

Adam Richter – Teaching Philosophy Statement

Among teachers of university classes, historians of science occupy an unusual position. Few of the students who take my courses intend to pursue a career in the history of science. I regard this as an advantage rather than a drawback. As a historian of science I have a rare opportunity to show students in other fields the importance and the pleasure of historical research. While I always aspire to turn a few of my students into historians of science, I believe the true value in teaching this subject is the opportunity to interact with students in the sciences and the humanities alike. In my courses, I look forward to helping all sorts of university students to think a little differently about the role of science in our lives, about how to communicate about science, and about how they can benefit from studying science's past in addition to its present and future.

HPS and the value of the humanities

While I identify as a historian of science, I am also trained in the philosophy of science. These interrelated fields share a common motivation: to investigate why we take certain features of modern science for granted in the twenty-first century. One of my main goals as a teacher is to help students in science, technology, engineering, and medicine (STEM) to appreciate the lessons offered by the humanities. A major challenge of teaching history and philosophy of science (HPS) is that, compared to *doing* science, the benefits of *studying* science are less concrete and immediate, especially for the many STEM students who take HPS courses because they seem like the least objectionable way to satisfy a humanities requirement for their degree. Regardless of why such students take my courses, I believe that HPS provides an important complement to an education in STEM subjects. My goal is to help these students to realize that they become better scientists when they can appreciate an outsider's perspective on their field. In the classroom I emphasize that our modern understanding of science resulted from historically contingent process and involves a range of philosophical assumptions. I encourage students to think critically, often for the first time, about why we trust empirical data; why we characterize science as neutral, objective, and secular; and why scientists occupy a position of such authority in our society. By showing how history and philosophy apply to their own work, and by encouraging a more critical and nuanced discussion of the role of science in our world, I aspire to help STEM students to appreciate the value of humanities research.

What do historians of science do?

When I took my first history of science course as an undergraduate, the text that sparked my passion for the subject was Galileo's famous Letter to the Grand Duchess Christina, which discusses the relationship between the Bible and science. As I came to appreciate his sophisticated and respectful attitude toward religion, my simplistic understanding of Galileo as a "man of science" crumbled. It was then that I envisioned myself studying the history of science as a career for the first time. I have often reflected on what made this moment so powerful for me, and I believe that this was when I really understood that studying history is about more than collecting facts: instead, it is about approaching texts in new ways and allowing oneself to be surprised by what one learns. As a teacher, in an effort to give my students a similar experience, I strive to show them what we historians *do*, not just what we *know*.

Even at the university level, I have often spoken with students who believe that studying history is about memorizing dates and events. To address this misconception, I design lectures and assignments that reflect the practice of historical research. For instance, I draw attention to recent

methodological developments such as the emphasis on iconography (i.e., the symbolic interpretation of images) and the proliferation of digital resources such as online databases. In addition, I consistently identify reasons, both good and bad, why scholars focus on certain subjects. For instance, historians of science have tended to focus on England in the seventeenth century, both because dramatic changes occurred there in this period, and because English-speaking historians find the sources from this time and place relatively easy to handle. I encourage students to think about and to discuss such details of historical practice, especially in tutorials. Finally, my courses require students to read many primary sources and to analyze them in written assignments. This gives them a sense of what original historical research is like, which is a valuable insight both for historians of science in training and for STEM students trying to understand what historians actually do.

Finding the humour in ‘dry’ history

History is anything but boring. On the contrary, it is dramatic, confusing, tragic, and often absurd. Nevertheless, those who teach history have to contend with the assumption that it is an inherently dry subject. I have found that students care about history when they enjoy it, and they enjoy it when they have a chance to laugh about it. When possible, I introduce students to historical sources and events that are funny on their own, such as early modern plays that mercilessly ridicule the Royal Society. At other times, I inject humour into history with Monty Python videos or verbal jokes. While I make sure that these moments do not take up too much class time and become a distraction, I believe that they go a long way toward keeping students’ attention and cultivating their interest in history. If nothing else, these moments of levity give them a short break from the pressures of taking numerous difficult university classes. Finding the humour in history is an effective and relatively easy way to ensure that students are enjoying their classroom experience.

