OUT IN THE WORLD

Writing for Audiences outside Academia

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About Us

- Macrina Cooper-White
  - Current: Psychology PhD Student
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- Maureen Sampson
  - Current: Molecular Toxicology PhD Student
  - Former: Centers for Disease Control & Prevention

Workshop Topics

I. Why Write for a Non-Academic Publication?

II. Types of Non-Academic Writing & Places to Publish

III. Positioning Your Ideas for a Broader Audience

IV. Plain Language for Clear, Concise Writing

V. Pitching and Promoting

Why Write for a Non-Academic Publication?

Why Write for a Non-Academic Publication?

Personal Benefits:

- Synthesizing and simplifying your research can help you understand it better – especially true of the "big picture" claims
- Gives you a different way of approaching and thinking about your work outside of academia (and thinking about why it matters!)
- Gives you a chance to work more creatively and add personal perspective
- Gives you experience outside academic context, allowing you to explore potential alt-ac career paths
- In some cases might involve small form of payment

Why Write for a Non-Academic Publication

Professional Benefits:

- Gives YOU and YOUR WORK exposure to a broader audience
- Shows academic job market that you have a public profile
- Offers networking opportunities with non-academics that is crucial for alt-academic jobs
- For alt-ac jobs, shows ability to operate outside of the university context
- Demonstrates ability to break down complex ideas into accessible forms, a boon for any teaching profile

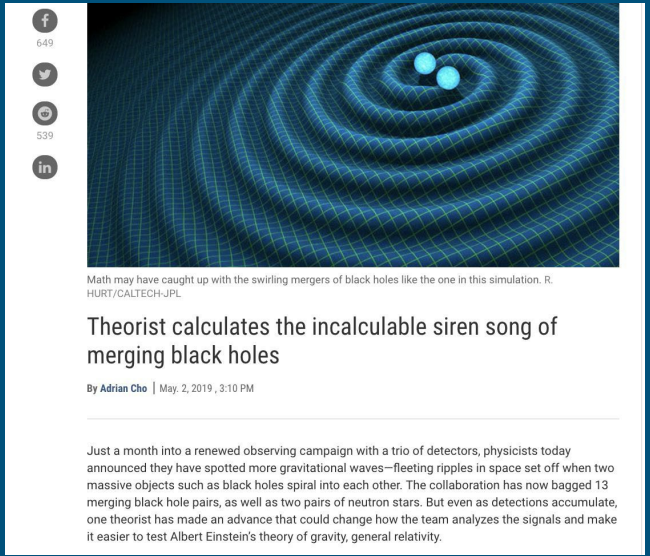
Types of Non-Academic Writing &Places to Publish

Types of Non-Academic Publication

- Science writing
  - News article
  - Op-ed
  - Interview
  - Educational Content
  - Blog
- Other forms of science communication
  - Podcast
  - Videos
  - TED Talk
- Government writing
  - Educational content
  - For scholars

Types of Non-Academic Publication (1/8)

- News article
  - Objective coverage of scientific finding



649

539

Math may have caught up with the swirling mergers of black holes like the one in this simulation. R. HURT/CALTECH-JPL

Theorist calculates the incalculable siren song of merging black holes

By Adrian Cho | May. 2, 2019 , 3:10 PM

Just a month into a renewed observing campaign with a trio of detectors, physicists today announced they have spotted more gravitational waves—fleeting ripples in space set off when two massive objects such as black holes spiral into each other. The collaboration has now bagged 13 merging black hole pairs, as well as two pairs of neutron stars. But even as detections accumulate, one theorist has made an advance that could change how the team analyzes the signals and make it easier to test Albert Einstein's theory of gravity, general relativity.

https://www.sciencemag.org/news/2019/05/theorist-calculates-incalculable-siren-song-merging-black-holes

Types of Non-Academic Publication (2/8)

- Op-Ed
  - Often more subjective
    - How does your science connect to society?
    - What is it like to be a scientist in your field?

Observations

We've Made Astonishing Progress in Treating Stroke

During Stroke Awareness Month, it's important to note how far we've come, but also how much we still need to learn

By Walter J. Koroshetz on May 7, 2019

PET scans of a stroke victim's brain. Credit: Getty Images

May is Stroke Awareness Month, so it's the perfect time to look at how far we've come—a highlight of my career has been the story of stroke treatment and recovery—but not lose sight of what's ahead.

