

The methods actor: part 1

Jeffrey L Dudycha¹ and C Kevin Geedey²

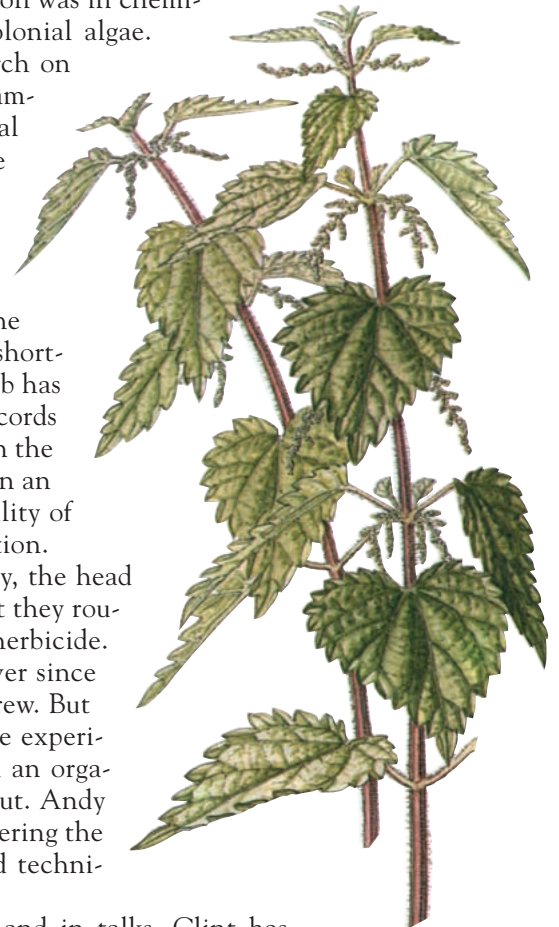
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Beth is excited about the post-doc she just started. Her dissertation was in chemical ecology, examining nutrition and colony formation in colonial algae. She has joined a lab run by Clint, who is renowned for his research on competition. The centerpiece of his work is a long-term project examining the competitive ability of *Boxov pandora*, a common biennial herb. Despite her excitement, however, Beth has become a little worried about how she will fit in to the lab. The place seems tense, and a couple of the grad students have warned her not to get on Clint's bad side. He may be a brilliant ecologist, but he has a reputation for holding grudges.

Beth's role in the project is twofold. First, she is to examine the project's records of leaf miners, infestations of which may have short-term effects on the herb's fitness. As part of the main project, the lab has been digitally scanning leaves for several years, and has detailed records of leaf miner activity. They are interested in the association between the insects and competitive ability in *B pandora*. Second, Beth will begin an experiment to test whether infestations reduce the competitive ability of hosts, and to determine the role of chemical defense in the interaction.

When she heads out with the field crew to learn the ropes, Andy, the head technician, tells her something that surprises her. He says that they routinely remove stinging nettles, either by cutting or with a topical herbicide. When Beth asks why, Andy says that it has been done that way ever since the beginning of the project, and it makes life easier for the field crew. But she shouldn't worry, because the removal doesn't disturb any of the experimental *B pandora*. Once or twice a year they use the herbicide in an organized manner, and any other time nettles are found, they are cut out. Andy hasn't ever spoken with Clint specifically about this, other than ordering the herbicide, but has simply continued doing what the previous head technician told him was the standard procedure.

Beth is troubled by this information. Several times, in papers and in talks, Clint has emphasized that the significance of the project is enhanced because it is conducted in the "natural environment" of *B pandora*. Beth doesn't recall him ever mentioning the removal of stinging nettles in any publication. Just outside the field site, nettles are irritatingly common. What if removing them altered the competitive relationships within the remaining community?



Q: Does Beth have good reason to be troubled? Why? Could there be something unethical about removing nuisance plants?

Q: Given that Beth is bothered by what she has learned, what are her options for how to proceed with her research with Clint? Who could be affected by which option(s) she chooses?

Q: Does Beth have enough information to make a responsible decision? What more, if any, is needed for her to make her decision?

