- Today: Authorship, Peer Review, and Conflicts of Interest

Homework 3 due now...

Authorship: giving correct and appropriate credit for work done is important.

Do not want to ignore someone's contribution

Do not want to overemphasize someone's minor contribution

How to decide what type of credit to give?

Based on-
Scientific Integrity: an Introductory Text with Cases, 2nd ed. (2000) Marcina, F. L. ASM Press, Washington, D.C.

Authorship criteria:

Experimental, technical, and/or intellectual contribution to work

Types of credit:

Authorship

Acknowledgement

Authorship criteria are not universal or always well-defined:

from Cell

The corresponding author is responsible for ensuring that all appropriate contributors are listed as authors and that all authors have agreed to the manuscript's content and its submission to Cell. In a case where we become aware of an authorship dispute, authorship must be approved in writing by all of the parties.

Authorship criteria are not universal or always well-defined:

from Science

All authors must agree to be so listed and must have seen and approved the manuscript, its content, and its submission to Science.

Authorship criteria are not universal or always well-defined:

from Nature

Authors are strongly encouraged to include a statement in the end notes to specify the actual contribution of each coauthor to the completed work.

Publications can lead to:

Jobs

Promotions and/or raises (academically to tenure or full professor)

Grants

Prestige

"Surely you were aware when you accepted the position, Professor, that it was publish or perish?"

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Not unethical, but also not ethical or helpful for advancing research.

Who should be an author?

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Produced experimental data

Provided ideas or oversight

Analysis of data

Generally **not** worthy of authorship

Editing manuscript

Providing funding, equipment, material, or lab space

Group leader or manager without providing direct supervision or advice

Routine technical work

First author:

Did the most work toward publication

Other authors typically listed in order of quantity or significance of work performed

Senior author:

Can be first author or supervisor (last author)

Decides coauthors and author order

Assumes responsibility for all data and conclusions in paper
-can be difficult in interdisciplinary work

Submits and corresponds with journal

What responsibility do authors have for conduct of other authors?

If one author is guilty of misconduct, and all authors responsible?

Authors must list affiliations and any conflicts of interest

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from Cell:

Cell requires all authors to disclose any financial conflict of interest that might be construed to influence the results or interpretation of their manuscript. Authors must declare any such conflict in the cover letter accompanying the manuscript and in the Acknowledgments section of the manuscript itself.

As a guideline, any affiliation associated with a payment or financial benefit exceeding **$10,000** p.a. or 5% ownership of a company or research funding by a company with related interests would constitute a conflict that must be declared.

Where does money come for funding research, and what strings are attached?

Monsanto and universities:

The Iowa State University Research Foundation (ISURF) and Monsanto Company announced an agreement today
(http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/09-04-2007/0004655996&EDATE=)

University of Illinois and Monsanto Establish Monsanto Fellows in Plant Breeding
(http://www.reuters.com/article/pressRelease/idUS144915+16-Apr-2008+PRN20080416)

Washington University in St. Louis, Monsanto Co., awarded crop protection patent
(
http://news.bio-medicine.org/biology-news-2/Washington-University-in-St--Louis---Monsanto-Co---awarded-crop-protection-patent-3939-1/
)

Monsanto supports UW plant breeding with $1 million fellowship gift
(http://www.news.wisc.edu/15628)

North Dakota State University and Monsanto Announce Crop Research Collaboration
(http://www.ext.nodak.edu/extnews/newsrelease/2006/072706/07northd.htm)

Research at public institutions should be released to the public, but release of information before a patent is applied for can invalidate a patent application.

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What areas of research are not ethical?

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- Studying how to manipulate human emotions or desires?