LATEST NEWS

In "Vicious Cycle," Snowmelt Fuels Wildfires, and Wildfires Melt Snow

The World Health Organization Needs to Put Human Behavior at the Center of Its Initiatives

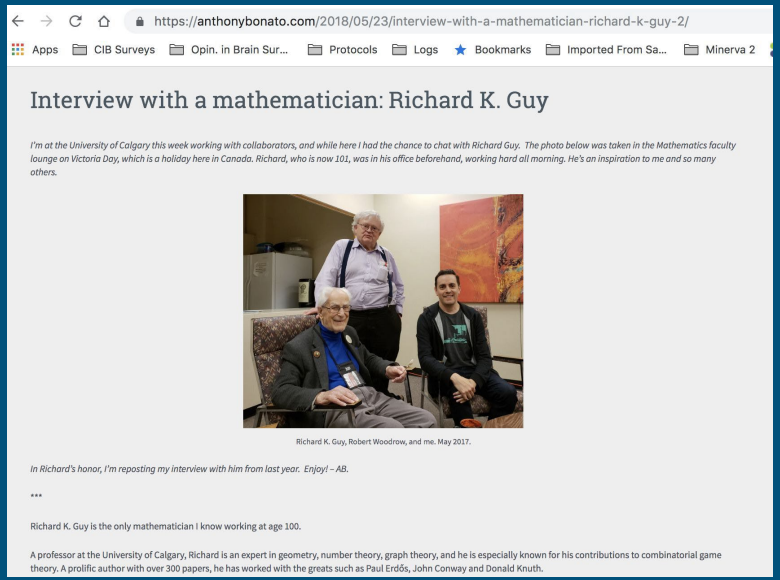
We Need to Make Organ Transplantation Easier

Can Fiber Cancel Out Calories?

https://blogs.scientificamerican.com/observations/weve-made-astonishing-progress-in-treating-stroke/

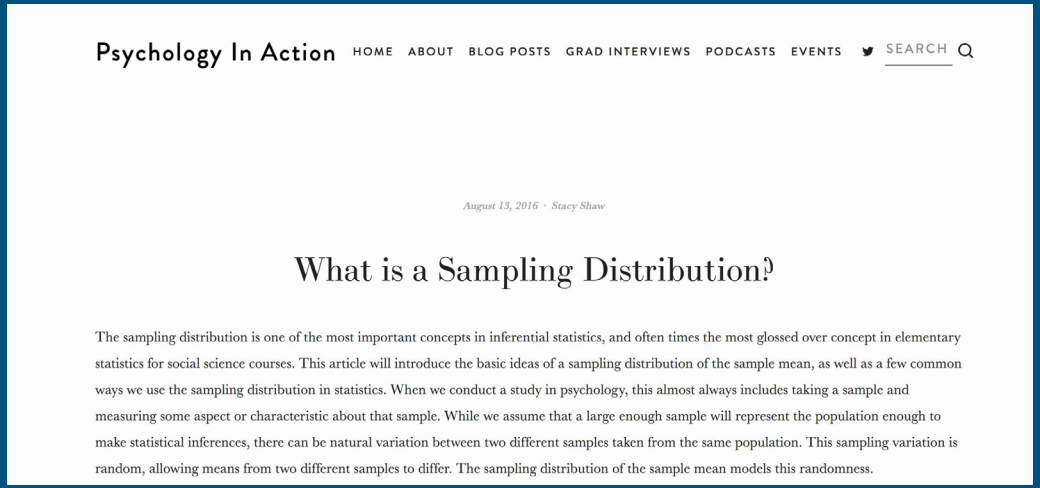
Types of Non-Academic Publication (3/8)

- Interview
  - Conduct an interview with a scientist at your university or elsewhere about their work



Types of Non-Academic Publication (4/8)

- Educational content
  - Produce for free via your own platform(s)
  - Produce on contract/as freelance work



Psychology In Action HOME ABOUT BLOG POSTS GRAD INTERVIEWS PODCASTS EVENTS SEARCH

