

# Writing with Sources

Why?  
When?  
What?  
How?

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# Why do we use sources?

- To gain access to information about a topic—facts, statistics, narratives, etc.
- To see what other people think about the topic
- To respond to other statements; to put ourselves in conversation with other scholars
- To build our work on the methods and theories that others have developed, so we don't have to reinvent them

# How can we bring source material into our writing?

- Incorporate facts, data, statistics
- Quote from a source
- Paraphrase an idea, theory, claim, or explanation
- Summarize an article, speech, a set of findings
- Include an illustration

All paraphrases, quotations, summaries, images, ideas, and facts from a source must be cited.

## Consider 3 examples:

- How do the ideas and information from a source enter this text?
- How do we know what is from a source and what is from this author?
- How does the source material function? What is its purpose?

## From Marine Biology

Right whales produce sounds ("up calls or "contact calls") that may function as a means of individual identification. These are the only call known to be made by newborn calves, their acoustic properties are well-suited for long-range communication, and they appear to be under selection to minimize overlap with ambient noise (Clark, 1982; Parks et al., 2007). Thus, these contact calls represent the most likely means of mother-offspring recognition in right whales.

- Frasier, T., Hamilton, P., Brown, M., Kraus, S., & White, B. (2010). Reciprocal Exchange and Subsequent Adoption of Calves by Two North Atlantic Right Whales (*Eubalaena glacialis*). *Aquatic Mammals*, 36(2), 115-120.

# From Environmental Science

OH-PCBs have been detected in the blood and tissues of humans (17-20) and several wildlife species (21-28), and those levels and patterns were shown to vary with species, possibly due to species-specific metabolic capacity by phase I CYP and/or phase II conjugation enzymes and binding affinity to TTR (29, 30). Such interesting observations suggest the need for studies on OH-PCB residue levels in biota. However, little is known on the patterns and levels of OHPCBs in cetaceans, which accumulate some of the highest concentrations of PCBs (26, 28, 31-36).

Nomiyama, K; Murata, S; Kunisue, T; Yamada, T; Mizukawa, H; Takahashi, S; Tanabe, S. Polychlorinated biphenyls and their hydroxylated metabolites (OH-PCBs) in the blood of toothed and baleen whales stranded along Japanese coastal waters. *Environ. Sci. Technol.* **2010**, 44 (10), 3732-3738.

# From Archeology

Definite evidence for whale hunting, including the presence of ethnographically documented whaling tools (reviewed below and strike marks on whale remains in sites, appears as early as 3000 B.P. and has been entirely limited to the Nuu-chah-nulth and Makah area (Monks et al. 2001). Arguments also have been made for pre-contact whale hunting on the Queen Charlotte Islands based on ethnohistoric data and the relative abundance of whale bone in sites (Acheson and Wigen 2002). However, most researchers working beyond the region where whaling is ethnographically documented have been reluctant to use such information as evidence for pre-contact whale hunting.

Losey, Rober J. and Dongya Y. Yang

2007 Opportunistic Whale Hunting on the Southern Northwest Coast Ancient DNW, Artifact, and Ethnographic Evidence. *American Antiquity* 17: 659

# Basic Principle

- Source material **can** be used to support and develop your ideas or arguments.
- Source material **cannot** be used to *formulate* your ideas or to *make* your points.



# How might you use source material for your science essay?

- Preliminary background information or context
- Primary evidence
- Expert opinion
- Theoretical framework
- Presentation of a counterargument or complication

# When should you:

## Quote

- Borrowing exact words

## Paraphrase

- A detailed restatement of a focused idea or point in your own words

## Summarize

- A condensed version of a larger, broader set of text

# Quotation

- Accuracy: to preserve the author's meaning
- Authority: to underscore the author's expertise
- Conciseness: to avoid longer, more awkward way of conveying a point
- Memorable language: to preserve a notable, striking use of language in the expression of an idea or viewpoint

Use quotation sparingly

# Paraphrase

- To condense or simplify material
- To reorganize or emphasize certain aspects of material
- To clarify material
- To maintain continuity in the style of your text and prose

When the meaning of the source material is more important than the specific wording

# Summary

- To condense or simplify a larger amount of material
- To show your mastery of material
- To maintain continuity in the style of your text and prose

# Standards for paraphrasing and summarizing

- Accuracy of content
- Faithfulness to author's intent
- Originality in use of language

# Exercise: Paraphrasing

Handout:

Analyze three paraphrases of the this paragraph from *Seeds of Concern*, by Kathryn Brown (Scientific American)

# Appropriate and effective use of sources requires understanding...

- Why we cite source material
- When we cite source material
- The function of the source material in your own work



# Citation Systems

The two most common systems used in fields of science and engineering:

(1) Author/date system (APA)

(2) Citation-sequence system (CBE)

# Basic differences

- (1) APA: author and date are cited in text; references are listed alphabetically
- (2) CBE: a superscripted number in the text is linked to a numbered entry in the references

# APA

## Single author:

- The connection between brain damage and autism is no longer disputed (Bailey, 1993).
- Pinker (1994) summarizes the main arguments supporting the view that language is a special human instinct.
- According to Pinker (1994), linguists now believe that certain properties of language are hard-wired at birth.

