commons.wikimedia.org/wiki/File:Salami_aka.jpg

Publish & perish*

Authorship

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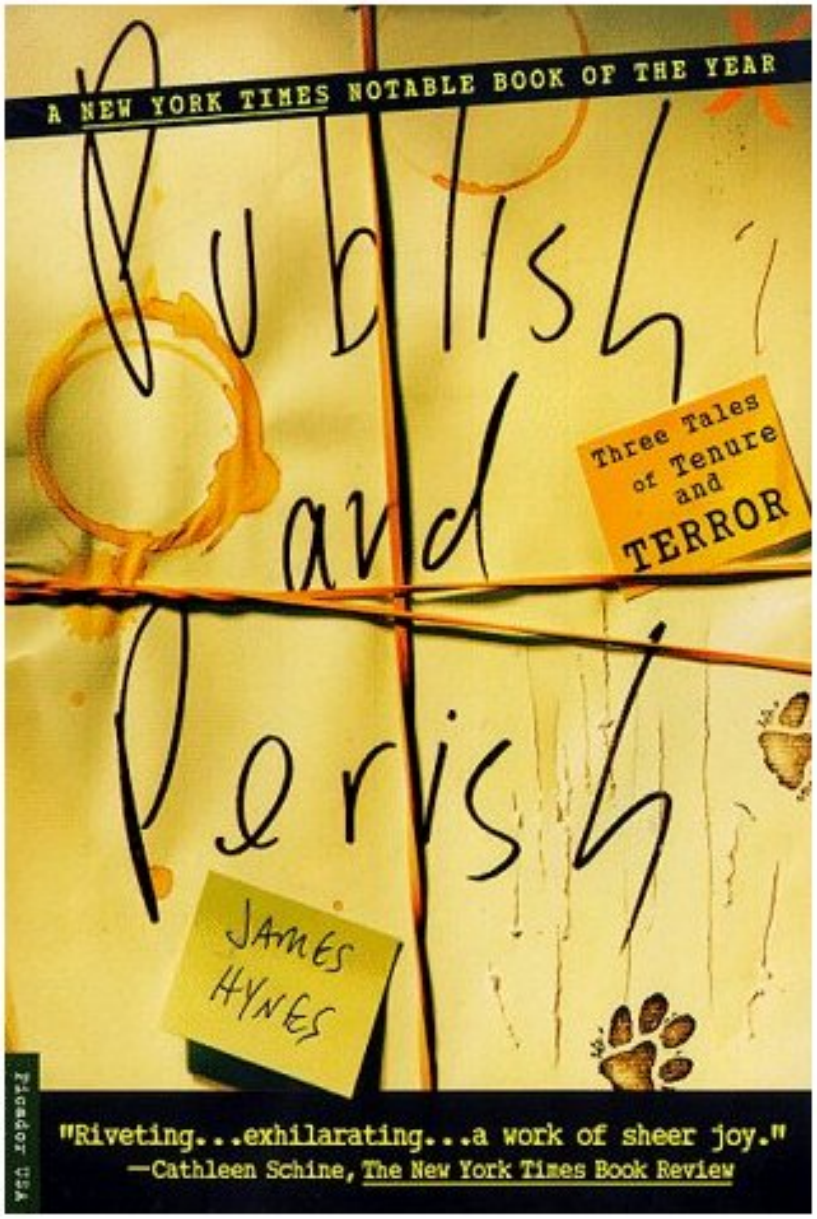

A NEW YORK TIMES NOTABLE BOOK OF THE YEAR
Publish and Perish
Three Tales of Tenure and TERROR
JAMES HYNES
"Riveting...exhilarating...a work of sheer joy."
—Cathleen Schine, The New York Times Book Review
Picador USA