August 13, 2016 · Stacy Shaw

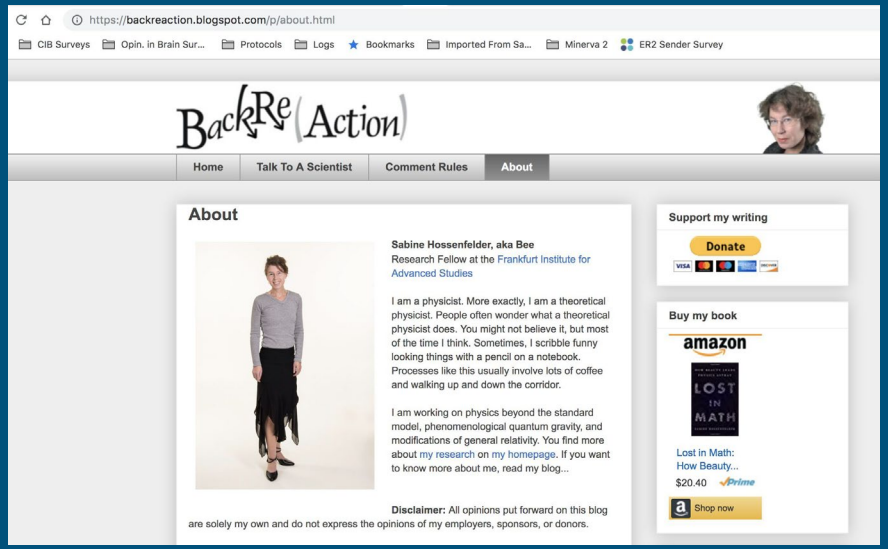
What is a Sampling Distribution?

The sampling distribution is one of the most important concepts in inferential statistics, and often times the most glossed over concept in elementary statistics for social science courses. This article will introduce the basic ideas of a sampling distribution of the sample mean, as well as a few common ways we use the sampling distribution in statistics. When we conduct a study in psychology, this almost always includes taking a sample and measuring some aspect or characteristic about that sample. While we assume that a large enough sample will represent the population enough to make statistical inferences, there can be natural variation between two different samples taken from the same population. This sampling variation is random, allowing means from two different samples to differ. The sampling distribution of the sample mean models this randomness.

https://www.psychologyinaction.org/psychology-in-action-1/2016/08/13/what-is-a-sampling-distribution?rq=statistics

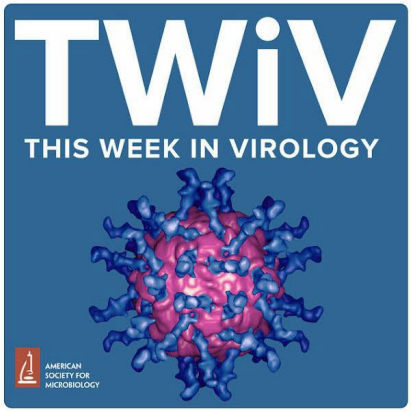
Types of Non-Academic Publication (5/8)

- Blog
  - Maintain a personal blog
  - Post a "one-off" or maintain a regular column on a news/blog site
  - Contents can be wide-ranging -- from op-ed, to personal essay, to interview, to educational content



Types of Non-Academic Publication (6/8)

- Podcast



100 episodes Play

TWiV is a weekly netcast about viruses - the kind that make you sick. Professors Vincent Racaniello, Dickson Despommier, Rich Condit, Kathy Spindler and science writer Alan Dove and guests deconstruct viruses, how they cause illness, and dissect the latest research.

This Week in Virology
American Society for Microbiology

Medicine
★★★★★ 4.9, 582 Ratings

Listen in iTunes ↗

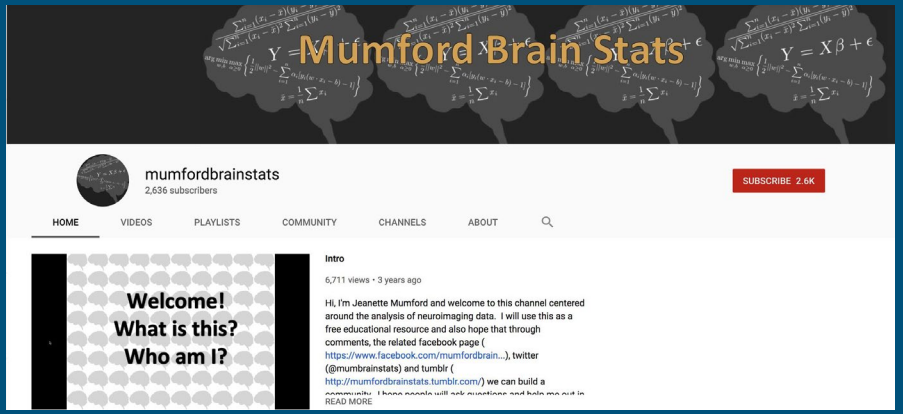
MAY 5, 2019
TWiV 546: Delta blues and chitlins
The un-encapsidated TWiV Humans discuss finding hepatitis D virus-related sequences in birds and snakes, and fatal swine acute diarrhoea syndrome caused by a coronavirus of bat origin.
▶ PLAY 2 hr 2 min

