

Unethical Author Attribution

Ward Ethics: "What Do I Do Now?" is a section created in response to our growing awareness that, despite the ever-expanding bioethics literature and curricula, medical trainees are not being adequately prepared for the daily struggles they face in becoming physicians. Scenarios presented here are part of an ongoing project of interviewing medical students and doctors in training from around the world as to the specific dilemmas they face in trying to balance learning medicine, performing procedures, and interacting with patients and colleagues. In this section, trainees pose, in their own voices, the questions they find most troublesome, but which are all too often surrounded in silence. Interdisciplinary commentary follows from noted bioethicists.

Students are invited to submit their own dilemmas for possible presentation and discussion. In all cases, scenarios are presented anonymously to prevent identification of individuals and institutions involved. Send manuscripts to Thomasine Kushner, 104 Bulkley Ave., #4, Sausalito, CA 94965. Some of the real-life dilemmas appeared initially in *Ward Ethics* (Cambridge University Press, 2001).

I am an M.D/Ph.D. student and work as a research assistant for the director of a division of the school of medicine who is an M.D. He assigned me to research a certain topic and gave me no guidelines or guidance as to how to do it. Nevertheless, I did the research and wrote it up. My supervisor liked the report and said that he thought it was so good that "I would like to offer you the opportunity to publish it and list you as the primary author." Some bells went off when he so grandly offered to let me author the report for which I had done 100% of research and writing. I consulted some other people in the field and they said that, as long as I was the primary author, it was legitimate for him to list himself as secondary author if he did some editing later. After editing the abstract only, he e-mailed his revisions to me and in a note at the bottom he asked me what I thought of his revised author order. His name was first, mine second, and the name of his girlfriend (who had no part in this research or its revision) was third. I was shocked by what seemed to be a case of unethical author attribution and confronted him asking why he changed the order when we had agreed that I was primary author. He said that he had put in several

hours of work. I reminded him that I had put in 150 hours of work on that project, and he agreed to change it back so that my name was first. I sent him a written message noting my surprise at seeing a third name on the article. He did not respond to that. Supposedly, as it stands now, I am listed as primary author and he is second. I don't know if there is still a third author name or not. Since that time he has even asked the "third author" in front of me if she has read the article, confirming my suspicion that she has had no part in its editing. The problem is that, even though my boss has agreed to put my name first (twice now), I do not know what will happen when he finally submits the article for publication.

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Commentary Charles Weijer

My mentor at Dalhousie University, Nuala Kenny, greets each incoming class of medical students with the caution that "you are already becoming the doctor you are going to be." Sound advice. The same might be said to clinician-investigators in training: "the way you deal with ethical dilemmas today shapes the sort of scientist you will be tomorrow." Few begin a scientific career with the intent of becoming unscrupulous; those who have become so got that way because of the sorts of choices they made along the way. This case illustrates well just how difficult are the dilemmas that routinely face clinician-investigators in training. Questions of honesty and allocation of credit do not arise in isolation but are mired in a real-world tangle of relationships, hierarchy, and uncertain consequences.

Dealing with these questions requires that the clinician-investigator in training be knowledgeable about the norms that govern the conduct of science and embody the virtues of a good scientist. The former provides the tools needed to make the right choice; the latter provides the inclination to actually make it. The emphasis in the

scientific-integrity literature is on the articulation of precise guidance for particular cases. Too little attention, in my opinion, has been given to the character traits of the good scientist.

A good scientist strives to embody a number of virtues (this is an incomplete listing, to be sure):

- The good scientist is *objective*: she seeks truth about the physical, psychological, or social world.
- She is *skeptical*: she evaluates critically received wisdom and the findings of others.
- She is *honest* about her work, even if findings differ from those expected or challenge her own theory.
- She is *fastidious* in the way she conducts her work, always being careful to follow a reproducible method and to record and report results accurately.
- She has *humility* before her subject matter and her colleagues.
- Finally, she has the *courage* to dare to be right, to admit when she is wrong, and to do the right thing, especially when it is hard or unpopular to do so.

No one is born with these virtues intact; rather you must strive in the choices faced in your own personal and pro-

fessional life to make these virtues your own. A single decision to tell the truth, rather than withhold it, is an *honest act*. Someone who consistently chooses to tell the truth is an *honest person*.

The case presented challenges us to live out these virtues in the choices we make in daily life. It touches on issues of authorship—in my experience, the most common issue faced by clinician-investigators in training. In the standard scientific paper, credit is allocated in one of three places: the list of authors, acknowledgements, and references. Authorship receives the most attention because here the stakes are highest. Authorship on peer-reviewed papers is the yardstick by which scientists are measured and the rewards in science, including fellowships, grants, promotion, and even prestige, are distributed. Detailed guidance exists for the question as to whether one should be included in the list of authors or not. The International Committee of Medical Journal Editors authoritatively set out three necessary conditions for authorship:

Authorship credit should be based only on substantial contributions to (a) conception and design, or analysis and interpretation of data; and to (b) drafting the article or revising it critically for important intellectual content, and on (c) final approval of the version to be published. Conditions (a), (b), and (c) must all be met.¹