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-members of the American Psychological Association are forbidden to take part in interrogations involving “torture”

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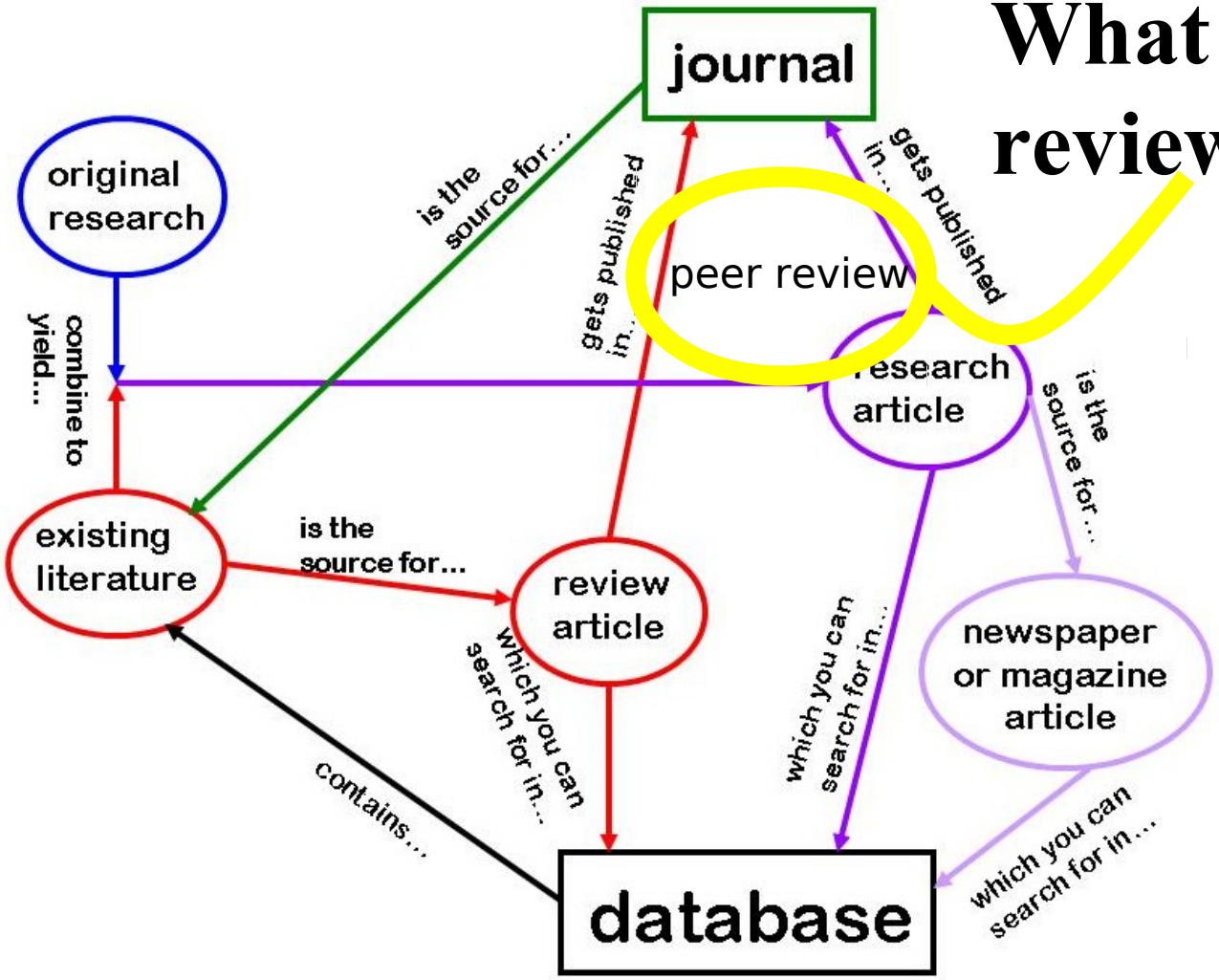
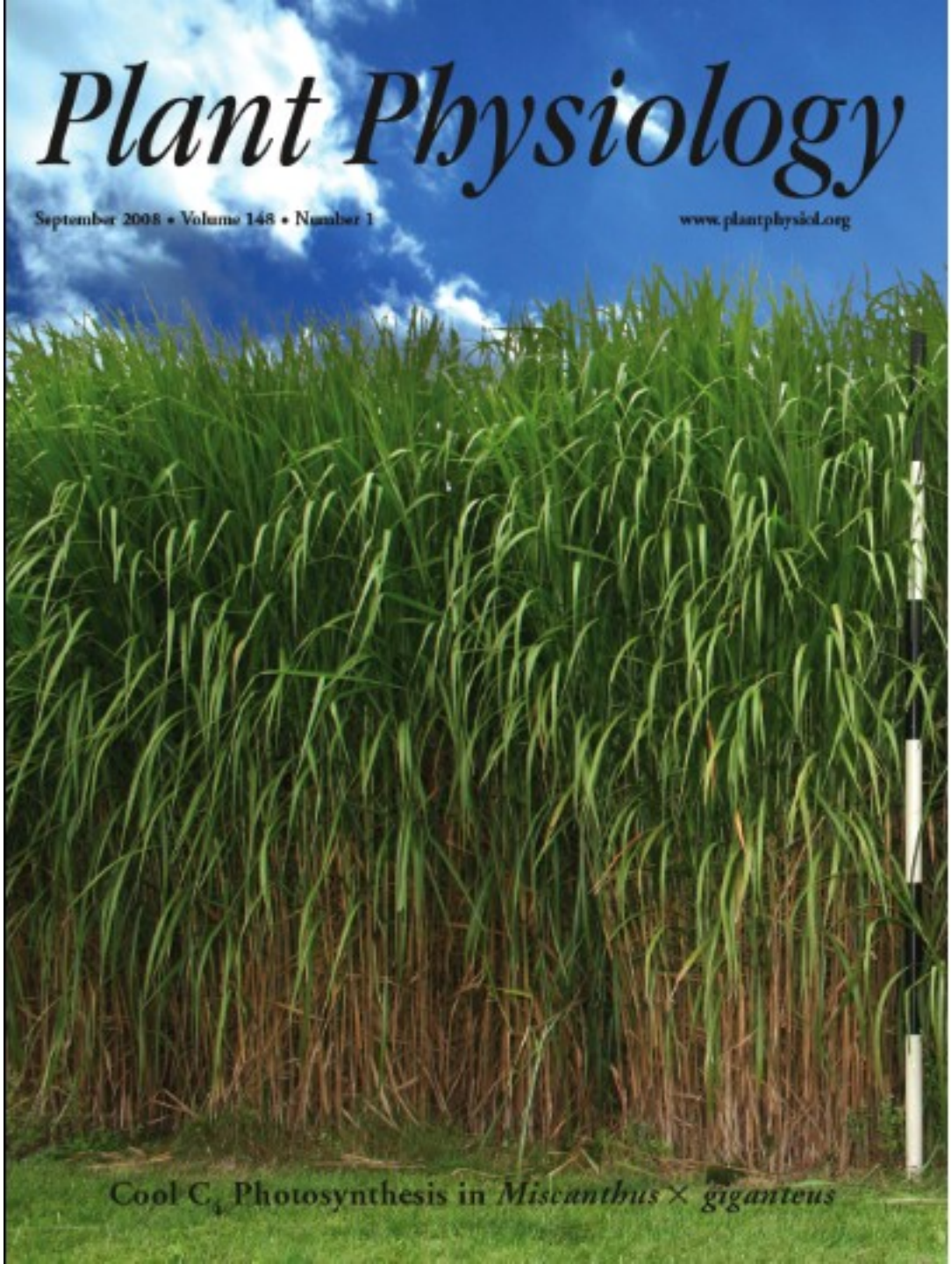
Building Blocks of Scientific Literature