APR 28, 2019
TWiV 545: Biocrimes and misdemeanors
Jens Kuhn returns to TWiV to explain Select Agents, Priority Pathogens, Australia List Pathogens, Risk Group Agents, biosafety, biosecurity, and biosurety.
▶ PLAY 1 hr 44 min

Types of Non-Academic Publication (7/8)

- Video series (e.g. YouTube Channel)
  - **Target may be a general audience:** Explain your work and/or other topics in your field, discuss what your life as a scientist is like
  - **Target may be other scientists:** Explain how to do certain types of analyses

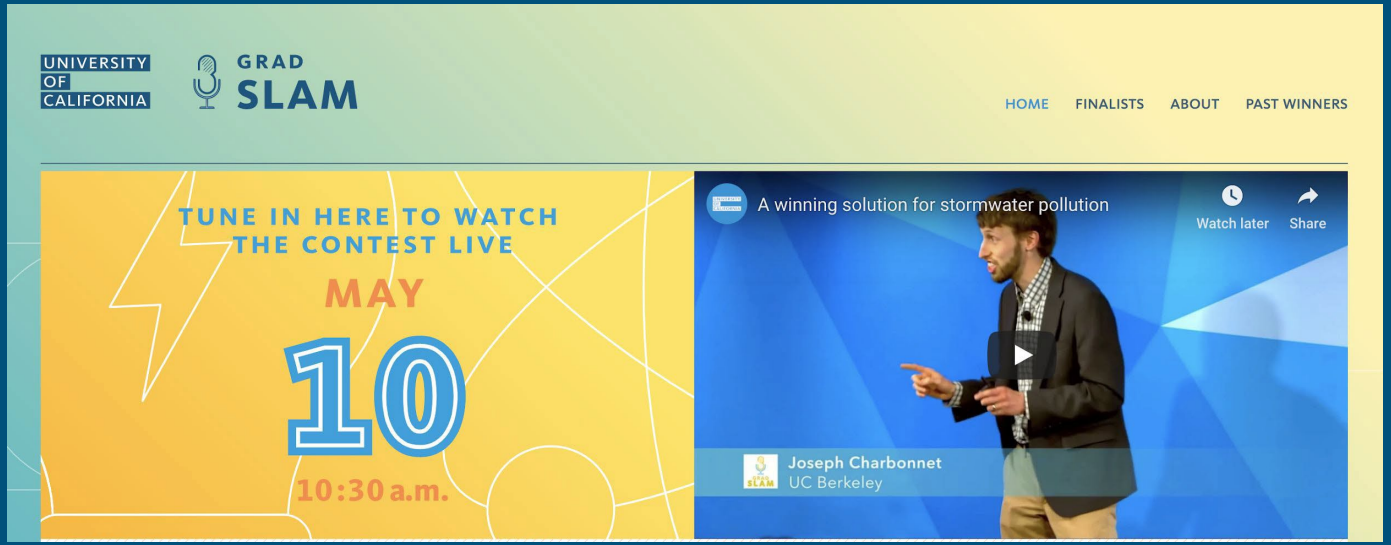
Simon Clark: Climate physicist PhD



Jeanette Mumford: Biostatistics PhD

Types of Non-Academic Publication (8/8)

- TED Talk-style talks
  - Might not be the first thing that comes to mind, but this is definitely a form of science communication!
  - Opportunities for students via channels such as competing in GRAD Slam



Types of Government Publications

Educational - For general public

You may be hearing a lot about measles lately. And all of this news on TV, social media, Internet, newspapers and magazines may leave you wondering what you as a parent really need to know about this disease. CDC has put together a list of the most important facts about measles for parents like you.

1. **Measles can be serious.**
   Some people think of measles as just a little rash and fever that clears up in a few days, but measles *can* cause serious health complications, especially in children younger than 5 years of age. There is no way to tell in advance the severity of the symptoms your child will experience.

Types of Government Publications (cont'd)

Scientific - For Scholars

National Health and Nutrition Examination Survey

2009-2010 Data Documentation, Codebook, and Frequencies

Volatile Organic Compounds (VOCs) - Blood (VOCWB_F)

Description of Laboratory Methodology

An automated analytical method was developed using capillary gas chromatography (GC) and mass spectrometry (MS) with selected-ion monitoring (SIM) detection and isotope-dilution. This method quantifies levels of individual VOCs in whole blood to low-parts-per-trillion range. Because non-occupationally exposed individuals have blood VOC concentrations within this range, this method is applicable for determining these quantities and investigating cases of sustained or recent low-level exposure.

