Vivian Weil's Commentary on "Fair Play"

Commentary On
Fair Play

The vulnerability of graduate students and post-docs is the concern that drives many research ethics cases. Subject to the power of principal investigators and others in authority, graduate students and post-docs figure in situations in which they seem to be at the mercy of senior investigators. In many cases, supervisors appear to have failed to devise effective channels of communication and to set out explicit policies for control of data and publication. This case shows how such a failure by a principal investigator can harm that investigator's own interests in publication and recognition. The issue of fairness, as the title suggests, is central. Does Abbott treat her master's student with fairness? Does the student deal fairly with Abbott? In the background are issues about the working of the "system," for example, the overburdening of an untenured assistant professor.

Abbott is an over-worked tenure-track assistant professor who has adequate funding but a modest publication record. Busy with extensive teaching duties and many graduate students, Abbott has to take on Mary, a newly admitted terminal master's candidate. She places Mary in an ongoing project in her lab, apparently without providing for careful orientation.

Although Mary does well in graduate study and gets along reasonably well with Abbott, she does not see her supervisor often, but she is in touch with other students and a post-doc in the lab. Finding basic research exciting, she decides to pursue a Ph.D. in biochemistry instead of following her original plan to go into medicine. When Mary discusses with Abbott her plan to continue her graduate studies at another university, Abbott, in the midst of her many duties, appears to concern herself only with the most pressing issue, writing a letter of recommendation for Mary. Omitted from discussion are matters related to Mary's separation from the lab, for example, the matter of data management.

At the close of her second year of graduate study, when Mary has finished her work in Abbott's lab and has been accepted for graduate study elsewhere, she agrees

with Abbott to write papers based on her master's research, after settling into her new place. Evidently, Abbott again fails to have a full discussion with Mary about issues raised by her separation from the lab. Such matters as control of data, authorship, and recognition should be covered by clear policies, which should have been explained to Mary at the outset of her graduate study.

Occasions for review of policies and expectations are offered by Mary's announcement of her intention to pursue the Ph.D., Mary's thesis defense, and Abbott's discussion with Mary about Mary's future publication plans. It may be that Abbott gives more careful attention to her Ph.D. students and post-doc and tends to ignore an able master's student in her lab. Nevertheless, Mary goes off, inspired to pursue further study, having learned the ropes, to the extent that she has learned them, from other graduate students and the post-doc.

After Mary's departure, Abbott becomes even busier. While carrying an increased teaching load, Abbott does consulting work for local biotechnology firms, and she is writing a new grant proposal based partly on data generated by the projects Mary and the other graduate students carried out. This reliance on the data generated by her students is a point of some importance. Abbott's use of that data indicates its value for continuing funding, as well as for advancing knowledge and gaining recognition. Attending to her students' data in writing the proposal should jog Abbott's memory about the publications she expects from Mary. This should be an occasion for renewing contact with Mary. Apparently, until spring of the following year, Abbott is out of touch with Mary. She never hears from Mary, and she does not follow up on Mary's progress in writing papers based on her master's work. Then, browsing through the abstracts for the upcoming Biochemistry Society's meeting, she notices an abstract submitted by Mary and her new adviser at the university where she is now a Ph.D. student. Realizing that the work it describes is very similar to the master's research Mary had carried out in her lab, Abbott must have some questions. 1) Is the work reported actually based on Marys research in Abbott's lab? 2) If so, why does it carry her new adviser's name as one of the authors? 3) Has Mary taken any other steps to report publicly her master's research?

There are several reasons for Abbott to contact Mary and pursue answers to these questions. In the grant proposal presumably submitted by now, Abbott has used data that Mary generated. If the first public report of Mary's data is in the abstract for the annual meeting, there may be complications for Abbott's grant proposal. Assuming that the review process is not complete and that the abstract covering

data in the proposal, without Abbott's name, comes to the attention of reviewers, the latter may have some questions that could delay a decision. Even if events do not unfold in such a way as to interfere with an award of funding for the new proposal, Abbott may have difficulty garnering credit for her contribution to the research achievements of her students and post-docs. This result may not be unfair, at least with respect to students like Mary, who received little attention from her.

In addition, there may be continuing confusion about the source of the research. Who performed it? In what research group? This confusion could create difficulties for following up or building upon the research. Moreover, the integrity of the research process is at issue. Appropriate ethical standards require that a person in authority can account for the handling, maintenance, use and interpretation of data produced with her funding. It seems that Abbott, caught up in her many duties, has not taken ordinary prudent precautions to protect data upon which she herself depends for future funding. This dependence is one important consideration directors of research often invoke to defend their control over data generated from their funded projects by graduate students and post-docs.

Lacking information about the situation Mary finds as a new student in Jonas's lab, we cannot be certain about the basis for including Jonas's name on the abstract. The abstract seems to depend on work Mary did in Abbott's research group. However, it may turn out that the abstract in whole or in part reports new work Mary did in Jonas's lab. We may safely assume that Mary would have informed Abbott if she had completed any of the expected papers. It may now be too late for Mary to publish the papers she led Abbott to expect.

The fairness issue must be considered in light of the preceding discussion. In failing to give Mary an appropriate orientation to graduate study, Abbott treats Mary unfairly, especially if Abbott is more careful with the Ph.D. students and post-doc. Having left Mary on her own to carry out research, Abbott cannot fairly claim to be a co-author of any publications Mary derives from the research unless Abbott contributes significantly to those publications. In fairness, Mary should acknowledge Abbott for funding support in any publications Mary produces from research in Abbott's lab. On the facts given, it does not seem that Abbott has a legitimate claim to having her name included as an author even if the abstract is based on data from her grant.

Mary's failure to contact Abbott after her departure is open to ethical criticism. She had led Abbott to expect papers from her, and she owes Abbott a follow-up. Mary's failure would be more objectionable had Abbott paid careful attention to Mary. If Mary is unfair in this respect, her unfairness mirrors Abbott's treatment of her. However, to the extent that Mary's published abstract is based on her research in Abbott's lab, fairness to Abbott is not the only problem about the inclusion of Jonas's name on the abstract. It is deceptive to name the new adviser if he had nothing to do with the work covered in the abstract. To the extent that he actually contributed to the abstract, it is less defensible to charge Mary with unfairness and deception.

It may be that Jonas has insisted on adding his name while contributing little or nothing to the abstract. The less Jonas contributes and the more he insists, the more unfair to Mary. If the abstract represents Mary's work under Abbott and "honorary" listing of Jonas's name, we can be certain that Mary has had no proper orientation to ethical norms in scientific research under either of her advisers. She may not even understand that it is a violation to mention an adviser as author if the adviser contributed nothing. Again, we see why it is important for advisers to articulate clear and defensible policies. While neglecting students may not be as objectionable as insisting upon honorary authorship, it may nevertheless have damaging consequences for research. Among them, perhaps, is ruling out opportunities for productive sharing and collaboration between two research groups with common interests.

This case raises concerns with the "system" of research and graduate education that have to do with the excessive demands on Abbott. Her heavy schedule does not justify or excuse her management of this graduate student. However, we have to note that arrangements for supporting research and the training of graduate students that put such strains on apparently competent people like Abbott are dangerous to the health of the scientific enterprise. Within research groups and departments, these issues about the "system" should be recognized along with issues about advising, mentoring, authorship, and recognition. They should receive attention in other parts of the system as well (e.g., funding agencies and professional societies).