did not thrive so well as the rest, he ordered a man to dig at a little distance from the outermost of them. . After digging to the depth of a yard and a half, there appeared a Roman pavement, consisting of rude and coarse tesellae or brick, without any material difference of colour, or any variety of figure arising from the disposition of them.

Having thus found what it was that checked the growth of his trees, he desisted from any further enquiry, till the beginning of this month, when he ordered a man to dig in the same place; who, having laid the ground open to the extent of five yards and a quarter in length, and two yards and an half in breadth, came to the extremity of the pavement on the east and south sides.

An acquaintance having informed me of some wheat being found a few days before under a Roman pavement, I went immediately to the spot.

I am, dear Sir,

Your faithful humble Servant
Guyon Griffith.

Changes in science writing

F1054 (Fig. 7) was 0.14 m deep and oval in plan being 0.7 m wide north–south and 1.3 m long east–west. In the fill of the feature were two complete pots (Fig. 27. No. 9 and 10, p. 28) and fragments of cremated bone (p. 92). Half a metre to the west of 1054 was another area of charcoal-flecked loam, F1033 (Fig. 7). F1033 was 0.36 m deep and circular in shape having a diameter of 0.25 m. The feature contained fragments of cremated bone (p. 92) and was cut into the fill of ditch 460.

- 1978 CBA Research Report 28
Ashville Trading Estate, Abingdon

Changes in science writing

Ian Hodder:

“Writing has become increasingly distant, objective, impersonal and universal. We have become blind to the fact that we are writing.”

- Writing Archaeology, 1989

The myth of objectivity

Rosemary Joyce:

“The creation of narratives is a practice that literally binds the discipline of archaeology together from the field through to formal and informal presentation of interpretation.”

- The Languages of Archaeology, 2002

The myth of objectivity

Emily Martin:

“Part of my goal is to shine a bright light on the gender stereotypes hidden within the scientific language of biology. Exposed in such a light, I hope they will lose much of their power to harm us.”

- The Egg and the Sperm, Spring 1991

The myth of objectivity

Douglas Allchin:

“Scientific culture is an instrument or apparatus, not unlike a microscope, with which individuals view the world through the testimony of others. Like any scientific instrument, however, the scientific culture of reporting must be carefully constructed, tested, calibrated, maintained, and regularly checked and retuned to support its intended function.”

- “Do We See Through a Social Microscope?” 1999

From Science Writing to Science Reporting



Unit 1: Rhetorical Analysis

- How is scientific language persuasive? Is there “rhetoric” in science writing?
- How is science used as a persuasive strategy in popular discourse?
- How does science work alongside other persuasive strategies to make claims about politics, ethics, etc.?
- Assignment: rhetorical analysis

Unit 1: Rhetorical Analysis

- Who is speaking? Can we trust them?
- Who is being spoken to?
- What is the speaker trying to persuade us of?
- What strategies is the speaker using to persuade?

Unit 1: Rhetoric of Vaccination

- Who is speaking?
- Who is being spoken to?
- How does Sarah Pope use science as a persuasive strategy? Note down any language-of-science used.
- How does Paul Offit use science as a persuasive strategy? Note down any language-of-science used
- How does Samantha Bee use vaccination as a metaphor?

Unit 1: Rhetoric of Vaccination

<http://thedailyshow.cc.com/videos/g1lev1/an-outbreak-of-liberal-idiocy>

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Unit 1: Rhetoric of Vaccination



snwcntry • 2 months ago

This is an easy debate to settle....list all the ingredients in the vaccines and let people ask about side effects. The medical community has made this a yes or no issue and has tried to remove any element of choice. Our society is based upon choice. Beyond this, I have found most doctors I speak with have a seriously terrible ability to put things in lay person terms. If I was that smart I might have the same problem. 1.Stop making this a yes or no issue. 2.Stop belittling people with an opinion, that is what our society is based upon. 3.List all the ingredients in the vaccines, do this to show people you have nothing to hide. 3.In lay person terms, spell out what each of the ingredients are and talk about any possible side effects. After that people are smart enough to make their own wise choice and I believe many of the people skipping the shots currently will stop doing so.

[▲ \(5\)](#) [▼ \(13\)](#) [Reply](#)



pennel bird • 2 months ago

sometimes you have to vote with your remote thumb - to wit: killed the daily show on my dvr last night after over 10 years of loyal viewership and it felt like taking a sad **** - one you weep over as you flush. after the execrable "epidemic of idiocy" during which the deeply unfunny samantha bee mugged her way painfully, yet again, through another mockingly myopic segment (try calling central casting for "better actor") i had to middle finger you smug bitches. i know your mission statement reads something along the lines of "we can make funny out of tragedy just like the onion did after 9-11 - we're that good", but slamming by proxy the many thousands of families who struggle with the life sentence of autism (mine included) and who are far better informed about the potential dangers of vaccines than you are as you half-read this, just so you can grind out your received opinion on this subject was beyond the pale. shame on you is what a classier gentleman would write: so **** you.

[▲ \(6\)](#) [▼ \(22\)](#) [Reply](#)



Cody • 2 months ago

Soooo... The Daily Show for 10 years has mocked and poked at beliefs, and political points of view while you sat there laughing saying "Yeah **** them" because these are not my opinions and there is not the slightest chance I'm wrong. Now, however, since it has poked at a belief of yours you shall... [more](#)

[▲ \(11\)](#) [▼ \(1\)](#)



sirmalcolm 🎙 • 2 months ago

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Disappointing that the Daily Show - that skewers media spin so skilfully so often, now descends to a media spin of its own. Dr. Paul Offit - despite his impressive cred on paper has an enormous vested interest in the 'success' of vaccines and overtly shills for Big Pharma - an industry notorious for its deceit and unscrupulous practices. Offit's assertion of "evidence backed science" is a bald face lie. Try and find said "evidence backed science" yourself and see what you come up with. Pitting this shill against a luney expression-compromised anti-vaxer is just the sort of media spin technique one might expect from Faux News to forward a prescribed agenda. I will be impressed if Jon Stewart and Co will invite a more level headed discourse in the guest spot at the end of a show. I suggest inviting a medical professional who trusted in vaccination themselves all the way through medical school, observed glaring anomalies in their work, and took the time to investigate why. There are many to choose from - Barbara Loe Fisher and Suzanne Humphries among others come to mind. We all owe it to ourselves to do our own homework in a time of excess misinformation. Like so many other issues - vaccination is not at all what we've been trained to believe for decades now.

[▲ \(26\)](#) [▼ \(106\)](#) [Reply](#) [View 2 more replies](#)



Karen Crisalli • 2 months ago

There are many reasoned, balanced voices on this. Including every vaccine researcher I've ever spoken with. The science is nuanced. A point politicians seem to miss most of the time.

Assignments: Unit 1

Science Article Analysis
Wikipedia Worksheet
Popular Article Analysis
Rhetorical Analysis

Assignments

Wakefield et al. article and worksheet
Due printed, in class.

References

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