Places to Get Published

- This is a starting list, but there are many, many more!
- Newspapers and magazines - mostly online now
  - *E.g. The New York Times, Popular Science, WIRED*
- News sites with regular bloggers/columnists
  - *E.g. The Huffington Post, Slate, Scientific American, Discover*
- Community science blogs/newsletters - vary in scope, from broad to field-specific
  - E.g. *The Guardian's Science Blog Network, Nature.com Blogs, ScienceBlogs, Psychology Today, The Situationist, RealClimate, Scientopia, PLOS BLOGS, The Node, etc.*
- Higher Education publications
  - *E.g. Vitae, Chronicle of Higher Education*

Ways to Self-Publish

- Personal Blog
  - E.g. Personal website, Wordpress, Blogger, Tumblr
- Personal podcast
- Personal video series
  - E.g. Youtube, Vimeo

Positioning Your Ideas for a Broader Audience

Translating Your Ideas for a Non-Academic Audience

- Review articles and publications that cover topics relevant to your interests for a mainstream audience
  - How do the publications or articles cover these topics? What language do they use? Key terms?
  - How are these pieces structured? What's the frame for introducing the topic/ideas? How do they work with evidence? How do they conclude?

Translating Your Ideas For a Non-Academic Audience (cont'd)

- Think about why a mainstream audience cares
  - Why would your friends outside of academia be interested?
  - Why would your parents be interested?
- Think about the what's novel about your findings
  - Is your work advancing basic science? Did you make a new discovery (even small discoveries are discoveries!) Did you develop a new methodology, tool, or intervention?
- Think about why your research is relevant in today's world
  - How does your research correspond to events in the news?
  - How does your research encounter current trends in fiction, television, film, general culture?
  - What are some ways that other researchers, policymakers, and/or the public might apply your findings?

Some more ideas to get you started…

Some great "prompts" from *Scientific American's* submission instructions page:

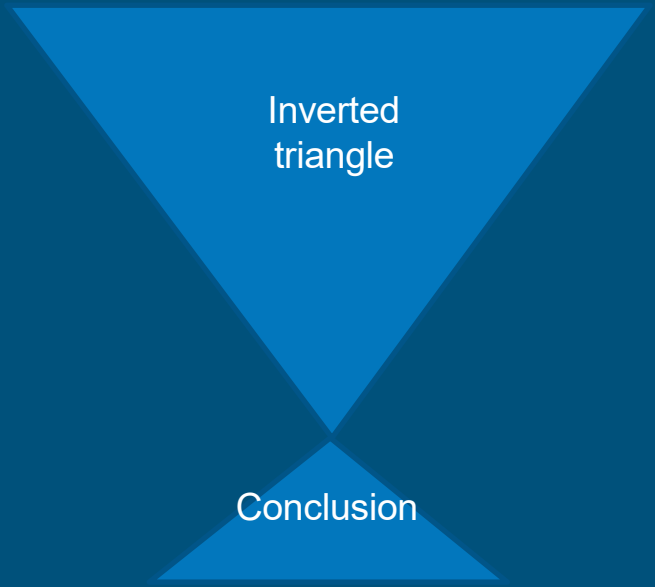
- New and emerging trends in one's field of expertise
- Ethical quandaries in particular STEM fields, and how to think about them
- Commentary on recent high-profile results or announcements in one's field
- A lay-language explanation of one's own recent journal publication
- How the author came up with a new approach to a scientific/technical question
- What the experience of working in the field or in the lab is like
- How well or badly STEM fields are doing at being inclusive of under-represented populations
- How to address an existing problem or question in a novel way
- How the practice of science could be made more effective/transparent/equitable

https://www.scientificamerican.com/page/submission-instructions/

Stylistic Adjustments for Non-Academic Writing in Science (1/5)

Typical structure of academic science writing

Typical structure of non-academic science writing



Stylistic Adjustments for Non-Academic Writing in Science (2/5)

