20.400 – Issues of Scientific Misconduct

Questions for consideration when reading the accompanying papers:

1. How much scientific misconduct can/should be tolerated in research? Do you think that it is better now, worse now, or the same? Why? What is the role of limited resources and self-promotion?
2. What is necessary for the relationship between science and society to remain mutually beneficial (symbiotic)?
3. What role do our biases play on our scientific judgement?
4. In reading, "The fraud of Abderhalden's Aberhalden's enzymes", did he actively commit scientific fraud? Do you believe he firmly believed he was right about his defense enzymes?
5. The failure of Michaelis to reproduce Abderhalden findings ended his academic career in Germany – Can this happen today? Are things different and how?
6. Was it wrong for many biochemists, who likely knew better, not to stand up and out against Abderhalden? Does this happen today? Do we learn to stand up or to stand down in science? How much time is necessary for science to auto-correct?
7. Deichmann and Muller-Hill wrote, "In medical biochemistry, ideas or hope may be stronger than experimentally proven reality." Is this true? If it is, what are the implications on science, medicine and society? Finally, is scientific misconduct a bigger problem for biological/biomedical sciences?
8. In the commentary, "Scientists behaving Badly," they suggest that 1/3 of the survey responders had been guilty of at least 1 of the top 10 behaviors – is that okay? What is driving this behavior?
9. How should we teach/learn/discuss issues of ethics? Is it always obvious what to do and not to do?