

# PO2 VS primary

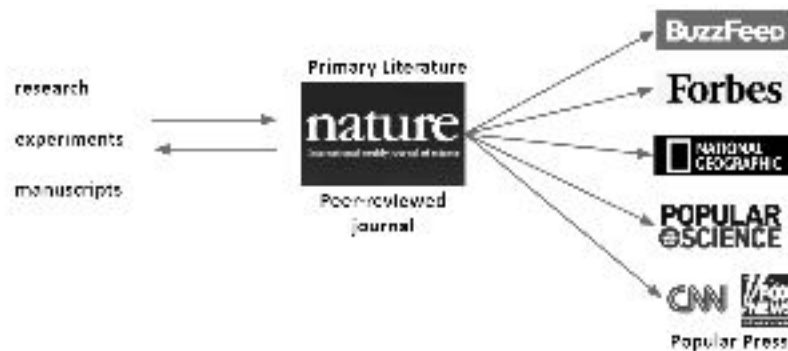


**Information is powerful.** Information can be used to pass ideas, create tools, create problems, create solutions, and to enrich our own view of nature. We are fortunate to have access to more information than any other generation in history.

A large portion of the information we share with our community has also passed through media (the internet, social media, newspapers, etc). How do we process this information? How can we critically evaluate information for ourselves? How can we establish what is accurate when we don't agree upon a standard source?

The scientific community has addressed these problems by establishing a framework for publishing primary literature. Primary literature can also be thought of as source information. The information provided by primary literature may be used to generate ideas for future research, or it may be used to produce articles in the popular press. In this assignment, we will learn the ways in which we can establish whether a piece of information is **primary literature** or **popular press**.

**Figure 1. The flow of scientific information**



In the above flow-chart (fig 1) you can see that research and experimental results are first published in primary literature (such as peer reviewed journals). After this step, information may be reported by other media sources in the popular press. Popular press articles may report all or part of the findings, and may impart bias in their interpretation of the research. Below is a summary of some other key differences between the two kinds of literature.

## **primary literature articles**

- 1) Clear funding disclosure
- 2) Peer reviewed, often anonymously
- 3) Reviewer(s) check for accuracy (stats, etc)
- 4) Has an impact factor rating and DOI
- 5) Provides and describes supporting raw data
- 6) States research without colorful language or opinion
- 7) Purpose is to report research exactly to those who may wish to reproduce the results or continue related research

## **popular press articles**

- 1) Often undisclosed sources of funding
- 2) Often reviewed by in-house editors
- 3) Inconsistent methods of checking accuracy
- 4) Summarizes scientific results
- 5) May include narratives, opinions, or bias
- 6) Broad range of accuracy between publications
- 7) Publication has no "impact factor" rating
- 8) Purpose is to summarize and describe research to a broader audience

For your assignment, you will use the internet to **1) find a science-related popular press article** and then **2) find the primary literature for the article**. You will then **3) answer the questions below regarding the two articles**. Use whatever resources available (google, wikipedia, etc) to answer the questions. An easy way to find your pop-press article is to

- 1) navigate to **news.google.com**
- 2) Find the link to “science” on the left
- 3) Find an article you like that includes a link to the primary literature

After you find a popular press article, it’s time to find the primary literature source. This is often included as a link at the end of the article or embedded within the articles text. If the primary literature is cited without a link, you can search for the article by name using **scholar.google.com** or any other literature database. If your article does not have a clear primary literature source, please start over and choose another article. For a video example, please visit the assignment webpage at [www.neotropicscience.com/pop-vs-primary](http://www.neotropicscience.com/pop-vs-primary)

Please **hand write** your answers to the following questions on a separate piece of paper including your name and section. Write clearly. Credit will not be given to answers I cannot read. If you would like more direct guidance in this assignment, please visit my office hours and we can work through the steps.

#### **Popular media article questions (3 points each)**

- 1) What “publication” produced the article (e.g. buzzfeed, ars technica, BBC, etc...)?
- 2) What is the title of your article?
- 3) Why did you choose this article?
- 4) Does the article have a clear narrative, bias, or opinion? Give an example (hint: adjectives like “exciting”, “new”, “unfortunate”, or other colorful language may indicate a bias). Remember, a bias can be positive or negative.
- 5) Does the article disclose funding or possible conflicts of interest? What are they?

#### **Primary literature article questions (4 points each)**

- 1) What journal published the manuscript?
- 2) What is an “impact factor”? (google it)
- 3) What is the impact factor of the journal that published the article? (google it)
- 4) What is the title of the manuscript?
- 5) Who are the authors of the manuscript (if there are many, list the first 3)?
- 6) How is a Digital Object Identifier (DOI) used? (google it)
- 7) What is your articles DOI? (write all the numbers/letters)
- 8) Are you able to download a copy of the manuscript or is there a “pay-wall”?
- 9) Do you think this kind of literature should cost money? Why or why not?