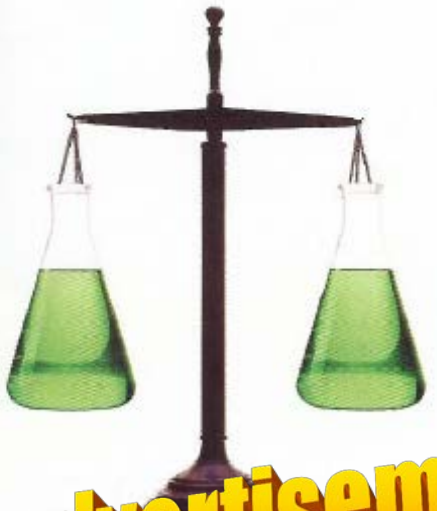
“The best course I’ve ever taught”

By C. Neal Stewart, Jr., and J. Lannett Edwards

OPINION

How to Teach Research Ethics

Two scientists – neither bioethicists – describe the best course they've ever taught.



trouble: plagiarism, authorship, grantsmanship, peer review, research misconduct, image fraud, whistle-blowing, conflicts of interest, patenting, and as a special topic, women in science. (See our syllabus under "teaching" at http://plantsciences.utk.edu/stewart.htm.)

The first homework assignment was to find plagiarism. They did. They found gratuitous cases, and some not so black and white. Here we parsed through what is acceptable and not acceptable from a scientific standpoint. More importantly, we discussed, rather than lectured, about best practices and what happens when shortcuts are taken. So it went for the entire semester.

For those of you who'd like to teach your own courses, here's a bit of what we learned:

- **Team up with another faculty member.** As coinstructors we often had disparate opinions; sometimes we agreed, and sometimes we debated. The students appreciated hearing the opinions from us and from their peers.
- **[illegible]s are a powerful tool.** They personalized real events and problems. They helped us all empathize with wrongdoers and victims, roles we've found ourselves in from time to time.
- **Teach best practices in your discipline,** and not just general