What is peer review?



What happens between collecting the data, writing the paper, and its publication?

PLANT PHYSIOLOGY September 2008 Volume 148 Number 1

An international journal devoted to basic research into how plants function, ranging from the molecular to the cellular to the whole plant levels, and including the interactions of plants with their biotic and abiotic environments.

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Research Area and Sections

Signal Transduction and Hormone Action
Cell Biology
Development and Hormone Action
Environmental Stress and Adaptation to Stress
Bioinformatics, Breakthrough Technologies, and Genome Analysis
Systems Biology, Molecular Biology, and Gene Regulation
Genetics, Genomics, and Molecular Evolution
Biochemical Processes and Macromolecular Structures
Plants Interacting with Other Organisms
Bioenergetics and Photosynthesis
Whole Plant and Ecophysiology

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They give suggestions for improvement as well as an opinion about whether it should be published or not.

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Accept paper as is. (rare)

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Accept paper and ask for some changes.

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Reject paper. (20-80% rejection rate in physical sciences*)

*Scholarly Consensus and Journal Rejection Rates. Lowell L. Hargens (Feb., 1988) American Sociological Review 53: 139-151
and
Bang for Your Buck: Rejection Rates and Impact Factors in Ecological Journals. The Open Ecology Journal (2008) L.W. Aarssen, T. Tregenza, A.E. Budden, C.J. Lortie, J. Koricheva and R. Leimu 1: 14-19

Now what do the author(s) do:

Accept paper as is…

Celebrate

Now what do the author(s) do:

Accept paper and ask for some changes…

Work on changes. May be changes to text, experiments, or both.

Now what do the author(s) do:

Reject paper…

Submit to another journal or try to fix deficiencies and resubmit.

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This can lead to conflicts of interest.

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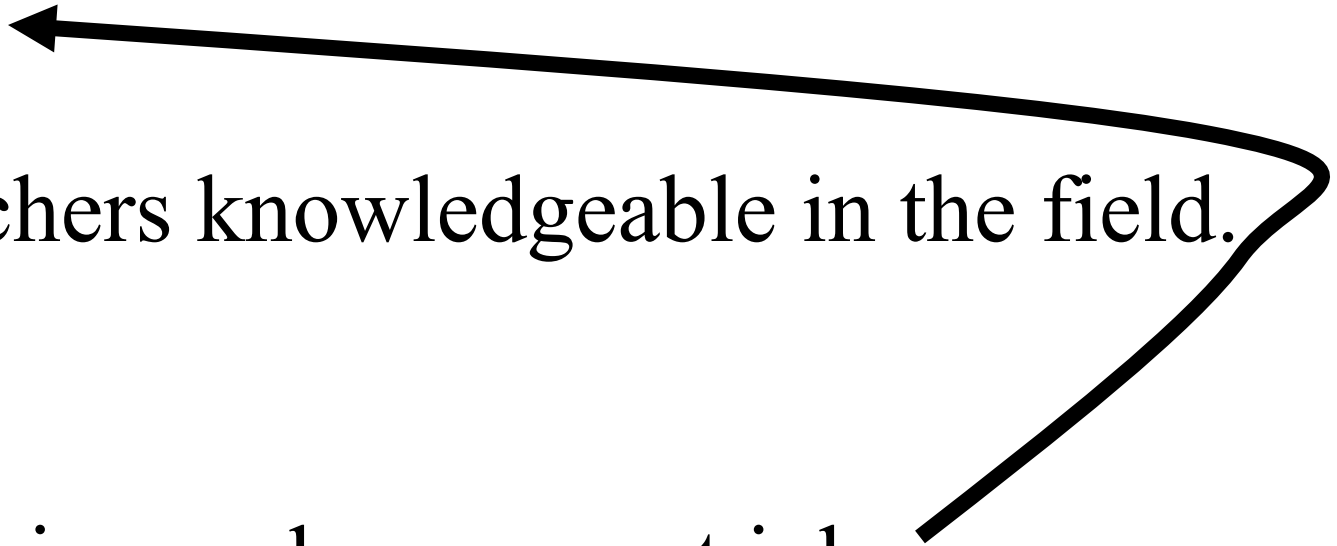
Not every reviewer does a great job.



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Citations = Important

1 A CANCER JOURNAL FOR CLINICIANS 70.216
2 NEW ENGLAND JOURNAL OF MEDICINE 52.362
3 REVIEWS OF MODERN PHYSICS 48.621
4 ANNUAL REVIEW OF IMMUNOLOGY 46.688
5 NATURE REVIEWS MOLECULAR CELL BIOLOGY 41.576
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7 PHYSIOLOGICAL REVIEWS 37.047
8 CHEMICAL REVIEWS 36.433
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20 ANNUAL REVIEW OF NEUROSCIENCE 30.559

2010 top 5-year impact factors

from Web of Science

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2010 top 5-year impact factors

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Top journals are more selective.

