

TALKING UNTIL WE ARE “FLU” IN OUR FACES (TAKING MICROBIOLOGY FROM THEORY TO REALITY)

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Over the years of my teaching microbiology courses at various levels, I have frequently incorporated information regarding relevant current microbial issues – often taken from newspaper articles and / or television news reports such as New York Times reports regarding the 1999 West Nile virus outbreak in New York City (Jacobs). Prior to my experience with Writing Intensive (WI) biology courses, these microbiology-oriented headline topics were relegated only to discussion. After my experience of teaching a WI introductory biology course and while developing my WI microbiology course, I made it a habit of incorporating writing assignments based on N.Y. Times articles (or similar news articles) into the course assignments such as an article on the death of a woman in her 40s in Brooklyn from meningitis caused by *Neisseria meningitidis* (Pérez-Peña) – initially as extra credit assignments and subsequently, as required assignments. I chose assignments and reading material judiciously, wanting students to explore microbiology principles in the context of pertinent microbial infectious diseases agents such as enterohemorrhagic *Escherichia coli* (the spinach outbreak in fall 2006 [Gardiner]), the lethal methicillin-resistant *Staphylococcus aureus* (that killed the seventh grader in Brooklyn in fall 2007 [Hu and Kershaw]) and *N. meningitidis* (every semester when our students register they are asked their vaccination status against this microbe). Having students read and write about articles relevant to their course material is in accord with writing to learn goals (Bean 2; Elbow 1; Paul and Elder 2) and General Education principles (AACU 12). All of this was done with the hope that students would take this information into their future course work and future careers and perhaps even have an effect on their personal choices such as getting vaccinated against one of the most notorious and feared causes of meningitis, the bacterium *N. meningitidis*.

However, this past semester of fall 2009 was different. I had a real mission here. In all of the years I had been teaching, never before had we had to deal with a flu pandemic in the here and now (New York City outbreak in April 2009 [McNeil A1]; flu pandemic in June 2009 [McNeil and Grady A12]). And most of us have no personal memories of just how terrifying a flu pandemic can be. The flu pandemic

E. lalongo

history, which they themselves were challenging, and in the process putting women back into history as active participants.

To conclude, with these two assignments I use gender analysis in my history classes to strengthen my students' critical thinking skills, skills which are vital in understanding how history is written, to determine what is behind and between the words. But these skills are not just relevant in the history classroom. I want my students to be able to interrogate all narratives and explanations. I want, in the end, for my students to have what the college promises them in the "Students' Guide to General Education at Hostos": the skills to be an effective member of local, national and global communities; and one of the ways to achieve this goal is to engage the world in an open minded, informed, and critical fashion. And this is where the history class plays a critical role.

Works Cited

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Students generally enjoy Shorter's explanation, especially as it seems to make so much sense—that is until they read a response to Shorter's piece drafted by the early giants of Women's history: Louise Tilly, Joan Scott and Miriam Cohen.

Tilly, Scott and Cohen argue that Shorter is wrong on all counts. They point out that women were not so subordinate or exploited as Shorter argues. They, in fact, were integral and respected members of the family economic unit. As such there was no burning desire to “escape” the family and the countryside. Women went to the cities to work so that they could send money back to their families. Moreover, they argue, Shorter's claim that women could live on their own in the cities and enjoy their new found freedom is simply not true. They show that women could not possibly live on their own, as they were not paid enough. Moreover, most women lived in dormitory-type settings where their behavior was closely monitored, or, if they were housekeepers, they lived in their master's home. Neither one of these options allowed for the sexual escapades that Shorter assumes took place. Yet, what is their explanation for the rise in illegitimate child births? They argue that women, far from trying to break away from traditional family ideas, tried to re-create them in their new urban environment. The combination of loneliness and the economic impossibility of living on their own compelled many women to seek out potential mates and to build a new family. And, as was the custom in the countryside, a promise of marriage legitimated-pre marital sex. However, in the volatile economic marketplace of the city, where jobs were frequently changed, and in the absence of traditional cultural and familial pressures that forced men to keep their promises of marriage, many women were abandoned.