# APA

- Pinker (1994, p. 52) mentions the extraordinary language ability of children with Williams Syndrome.
- Recent research (Mulderig, 1993; Catano, 1995) confirms this finding.
- Recent research (Mulderig, 1993, 1997) confirms this finding.
- Recent research (Mulderig, 1993a, 1993b) confirms this finding.

# APA

## 2 authors:

- A few years later, the flatness problem was discussed in the context of the anthropic principle (Collins & Hawking, 1973).
- A few years later, British cosmologists (Collins & Hawking, 1973) discussed the flatness problem...
- A few years later, the British cosmologists Collins and Hawking (1973) discussed the flatness problem...

# APA

## >2 authors:

- One method (Nelson et al., 1982) optically excites and monitors coherent acoustic waves in transparent or light-absorbing liquids and solids. (*first mention*)
- Nelson et al. (1982) developed a method for...
- Bellugi and her colleagues at the Salk Institute investigated the neuropsychological and neurological correlates of Williams Syndrome (Bellugi et al., 1991).

# APA Reference List

Organize references alphabetically by last name of first author.

# Journals

Denning, D.E. (1991). Resolving the encryption dilemma: the case for the clipper chip. *Technology Review* (98), 44-55.

Harstad, K. & Bellan, J. (2006). On possible release of microbe-containing particulates from a Mars lander spacecraft. *Planetary and Space Science*: 54(3), 273-286.

Lundberg, K., Shoemaker, D., Adams, M., Short, J., Sorge, J., & Mathur, E. (1991). High-fidelity amplification using a thermo-stable DNA polymerase... *Gene* 108(2), 1-6.



# Books

Lightman, A (1991). Ancient light: our changing view of the universe. Cambridge, MA: Harvard University Press.

Edited volume:

Spudich, J.L. and Satir, B.H. (eds.) (1991).  
Sensory receptors and signal transduction.  
New York: Wiley-Liss. 341p.

When there are multiple authors,  
what determines the order?

?

# Citing Websites

- If you cite an entire website, use a textual citation only. You don't need an entry in the reference list.

Example:

According to the American Society of Gene Therapy... (<http://www.asgt.org>)

# Citing an article on a website

- Usual in-text (author, date) format.

## Basic format in Bibliography:

Author + title of document + title of home page + place of publication + publisher or sponsor + copyright date or date of publication + date last modified + date you accessed it + “available from” URL

## Example:

The Cleveland Clinic. Smoking and Your Health. The Cleveland Clinic Health Information Center [homepage on the internet]. Cleveland (OH). The Clinic; c2004 [accessed 2005 Aug 8]. [about 5 screens].

Available from:

<https://my.clevelandclinic.org/health/articles/smoking-and-your-health>

# Video from website

Strogatz, S. (2011, April 11). Blogging about Math for the NY Times. Simon's Lecture, MIT. Video retrieved from:

<https://www.youtube.com/watch?v=krDetYAUMuQ>

# Video or Audio Podcast

Bell, T. & Phillips, T. (2008, May 6). A Solar Flare. Science @ NASA Podcast. Podcast retrieved from: <https://www.nasa.gov/podcasts>

## CBE: citations

- The oncogene jun has presently become one of the best-known oncogenes because of its ability to act as a transcription factor.<sup>1</sup>
- Smith<sup>8</sup>, studying three species of tree frogs in South Carolina, was the first to observe...
- There is experimental evidence suggesting that listeners might often fail to notice violations of phonetic rules.<sup>3,8-10</sup>



## CBE: reference list is organized sequentially & numbered

1. Hirai SI, Ryseck RP, Mechta, F, Bravo R., Yaniv M. Characterization of jun D: a new member of the jun protooncogene family. *Embo J.* 1989;8:1433-9.
2. Cavalieri F., Ruscio T., Benedict, S., Davis, C., Vogt PK. Isolation of three new avian sarcoma viruses. *Virology* 1985: 143:680-3.

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