The title of the case, “Unethical Author Attribution,” is accurate. The student was given by the supervisor “no guidelines or guidance” as to how to approach the topic, and she did “100 percent of the research and writing.” The supervisor’s only contribution, according to the narrative, was to edit the abstract. Thus, the supervisor fails to meet two of the three conditions for authorship: he did not make

a substantial contribution to the study’s design or analysis, and he did not draft or revise the article for important intellectual content. The supervisor should, therefore, withdraw his name as an author on the paper. The supervisor’s act of making his partner, who had nothing whatsoever to do with the work, an author strains belief. So-called gift authorship is widely recognized as an immoral act. The authors of *On Being a Scientist: Responsible Conduct in Research* rightly observe that

Occasionally a name is included in a list of authors even though that person had little or nothing to do with the content of a paper. Such “honorary authors” dilute the credit due the people who actually did the work, inflate the credentials of those so “honored,” and make the proper allocation of credit more difficult.²

No definitive guidance exists as to the proper ordering of authors on a paper. This is at least in part due to the fact that the norms for differing scientific disciplines diverge. In some fields, authors are listed from those who made the greatest contribution to those who made the least. In other fields, the senior author is listed last rather than first. In yet other fields, authors are listed alphabetically. Because of this variation in practice, coauthors should agree up front on criteria for ordering of authors. The final ordering for a particular paper is best discussed early, rather than late, in the preparation of the manuscript and, if at all possible, in person. The subject is, in *my* experience, too delicate for e-mail discussions.

As the case illustrates, the power imbalance that exists between investigators in training and senior researchers complicates the situation in which the students find themselves. Students often depend on the supervisor for favorable evaluations, letters of recom-

mentation, help getting a job, and a salary. This relationship confers a variety of obligations on each party. Most important, though, is the supervisor's duty not to abuse the power imbalance to her own advantage. The student and the supervisor should both strive to maintain an open dialogue about the proper conduct of science. The institution has an important role to play in encouraging a healthy learning environment. When disputes do occur, a mechanism should exist to arbitrate them. Given that students are particularly vulnerable in such disputes, the institution has an obligation to protect them from undeserved harm. Clinician-investigators in training would be wise to ensure that their institution has such policies and procedures in place, and, if not, to advocate for their adoption.

The decision whether to challenge authorship claims or report misconduct, despite potentially adverse consequences, requires both humility and courage. The student should carefully examine the facts, seek the advice of others more experienced, and be open to the possibility that she is misreading the situation. If false authorship claims or misconduct are apparent, however, the student must have the courage to face the supervisor and, if necessary, report misconduct to institutional authorities. Although some may view the risk of acting as "professional suicide," the risks of not acting are often at least as great. Regret for not having done the right thing may be hard to shake, and your reputation—a scientist's most valued possession—may be tarnished by being included on a publication with an inflated list of authors. When a supervisor errs, it reflects poorly on her; when you fail to act, it reflects poorly on you. In the end, it comes down to the question: What sort of scientist do you want to become?

Notes

1. International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. *New England Journal of Medicine* 1997;336:309-15.
2. Committee on Science, Engineering, and Public Policy. *On Being a Scientist: Responsible Conduct in Research*. 2nd ed. Washington, D.C.: National Academy Press; 1995.

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Commentary

Akira Akabayashi

The competence of contemporary researchers in the biomedical sciences has come to be judged by new criteria. These criteria—publications and letters of recommendation from well-known researchers—exercise great influence on appointments and promotions. In the case of clinical medicine, those who hope for promotion must also demonstrate clinical competence. As far as scientific papers are concerned, being named first author is of great importance, because the first author receives far more credit than the second or subsequent authors. Therefore, the questions of who will be named as an author and the order of attribution have become issues of critical importance among scientists, especially in the fields of natural sciences and medicine.

The International Committee of Medical Journal Editors (known as the Vancouver Group) has produced a document entitled *Uniform Requirements for Manuscripts Submitted to Biomedical Journals*.¹ In its revised fourth edition, it prescribes who should be considered to be an author of a paper. However, with respect to the order of authorship, the guidelines are some-

what unclear, stating only that attribution should be a “joint decision” by the coauthors. This statement does not really account for the power dynamics that are often found in research teams. As illustrated by the case presented, those who are in superior positions might use their positions unfairly.