Typical structure of academic science writing

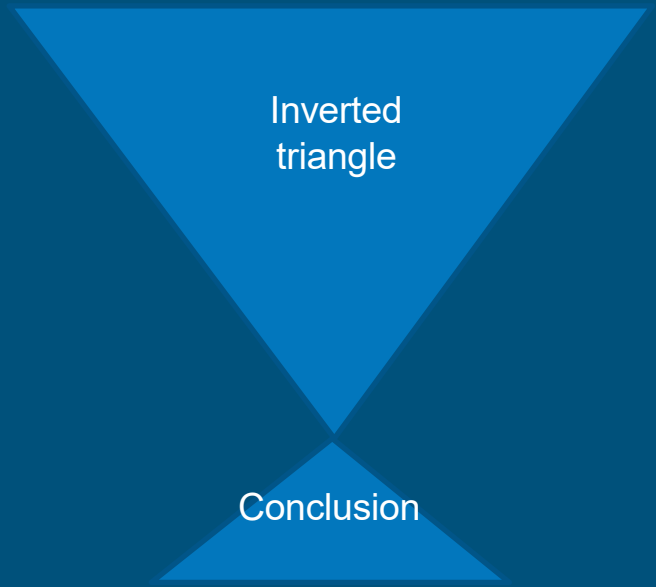
- Structure is often *rigid, formulaic* (IMRAD, or some variation of order)
- Ideas are put forward *sequentially* and *methodically*
  - Motivate research
  - Discuss what was done
  - Discuss what was found
- The reader expects this traditional structure, and reads accordingly
  - Reader examines parts they care about--whether it's particular methods or intro/discussion--most carefully

Stylistic Adjustments for Non-Academic Writing in Science (3/5)

- Structure is more *flexible, variable*
- Most important ideas often come first (inverted triangle = start with big ideas, and then get detailed)
- Readers are likely to pay close attention to headline and first paragraph or so and then kind of drift off
- You can end with a broader point that you want to point

https://slate.com/technology/2013/06/how-people-read-online-why-you-wont-finish-this-article.html

Typical structure of non-academic science writing

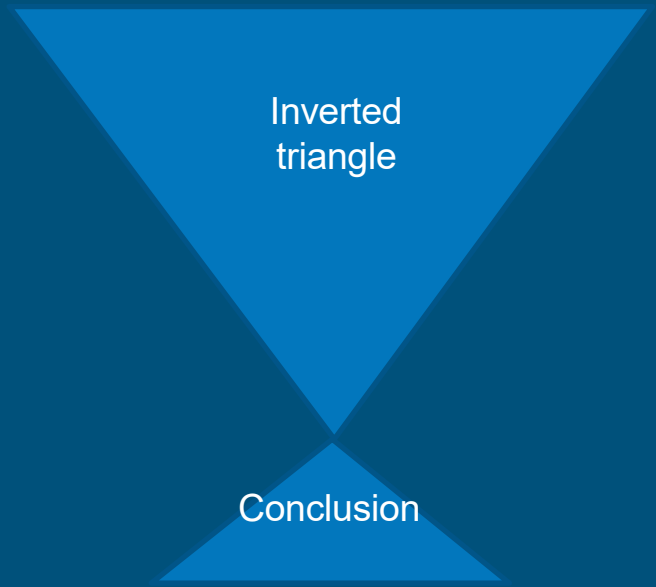


Stylistic Adjustments for Non-Academic Writing in Science (4/5)

The Inverted Triangle Structure

- Start with summary of basic finding (get to the point early)
  - Include 5 W's (who, what, where…)
- Brief summary of methods (*just the gist*)
- Discussion of results
- Exploration of alternatives
- End with conclusion/implications – discussion of why your research matters

Typical structure of non-academic science writing



Stylistic Adjustments for Non-Academic Writing in Science (5/5)

- Inverted triangle beginning:
  Lead with a "lede"

"The most important sentence in any article is the first one. If it doesn't include the reader to proceed to the second sentence, your article is dead."
- William Zinsser, *On Writing Well*

  - Straight news lede
  - Anecdotal lede
  - Scene-setting lede
  - First-person lede
  - Observational lede
  - Zinger lede

Additional Thoughts for Translating Your Findings For a Non-Academic Audience

- Balance between accuracy and simplicity
  - Others who write about your work are more likely to go too far and over-simplify, to the point of distorting the message and being inaccurate; you're more likely to go too far to the precise but incomprehensible to many --> aim for the middle!
  - Know which details are necessary and which ones distract from your message
  - Imagine you are writing for an intelligent high school student.

Additional Thoughts for Translating Your Findings For a Non-Academic Audience (cont'd)

Example headlines:

Bad (Inaccurate)	Bad (Boring)	Better
Science just proved that owning a dog makes you live longer.	Dog ownership and the risk of cardiovascular disease and death – a nationwide cohort study.	Can having a dog help you live longer? Dog ownership linked to living longer, study finds.

Citations

- Develop a non-academic citation strategy
  - This will look different than APA, MLA or Chicago style citations with which you are familiar
  - You may merely "cite" someone by saying: "As TK says, in an influential essay, '....."
  - Or you may hyperlink to the cited content.