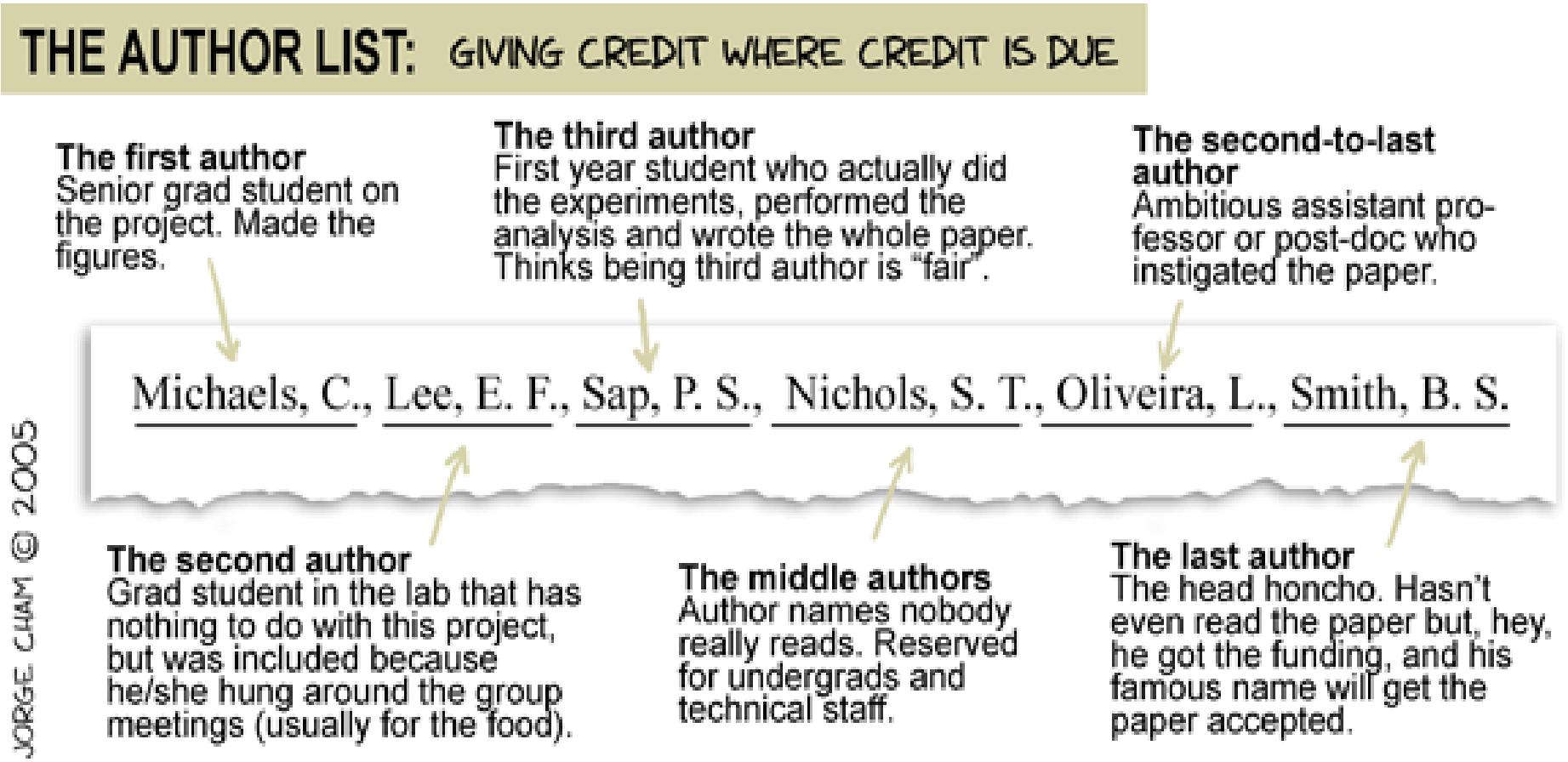
February 2008 THE SCIENTIST 27

Gratuitous advertisement!

Research Ethics for the Life Sciences
Plants Sciences and Animal Science 525
Fall semester 2007-2020
Mondays 12:20-1:10

Guiding principle: scientific and academic papers are written for society

Not for the authors, their careers,
or to pad their resumes.



www.phdcomics,com Piled Higher and Deeper by Jorge Cham

Who is an author? Two schools of thought (actually 3)

- School 1: people who made “substantial contributions” to a study
- School 2: people who meet ICMJE criteria
- School 3: whoever the boss feels deserves it at the moment

ICMJE: International Committee of Medical Journal Editors (icmje.org) criteria: an author meets each of three requirements

1. Substantial contributions
   - Conception and design of the research *or*
   - Collection of data or
   - Data analysis/interpretation
2. Writing the paper or making intellectual contributions on text
3. Final approval of the manuscript

Why does it matter?

- Credit where credit is due and morale
  - Mistake 1. Including someone as an author who should not be (the person should be listed in acknowledgements)
  - Mistake 2. Excluding an author who should have been in the author list
- Authors bear some level of responsibility for the work, e.g., if misconduct arises or even through honest error and the paper is retracted.

Inventorship on patents does not follow the same rules

- Inventorship is constrained by (US) patent law
- Typically a shorter list of people then those listed on grants and papers
- Who conceived of the invention?
- Contributor to claims
- Getting it wrong can invalidate a patent

Current issues in authorship

- Ghostwriting
- Counting citations
- Rewards and awards
- Honorary authorship—guest or gift authorship is defined as research misconduct at Washington University
- Journals are increasingly requiring an authorship statement that describes the roles of each author

Case study on authorship courtesy of Columbia University RCR

Susan Jacobs is a PhD student for Dr. Seabrook at Smaller Univ. Susan takes a six month intership in Dr. Frank's lab at BIG Univ. She enjoys weekly lab meetings and a productive lab. Susan completes a study, begun at Smaller and finished at BIG. She writes it up for publication with 3 authors: Susan, Frank and Seabrook—she used the ICMJE criteria and gives it to Frank and Seabrook. Frank edits the paper and adds a technician, 2 postdocs and 2 grad students in the lab to the authorship list and sends it to all the 'new authors' so they can discuss the paper in the next lab meeting. Susan is not happy and talks with Frank, who said that she would be included in the next paper by one of his postdocs. What went wrong?