

Engaging RCR Discussions for a Flattened World of Scholarship

Geoff Henebry (henebryg@msu.edu)

Department of Geography, Environment, and Spatial Science & Center for Global Change and Earth Observations

- How do we prepare early-career scientists for RCR topics given cross-cultural norms and expectations in an era of big data and international collaborations?
- STEM publishing has flattened due to increased access to the internet, online publications, open access journals, the push for open science, and more.
- I share a simple approach I've been using for >15 y to identify, engage, and discuss disagreements with graduate students and post-docs.

Commentaries

A Beginner's Guide to Scientific Misconduct.

Bob Montgomerie¹ and Tim Birkhead²

¹*Dept of Biology, Queen's University, Kingston, Canada (montgome@biology.queensu.ca)*

²*Dept of Animal & Plant Sciences, University of Sheffield, UK (T.R.Birkhead@sheffield.ac.uk)*

Scientific misconduct, like the weather, is a subject that everyone talks about. But is scientific misconduct a problem that we can actually do something about? Our own discipline—behavioral and evolutionary ecology—has certainly been abuzz with talk about scientific misconduct for the past several years, but when it comes to doing something about it, the usual reaction is that “the situation is deplorable and someone should do something about it, but not me”. Certainly at last year's ABS meeting in Oaxaca, we were rarely involved in a conversation with our colleagues that did not eventually get around to the subject of scientific misconduct.

claim to be too busy to get involved in what could be a lengthy and emotionally-charged process. Moreover, there is a widespread notion that science is largely self-correcting and that problems like scientific misconduct will generally sort themselves out and go away (Anonymous 2004).

After much discourse about this over the past 15 years, we have come to the conclusion that a decidedly different approach to scientific misconduct is desirable—one based both on an open dialogue about the issues, rather than rumor and innuendo about specific cases, and on some specific public and private methods of dealing with expected instances. In this

Please fill out this questionnaire as honestly as you can. We would also appreciate your candid assessment as to whether you think you might be guilty of any of the items listed by putting a in the ‘Guilty’ column. **51 instances of “questionable behavior” in the questionnaire**

By filling out and submitting this questionnaire, you are giving us permission to use these data in our ongoing research on this subject. Your answers are, and will always be anonymous, unless you choose to sign the questionnaire

LEVEL	Behavior	GUILTY?
	requiring your name to be put on papers for which you have provided only money and/or facilities	
	attempting to publish already published (or accepted) papers in a different journal, with or without some changes to mask the deception	
	not understanding the statistics you are using	
	allowing your name to be put on papers to which you have made no reasonable contribution	
	copying large portions of other peoples' published work without attribution	
	copying large portions of other peoples' <u>un</u> published work without attribution	
	putting fictitious papers on your CV	
	presenting seminars/talks/posters on rough analyses and incomplete data	
	declining to review your share of submitted manuscripts (roughly 3X the number you submit)	
	dividing up your research into the least publishable units	
	using grant funds to attend a conference and then not, or barely, showing up	
	sitting on the review of a competitor's work while you prepare or finish your own work on the same subject	

Levels of Scientific Misconduct

Level 0: *not really scientific misconduct*, in my opinion

Level 1: *mild misconduct* [probably requires no public censure or disciplinary action]

Level 2: *moderate misconduct* [requires some retraction or correction in literature, and possibly disciplinary action]

Level 3: *severe misconduct* [requires both censure and punishment commensurate with the cost to the discipline and society at large—should probably lose job/position, be fined, and possibly charged in court.]

From: Montgomerie B, Birkhead T. 2005. A Beginner's Guide to Scientific Misconduct. ISBE Newsletter, 17(1).
http://www.academia.edu/1348320/A_beginners_guide_to_scientific_misconduct

Scientific Misconduct Questionnaire from Montgomerie & Birkhead

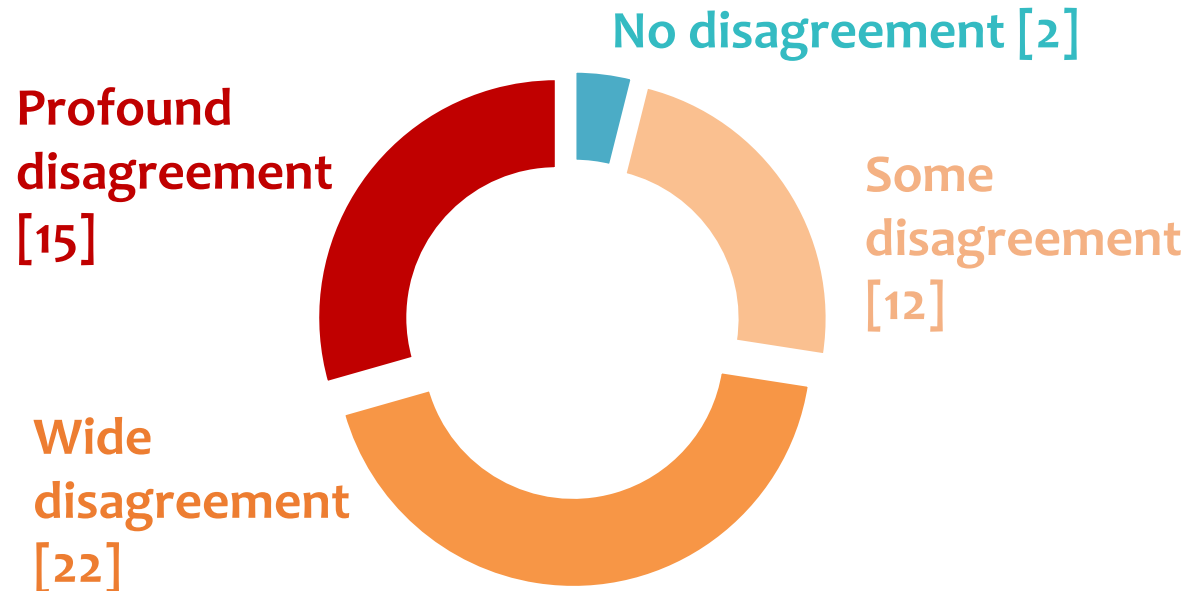
Results from 2019: Unanimous agreement on 5 questions (10%)

Results from 2020: No unanimous agreement on any question (0%)

Results from 2021: Unanimous agreement on 2 questions (4%)

- q. altering your manuscript by using fabricated data or false claims to address a reviewer's comments [3]
- cc. knowingly circumventing ethical guidelines, in a major way, for animal or human research [3]

Profound disagreement defined as answers of "0" and "3" from class on the same question.



Scientific Misconduct Questionnaire from Montgomerie & Birkhead (2005)

Examples of Profound Disagreement on 15 of 51 questions (29%) !

[Profound disagreement identified as answers of “0” and “3” from class on same question.]

- a. Requiring your name to be put on papers for which you have provided only money and/or facilities [median=2; range=3]
- b. Attempting to publish already published (or accepted) papers in a different journal, with or without some changes to mask the deception [median=2.5; range=3]
- d. Allowing your name to be put on papers to which you have made no reasonable contribution [median=2; range=3]
- h. Presenting seminars/talks/posters on rough analyses and incomplete data [median=1; range=3]
- i. Declining to review your share of submitted manuscripts (roughly 3X the number you submit) [median=1; range=3]
- l. Sitting on the review of a competitor's work while you prepare or finish your own work on the same subject [median=2; range=3]
- w. Not mentioning data that indicate that any of the conclusions of a study may be in doubt [median=1.5; range=3]
- x. Applying for grants to do work that is already done [median=2; range=3]