Written assignments suitable for all levels

I treat academic writing like an art form: while the fundamental skills are crucial, even the most experienced writer needs to practice and to refine her abilities. Because HPS classes tend to attract student from a wide range of departments and backgrounds, students’ experience and comfort with written assignments vary considerably. Many students are intimidated by academic writing in general, while others are unfamiliar with historiographical conventions and submit essays written like laboratory reports. Others still excel at essay writing and would gain nothing from a simplistic assignment: they need to be challenged.

One of my goals as a teacher is to design written assignments that contribute to the development of students at all skill levels. Firstly, I devote entire tutorial sessions to writing skills, with an emphasis on how to construct a cogent argument, how to maximize the impact of important points, and how to write clearly. Secondly, I design the assignments themselves such that an inexperienced student can rely on assigned readings for factual information, while more confident students can probe the sources more deeply or conduct additional research on their own. An assignment on Copernicus, for instance, might ask students to evaluate his arguments for a sun-centred cosmos. Some students will address only the factual accuracy of his statements, while others will compare his writing to other assigned texts from the course, consider the genre of the text and its intended audience, and draw on the wealth of secondary sources written about Copernicanism. I also ensure that every student receives specific, actionable feedback intended to improve her writing. In my view, teachers have a responsibility to help their students develop their writing skills, and this consideration guides every stage of the development of my courses.

Inclusiveness in the Classroom

My training as a researcher and educator took place in Toronto, which has been called the most multicultural city in the world. Accordingly, the University of Toronto is an institution where members of dozens of different cultures can come together and share their unique perspectives. While serving as a course instructor and teaching assistant for several courses at U of T, I was fortunate enough to interact with students from numerous different backgrounds. This was one of the most enlightening and rewarding parts of my doctoral training.

I believe that it is our responsibility as educators to ensure that every student finds the classroom experience welcoming, accommodating, and respectful. Inclusion—not only in terms of culture, but also gender, disability, sexual orientation, or socioeconomic status—must be among our top priorities. This is not only because all students deserve a fair and safe learning environment. When we expose our students to different points of view, we encourage them to question their assumptions, to empathize, to think deeply and critically—ultimately, to become more well-informed citizens, which is perhaps the chief aim of higher education.

I have found that inclusiveness in the classroom requires planning, care, and a willingness to learn. It must not be an afterthought. Educators should seriously consider this matter as they develop their syllabi, as they plan lectures and tutorials, as they grade assignments, and as they receive feedback from students. Only such sustained attention to inclusiveness allows it to become an integral part of one's evolution as a teacher. To that end, as I continue to develop my course content, I strive to include more and more material that relates to different cultures. Furthermore, I believe that, as we strive to make our teaching more culturally inclusive, we should not take for granted that students are familiar with the same cultural points of reference that we educators are. For instance, when I teach about religion in early modern Europe, I have found that I cannot assume all students know the pertinent figures and narratives from Jewish and Christian scripture. Learning to anticipate such moments is an ongoing process, but it is something I consider while planning every lesson.

Above all, I believe that the key to cultural inclusiveness in the classroom is humility. This was perhaps the most important lesson I learned from educating the exceptionally multicultural student body at the University of Toronto. In many ways, we teachers are experts, but we must also be willing to learn from our students. In terms of making the classroom experience safe and accommodating for everyone, each of us can improve, and each of us should continually strive to adapt to the diverse and changing needs of our students.

Teaching goals for the future

Although lecturing has been consistently rewarding, I look forward to teaching in different formats. In particular, I am eager to design and teach seminar courses for graduate students and upper-year undergraduates. While my lectures are designed to appeal to students across numerous fields, the seminars that I intend to develop will be tailored to the particular needs of junior historians and HPS scholars. Thus my seminar courses will focus on in-depth research, oral presentation modelled on conferences, and written assignments corresponding to particular kinds of professional historical writing, such as book reviews. In addition, in supervising graduate students' research, my approach will be built on the same principles that I have described above: I will encourage constant attention to the crafts of research and writing, but also finding the pleasure in historical research. These principles are fundamental to my teaching style, and I look forward to finding new ways to incorporate them in a variety of teaching formats.