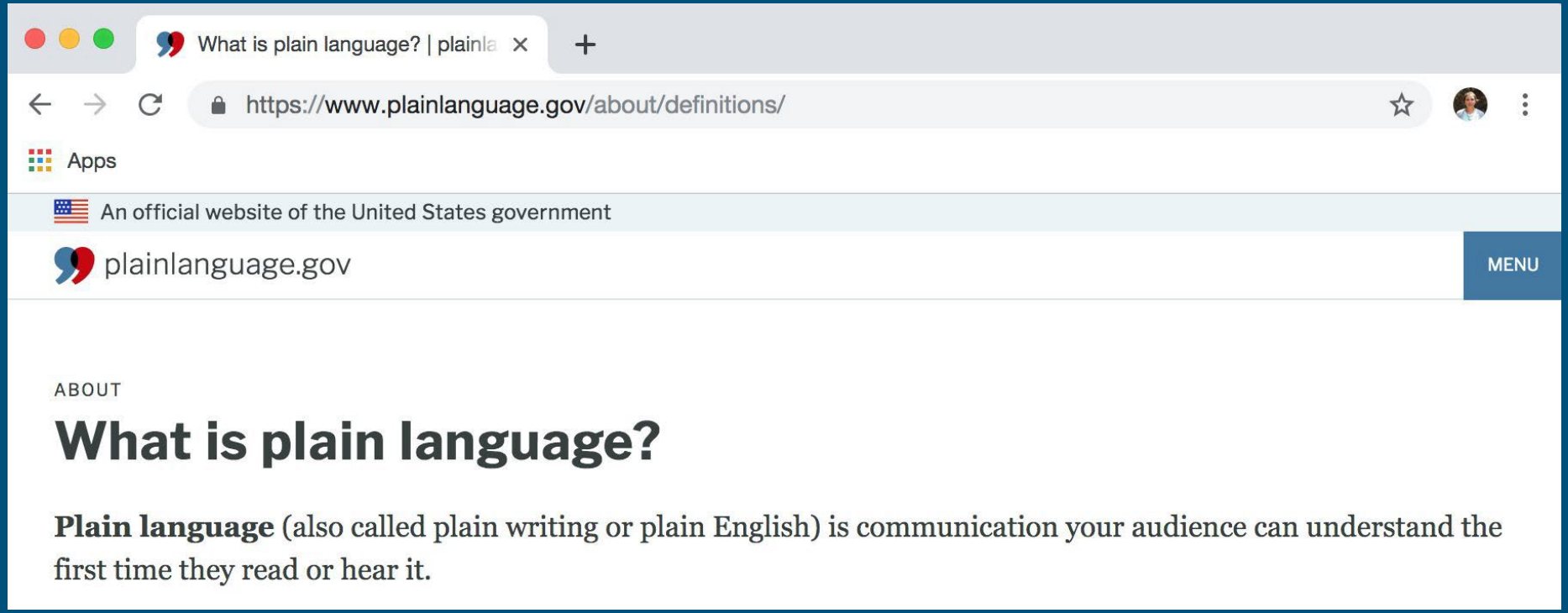
Plain Language for Clear, Concise Writing

Writing in Government: Plain Language

Law and requirements

The Plain Writing Act of 2010 was signed on October 13, 2010. The law requires that federal agencies use clear government communication that the public can understand and use.

Writing in Government: Plain Language (cont'd)



Guidelines for plain language apply to general STEM writing

- Writing about technical concepts requires plain language to avoid reader fatigue
- Simplify your writing, but do not lose meaning that is necessary for the audience

Guideline #1: Write for your audience

- Who is your audience?
- What information is new?
- What questions will they have?
- What is the goal?

Guideline #2: Organize the information

- Provide context with a **topic sentence**
- Place main idea ahead of exceptions
- Make it easy to follow
- Use transition words

Guideline #3: Choose your words carefully (1/7)

Use **strong, direct verbs**. Avoid using verbs as nouns.

BAD	GOOD
conduct data analysis	analyze

Guideline #3: Choose your words carefully (2/7)

Avoid **noun strings:**

BAD	GOOD	BETTER
Underground mine workers safety procedures development will protect workers.	Developing procedures to protect the safety of workers in underground mines is important.	These procedures will protect underground mine workers.

Guideline #3: Choose your words carefully (3/7)

- Avoid **jargon**
- Minimize **abbreviations**

BAD	GOOD
Studies in Asia, Europe, and North America have identified individuals with ASD with an average **prevalence** of about 1%.	**About 1 in 100** people in Asia, Europe, and North America have autism spectrum disorder (ASD).