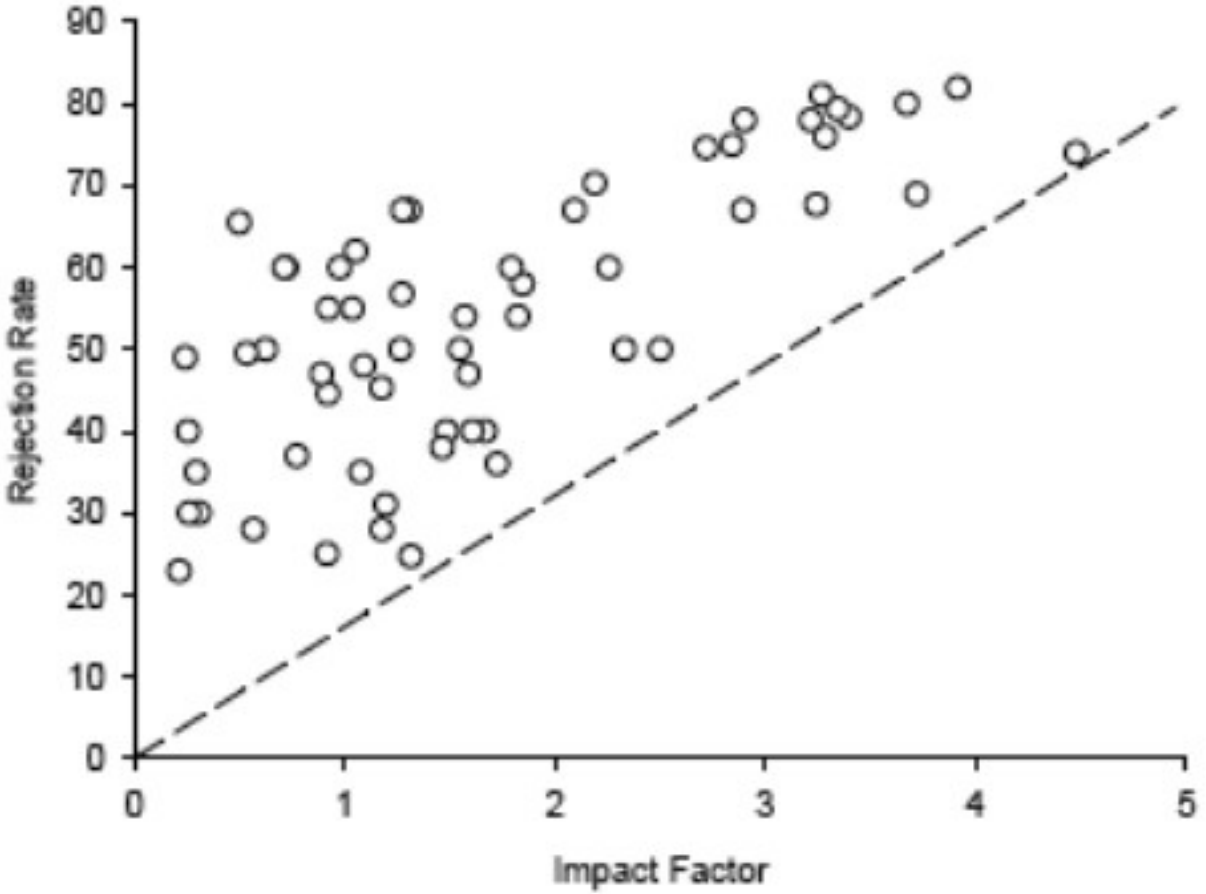

Fig. (1). Scatterplot showing the relationship between journal impact factor in 2004 and the percentage of papers rejected in 2004 for 60 journals listed in the 'Ecology' category by ISI Web of Science (http://www.isiwebofknowledge.com/). The relationship is significantly positive (partial correlation with number of papers published in 2004 held constant: $r = 0.687$, $P<0.001$), but note the generally triangular data distribution with a 'lower-boundedness' indicated by the dashed line through the origin.

Bang for Your Buck: Rejection Rates and Impact Factors in Ecological Journals. The Open Ecology Journal (2008) L.W. Aarssen, T. Tregenza, A.E. Budden, C.J. Lortie, J. Koricheva, R. Leimu 1:14-19

Publishing in a journal with a high impact factor is “very important” for researchers.