Scientific misconduct is a topic of great interest everywhere. The number of papers related to this issue listed in Medline, for example, have dramatically increased since the late 1980s.²

Cultural Perspectives

I would like to discuss the issue of attribution from a cultural perspective. Recently, Fetters and Elwyn compared the numbers of authors per original article by Japanese and non-Japanese research groups in two qualitatively similar medical journals, namely *Circulation Research* and *Japanese Circulation Research*, during three different years.³ They found that in each year there were two or three more Japanese authors per original article in *Japanese Circulation Research* than in *Circulation Research*. They suggested that there were intercultural variations in crediting authorship and attributed them to Japanese group ethics, the role of professors in conducting research, and the funding system. They concluded that “the movement to credit only those who deserve authorship is noble, though the assessment of legitimate authorship is a cultural, not a scientific judgment.”⁴

The most influential factors relating to their findings are the differences between Japan and the United States in their funding, appointment, and promotion systems. In the United States, the requirements for funding by bodies like the NIH are, first, the feasibility and scientific significance of research and, second, the competence of the ap-

plicant as judged by their publication record over the past several years. The grant applications are huge, often as thick as a monograph. In Japan, by contrast, a grant application form from the Ministry of Education, Science, Sports, and Culture is relatively simple, and a young researcher in reality cannot apply for a grant of more than \$40,000 per year. Although these applications are, of course, peer reviewed, in a small country like Japan, there are a limited number of researchers. These people most likely know each other, and therefore they try and distribute money equitably.

With respect to appointments, in the United States, a tenure-track researcher must publish a certain number of papers to achieve tenure, whereas in Japan, appointments are usually tenured automatically from the level of assistant professor, and salaries are guaranteed until retirement, regardless of accomplishments in research. There are good and bad things to be said about both systems. For example, in the American system, competitive efforts produce highly scientifically evaluated papers. However, relatively short and quickly developed papers are also produced in great numbers. The rush to publish does not enable researchers to focus on areas that take a long period to come to fruition. Also, the pressure to publish means that there is frequent opportunity for acts of scientific misconduct, such as fabrication, falsification, and misinterpretation of data. Fundamental to the differences between the two systems is the difference in the value of having large numbers of papers published and the value of being a first author.⁵

What Should We Do When Confronted by Unethical Practices?

It is important to ask what students can do when they feel uncomfortable

about their supervisor's actions. After talking to the immediate supervisor, the next response may be to consult with a research ethics committee or go directly to the general supervisor or dean. This would be considered an act of internal, personal whistle-blowing.⁶ As a first step, it is a moral requirement to address the immediate supervisor and then exhaust all internal, institutional resources that deal with complaints of this kind. If no satisfaction can be found using these methods, then the student has several options. First, she may take the misdemeanor outside the institution concerned (an act of public whistle-blowing). Second, she can dissociate herself from the publication or action, or, third, actually follow the publication order given by the supervisor. The third alternative may seem to be overly submissive. However, at institutions where whistle-blowers are not protected, even if their cause is just, this is the only way to avoid professional suicide.

Regarding the case of "Unethical Author Attribution," adding the name of the girlfriend, who has no relation with the research is an extreme example of an unethical practice. A less extreme, but still highly problematic situation may arise more frequently, whereby a supervisor may pressure a researcher to include another person who has not worked directly on the project. Although this behavior is a kind of coercion, in such situations it often pays to think through the options with great care.

It is my view that 150 hours of work on a project (suppose the researcher in question worked for 10 hours per day, which means he spent 15 days altogether) is not enough to perform a full research experiment from the onset. Although the student asserted that the supervisor did not give any guidelines or guidance for the research, these relatively short hours of work tempt

me to suspect that there was enough previous research, including a pilot study, that enabled the student to obtain successful data in such a short time. The amount of time spent puts the student in a weaker position when making his case.

How, then, are we to judge contributions to research papers? Modern scientists must address such problems of professional ethics and work to achieve a consensus so that problems like the one presented here may be alleviated. The values and norms of different cultures may also influence these decisions. Therefore, international societies of scientists need to further develop tools to solve possible conflicts, balancing cultural values with the objectivity of science.

Notes

1. International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. *JAMA* 1993; 269(17):2282-6.
2. In a search of Medline using the keywords "scientific misconduct," 108 articles (including letters and commentaries) were found for the period 1985-1990, 587 for 1991-1995, 263 for 1996-1999.
3. Fetters MD, Elwyn TS. Assessment of authorship depends on culture. *BMJ* 1997;315:747.
4. See note 3, Fetters, Elwyn 1997:747.
5. For their discussion concerning this section, I am indebted to Drs, Todd S. Elwyn at the University of Hawaii, Honolulu, and Michael D. Fetters at the University of Michigan, Ann Arbor.
6. Whistle-blowing has often been discussed in the arena of business ethics. It can be classified into (1) internal versus external; (2) personal versus impersonal; and (3) governmental versus private-sector whistle-blowing. DeGeorge has proposed five conditions for whistle-blowing to be morally justifiable, permissible, and obligatory. His analyses focuses on nongovernmental, impersonal, external whistle-blowing, the motivation for which is moral, rather than for revenge. The five conditions are: (1) there is a serious and considerable harm to the public; (2) the whistle-

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blower should report to the immediate superior; (3) the whistle-blower should exhaust the internal procedures and possibilities within the firm; (4) the whistle-blower must have accessible, documented evidence that would convince a reasonable, impartial observer; and (5) the whistle-blower must have good rea-

sons to believe that by going public the necessary changes will be brought about. Conditions 1–3 constitute morally permissible whistle-blowing, and conditions 4 and 5 morally required whistle-blowing. See: DeGeorge RT. *Business Ethics*. 3rd ed. New York: Macmillan; 1989:200–6.