Guideline #3: Choose your words carefully (4/7)

- CDC Original Sentence:
  - A recent **case-control study** published in the Journal of 21st Century Medicine reported that 80 out of 100 patients with rheumatoid arthritis seen at a university rheumatology referral center were found to carry the common variant C707T of the rheumatoid arthritis (RA) gene (point mutation at position at 707)

https://www.cdc.gov/other/pdf/EverydayWordsForPublicHealthCommunication.pdf

Guideline #3: Choose your words carefully (5/7)

- Plain Language Sentence:
  - A recent study published in the Journal of *21st Century Medicine* **compared people with rheumatoid arthritis to people without it**. The results show that 4 of 5 people with the sickness had a particular gene with a common and important difference – variant C707T of the rheumatoid arthritis gene. (Note 80 of 100 reduced to 4 of 5 because smaller numbers are more concrete and easier to understand.)

https://www.cdc.gov/other/pdf/EverydayWordsForPublicHealthCommunication.pdf

Guideline #3: Choose your words carefully (6/7)

- Avoid **jargon**
- Minimize **abbreviations**

	Use “nicknames”	Avoid
Small-quantity handlers of universal wastes	Waste handlers	SQHUW

Guideline #3: Choose your words carefully (7/7)

Place words carefully:

- Keep subject and verb together

BAD	GOOD
Precipitation in the form of crystalline water ice, consisting of snowflakes that fall from clouds, **is** called snow.	**Snow is** crystalline water ice that falls from clouds as snowflakes.

Guideline #4: Be concise

- Use short sentences
- Remove unnecessary words

BAD	GOOD
A sufficient number of	Enough
At this point in time	Now
Is able to	can

Guideline #4: Be concise (cont'd)

Write short paragraphs:

- Cover one topic
- Use 3-8 sentences
- Use **descriptive headings**

Guideline #5: Keep it conversational

Clarify who does what:

- Use **strong verbs**
- Use **active voice**
- Address audience “you”

Guideline #5: Keep it conversational (cont'd)

Write like you talk:

- Use Present Tense
- Use Contractions
- Give Examples

Guideline #6: Design for Reading

- Use Figures/Tables/Lists
- Use white space
- Highlight important concepts with headings, fonts, or other emphasis

  ALL CAPS IS NOT A GOOD EMPHASIS TECHNIQUE. IT IS HARD TO READ. ONLINE, IT'S CONSIDERED SHOUTING.

Rules were meant to be broken...

- Consider these guidelines as you write, but remember they are not rules.

Pitching & Promoting Non-Academic Publications

Pitching

- Search for contact information
  - Some sites will have basic contact info, while others will have more detailed submission instructions
- Pitching an idea v. "Cold-pitching"
  - **Pitching an idea:** Sometimes, you will have the luxury of pitching your idea for a story (which saves you lots of time in case they want major changes or reject it!)
  - Cold-pitching: You send a fully written piece and hope for the best!

https://www.scientificamerican.com/page/submission-instructions/
https://help.nytimes.com/hc/en-us/articles/115014809107-How-to-Submit-an-Op-Ed-Article

Compen$ation From Pitching

- Talking about payment often makes students uncomfortable, but remember that you are providing a service and your work has **value**.
- Publications often run on little to no budget and may not be able to pay you. If they do, it may be a modest sum.
- Always ask for money! It never hurts. If none is available, reflect on how your writing is serving your professional goals within or outside of academia.

Compen$ation From Self-Published Work

- If your podcast or video series becomes regular and you develop a following, you can think about monetizing!
  - Use crowdsourcing (e.g. Patreon allows your followers to make donations
  - Ads & sponsorships

Self-Promotion

- Compile your work on a personal website or blog
- Cultivate your social media networks (e.g. Twitter, Facebook, Reddit, LinkedIn)
  - Follow other scientists in your field & science writers you admire
  - Engage with your community (e.g. reply, comment, like, retweet…)
  - Promote your articles (non-academica and non-academic!) via social media

Come Visit Us!

Graduate Writing Center

http://gwc.gsrc.ucla.edu/

Writing Consultation Appointments

The GWC offers FREE appointments with friendly, experienced writing consultants to all registered UCLA graduate and professional school students. Meet with a graduate writing consultant to work on writing issues ranging from style and argumentation to grammar and syntax.The goal of the GWC is to help you become an effective writer and communicator in your academic or professional field. ***Please keep in mind that the consultation appointments are interactive sessions, not proofreading sessions.*** Writing consultants are happy to help with grammatical issues, but they are not proofreaders or editors.