

# Vivian Weil's Commentary on "Bad Chemistry"

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Major tasks in managing research groups are building collegiality and fostering cooperation. Success in this effort requires ongoing attention and self-scrutiny, for research environments are affected at many points by competitive pressures that can become divisive. This case is valuable for presenting a form of competition that is frequently reported but seldom discussed. It describes a situation at a major research university in which two graduate students, progressing through the program at about the same time and pace, become competitors for the favor of the professor who heads their research group. At the juncture highlighted in the case, near the end of their training, their contrasting styles and rivalry have led to an open conflict.

Striving to emulate Dr. Imhof, the head of the research group, one of the students, Tom Jones, has developed an aggressive manner and ambitions for the kind of position held by Imhof. In contrast, the other student, Dan Michaels, is quiet, reserved and aims for a career teaching in a small liberal arts college. At a weekly meeting of the research group when students summarize their future plans, Michaels describes "a fairly major departure from what he has been doing but hopes to get to soon."

At such a moment, an attentive group head might notice that this usually reserved student has proposed a relatively bold idea. The group head has a duty to consider how to help this particular student move forward with an "interesting" idea that might (or might not) work. In an interview about one of his notably successful students, one senior scientist "describes his pedagogical approach as 'watching discreetly and carefully.'" (University of Chicago 1997, p. 19) It is part of Imhof's responsibilities to draw out his students' best work. A group leader's timely, encouraging response can make a difference to a graduate student's progress. From the casual remark that Imhof drops, it is evident that he is not mindful of this opportunity to offer thoughtful encouragement. That kind of thoughtlessness could

allow (or even help) a damaging rivalry to grow over a period of years.

Apparently, neither Imhof nor Michaels brings up the proposal at subsequent weekly meetings. By returning to Michaels's idea, Imhof might have prompted Michaels to pursue it. In showing continuing interest, Imhof might have been more effective than on the earlier occasion.

In his aggressive way, Jones takes advantage of Michaels's failure to follow up on Imhof's casual positive response. Apparently without a word to either Imhof or Michaels, Jones encourages an incoming graduate student, Dave Perry, to pursue Michaels's idea and helps him succeed with it. While Jones shows initiative that is valuable in science, his proceeding without clearance from Michaels and Imhof is not ethically defensible. Michaels has some claim to a proposal he made public, and Jones and Perry should not have gone ahead without acknowledging his claim.

Imhof focuses only on the successful outcome of the experiments and the prospect of a publication. He fails to consider appropriate procedures and seems to have forgotten that Michaels had originally proposed the research. It is his responsibility to see that operative procedures are in place to cover exchange of ideas so that students behave with respect toward one another. Admittedly, Michaels failed to do what he said he planned to do, but that does not justify Jones's taking over his proposal without a word to Michaels or Imhof. By failing to notice how it came about that Perry and Jones pursued Michaels's proposal, Imhof encourages divisive competition within the research group. There is evidence to show that in research groups that strongly emphasize competition within the group, trust is undermined and suspicions of misconduct arise. (Anderson, Louis and Earle 1994) Such carelessness obviously interferes with building cooperation and collegiality.

For Michaels, Imhof's satisfaction with Jones is an intolerable instance of Imhof's favoritism. He goes to Imhof's office, asserts that he alone should get credit for the research and demands disciplinary action against Jones. Imhof's insensitive and rude reply reflects his bias toward aggressive pursuit of research, his lack of appropriate concern about procedures in the research group and his disdain for careers in science that emphasize teaching. It is difficult to imagine a positive outcome from this blow-up.

Although Michaels's distress is understandable, the responses he looks for are unrealistic and unjustifiable. Since he did not carry out the research he proposed,

he cannot claim sole credit for synthesizing and determining the structure of the chemical compound. However, for originally putting the idea forward he is entitled to credit, at least an acknowledgment in the published paper. It is not clear that Jones violated any rule or policy of the research group so there seems to be no basis for punishment. However, Jones's acting behind Michaels's back is ethically objectionable, and ground rules should have been in place that prohibited that action. Imhof should not have viewed Jones's action as an acceptable approach to investigation.

In his distress, Michaels errs in thinking that punishment is an appropriate response to Jones's action and a suitable approach to establishing standards in a research group. It would be justifiable to expect that Jones and Perry should be required to acknowledge that the idea for the research came from Michaels. A responsibly managed research group will have clearly explained policies about exchange of ideas and should monitor compliance. Unfortunately, Imhof seems so accepting of unrestrained competition that there is not much reason for optimism about responsible management of this research group.

Imhof's personal bias (apparently) favoring Jones and his bias against teaching and alternate careers in science are ethically objectionable. He is, of course, entitled to his preferences among students and may not be able to control the "chemistry" of his relationships with students. But he should be alert to the dangers of playing favorites and the obligation to treat students fairly according to explicit, accepted policies.

At a time when academic positions such as Imhof's are exceedingly scarce, he has an even greater obligation not to denigrate alternative careers in science that make a positive contribution to society. He is apparently unaware of the fact that liberal arts colleges produce a disproportionately large share of science graduate students. Presumably, that is because these colleges provide students the kind of close association with a watchful scientist unavailable to undergraduates in large research universities. In Imhof's research group, such an association is unavailable to graduate students as well.

Finally, this case raises the question of what options there are for graduate students in such situations. At a much earlier point, Michaels might have considered whether Imhof's group was a good fit for him. In a large university, there may be alternatives. Having opted to remain, he should have searched out other, more

compatible senior people for research and career advice, taking initiative and not remaining passive. At this point, Michaels might turn for advice to such a person in his department or in an appropriate administrative office. In a large research university, there should be an administrator who is available for help with problematic situations of this kind.

In the end, perhaps, among the clearest lesson from this case is the need for research heads to give explicit attention to formulating and justifying ground rules for their groups and to keep a watchful eye on students' progress within those frameworks.

## References

- Anderson, M.; Louis, K. S.; and Earle, J. "Disciplinary and Departmental Effects on Observations of Faculty and Graduate Student Misconduct." *Chronicle of Higher Education* 65 (No. 3, 1994): 338.
- "John Grunsfeld: Developing Independence." *A Vision of Excellence: The University of Chicago Annual Report 1996-97*, p. 19.