¹Dept of Biology, Indiana University, Bloomington, IN (jdudycha@bio.indiana.edu) ²Dept of Biology, Augustana College, Rock Island, IL (bigeedey@augustana.edu)

■ Commentary on "The methods actor, part 1"

This case addresses what constitutes sufficient reporting of how data were obtained. Frequently, discussions of fraud or falsification deal with the data themselves, whether they were altered or simply generated out of thin air. Misrepresentations of how data are obtained can cause the same harms as fictional data, because it could alter the meaning of the data. However, in part 1 of this case, we want to focus discussion on the problem of what someone should do when they have concerns about a professional colleague's choices. Next month, we will follow the characters' story further, and comment on best practices associated with methods reporting. For the time being, we will assume that Beth has concerns that Clint may not have used best practices in his methods reporting.

How should she respond? She has three different basic options, none of which is free of difficulties. She could simply ignore her concerns and proceed as if she weren't bothered. She could change things for her part of the project: explain the nettles in her reports of the old leaf miner records, and/or not allow the field crew to make these manipulations in her new experiment. Finally, she could discuss her concerns with Clint, taking the risk of souring their relationship.

The first choice, ignoring the issue and accepting the nettle removal as part of her work, may seem an easy way out. Its primary appeal is that it avoids confrontation, and could be rationalized under the logic that it's been done this way for years, and no one else has had a problem with it. (How would she make certain of this?) It also means that her research can proceed right away, without the delays associated with trying to resolve her concerns with data, either new or re-analyzed. Maintaining the status quo, however, raises another problem. Whether or not Clint has been misleading people, by going along, Beth is embarking upon her own line of dishonesty, by avoiding her responsibility to present her research in a manner she believes to be truthful.

The second option, to change the way things are reported and/or done for her parts of the project, has a different draw. It lets Beth out of the trap of misrepresenting her own research, and may improve the true quality of the work. Once again, however, if she makes changes to the field methods without talking to Clint, she opens up a new set of problems: in this case, being dishonest with her advisor and only postponing what will be an even more unpleasant discussion (not to mention creating problems for Andy and the field crew). Changing the way things are done may be part of the solution, but this is defensible only after discussing the matter with Clint. If, together, they take this approach, it may require a more expansive or time-consuming project to accommodate comparative interpretation with the results that the long-term project has already generated.

This brings us to the third option: talking to Clint. No

matter how difficult it seems, in the end this is the best option. This need not be done in a negative or accusatory manner. An inquisitive approach, trying to discover both the rationale behind the convenience manipulations and the reason they seem to be omitted from being mentioned in publications, would be far more productive. In addition, this option may lead to solutions that leave both parties with their integrity, reputation, and feelings intact. Perhaps there were factors that Beth was unaware of that would allay her concerns, or she could find out that she was mistaken in thinking that the manipulations had never been mentioned. Alternatively, these may be issues that hadn't dawned on Clint, and the conversation could spark new experiments to incorporate them into the project. The most challenging part of this kind of conversation is figuring out just what to say and how to say it. Your discussion group might find it useful to do some role-playing to find out exactly how Beth could open the discussion.

Not all the results of such a conversation will be rosy, and this is what may give a person pause when contemplating this course of action. If Clint reacts negatively, Beth may find herself in a worse position than before – not only being a part of a project where she has concerns about the conduct of the project and possibly her mentor's integrity, but also now having a tense, perhaps unviable relationship with him. Beth could get a negative reaction if Clint is dishonest, knows it, and wants to protect himself, or if he is honest but is offended by Beth's lack of trust. In the former case, Beth is in a tough situation, and is better off if she finds out early. She may prevent the latter by broaching the issue with Clint with a presumption of his honesty and integrity.

One important aspect of this case is Beth's inexperience in this area of ecology. It means that prior to choosing any of the above options, she should try to find out more of the details, to minimize the possibility that her concerns are based on misunderstandings. It is possible that what she discovers may make her choices much easier, and even if they are still difficult, she will be on stronger ground. A basic obligation is to ascertain the facts. Has Clint really never reported the convenience manipulations? If not, have there been attempts to conceal them, or is he open with anyone who inquires about what's being done? Another source of information is to ask colleagues in a similar branch of ecology whether this kind of manipulation is commonplace and generally accepted as routine. Finally, she could talk with a trusted, uninvolved associate to hear another perspective. Perhaps discussing the problem with someone else will alert her to new issues, facts, or solutions.

Part 2 of "The methods actor" will appear in the April issue. This is the seventh in our Ethical Issues series. For the introduction, please see the August issue (2003; 7: 330–33).