Table 1. Percentages of Survey Responses (N=1250) in which Participants were Asked to Rate the Importance of Three Factors when Selecting a Journal for Submitting Manuscripts. [The Web-Based Survey was Designed by the National Centre for Ecological Analysis and Synthesis (NCEAS) Ecobias Working Group (www.ecobias.org), and was Posted Online from May 4th, 2006 to November 4th, 2006]

Factor	Very Important	Important	Somewhat Important	Not Important
High journal impact factor	39.6	46.0	12.6	1.8
High likelihood of acceptance	11.2	44.3	36.7	7.8
High likelihood of rapid decision	25.2	47.0	22.5	5.3

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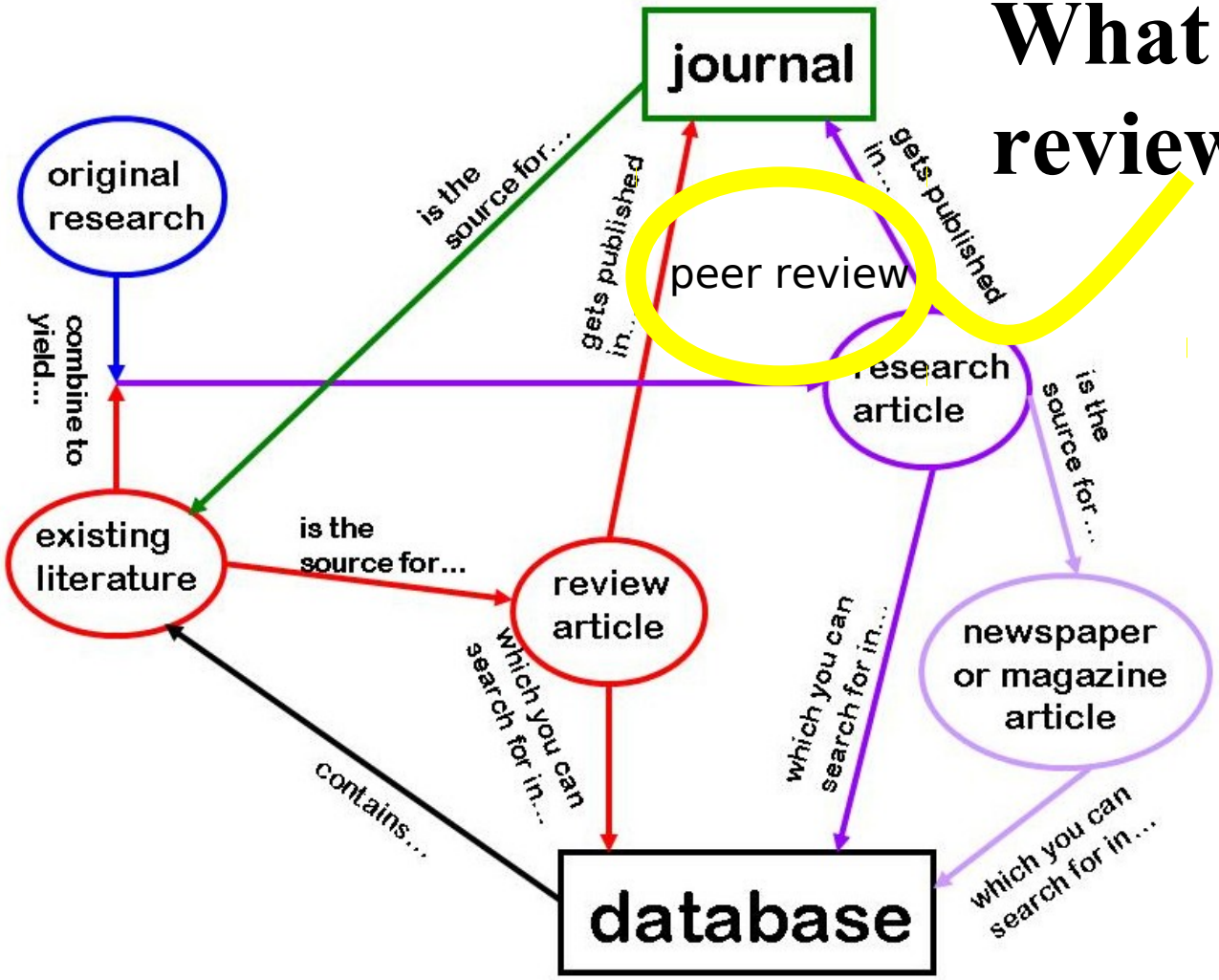

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