By this point the students are generally in agreement that Shorter's analysis relies too much on assumption, and not enough on real statistical evidence, as Tilly, Scott and Cohen do. This consensus is deepened when I ask them exactly what type of evidence Shorter uses, and they realize his sources are all older, wealthy men in positions of authority who did not have any real contact with young, single poor women, and thus could only record their impressions of what these women did and why they did it—that is, that these women were engaged in sexual liberation.

But an issue remains. Why would Tilly, Scott and Cohen so thoroughly discount the notion that at least some women took advantage of separation from their families to explore new forms of liberating behavior, especially when their article was written in the midst of the women's rights movement, when sexual liberation was an integral part of women's empowerment?

It is through a discussion of this issue that the students come to realize that Shorter's emphasis on a sexual revolution is actually a bad thing—that he himself viewed women's sexual liberation during the Industrial Revolution, and likely during the 1960s and 1970s, as irresponsible. Moreover, students come to realize that Shorter is perpetuating the long-held myth that women are ultimately motivated by emotion, and not reason, and thus the negative consequences of their actions—an increase in the illegitimate birth rate. As such, students also realize that Tilly, Scott and Cohen's narrative that argues women made reasoned decisions throughout their lives, and never emotionally-driven, irresponsible ones—that they went to the cities to help, not escape their families, that they sought to create stable family units in the cities, and not simply engage in mindless sex—is not just a response to Shorter. It is a broader response against a mindset that relegated women to the margins of

E. Lalongo

laws they had no hand in shaping, that when married women lost all legal identity, that women had no guaranteed right to independent ownership of property, or to the wages they earned, that the laws compelled a women to obey her husband, to recognize him as her master, that society denied women profitable employment, reasonable pay and the ability to achieve advancement through education, and had created a double-standard of sexual morality, by which women were chastised for behavior which was broadly tolerated for men. They concluded:

Now, in view of this entire disfranchisement of one-half the people of this country, their social and religious degradation—in view of the unjust laws above mentioned, and because women do feel themselves aggrieved, oppressed, and fraudulently deprived of their most sacred rights, we insist that they have immediate admission to all the rights and privileges which belong to them as citizens of the United States.

And thus, my students arrive at the founding document of the American women's rights movement through a critical, gendered analysis of the Declaration of Independence.

Another assignment I like to use to sharpen critical thinking skills through gender analysis is an investigation into whether the Industrial Revolution led to a sexual revolution in women.

I prepare my students first with a lecture on the basics of the Industrial Revolution, highlighting that the new industrial economy necessitated and led to large-scale migration from the countryside to the cities, both to take advantage of the economic opportunities in the new industrial cities, and to escape economic hardship in the countryside. Having established the basic facts, I bring my students into a deeper conversation about one of the more controversial aspects of the period. Why was there a spike in illegitimate child births that happened at the same time as the Industrial Revolution? I have my students read two articles which directly address this issue, for which my students write me a paper, which we then discuss in class.

My goal for this assignment is to highlight how different assumptions about women's motives can lead to fundamentally different conclusions in this debate, and how the debate can be influenced by the era the historians were writing in. Edward Shorter argues there was a sexual revolution. His explanation for the jump in illegitimate child births is fairly straight-forward. Women, he argues, had traditionally been the subordinate, powerless members of their families, whose role was simply to obey their fathers or, later, their husbands. They were also held hostage to the strict moral codes of the countryside. However, he continues, the experience of the industrial revolution led to an empowerment of women, especially young, single women. Women were now making their own wages, living away from their families in the cities, and living amidst a working class population that reinforced this new sense of independence and freedom. This new found freedom expressed itself in a desire to challenge traditional taboos against pre-marital sex, and, in the absence of readily available contraception, the result was a pronounced increase in the illegitimate birth rate.

John Adams' response was telling, and highlights the fear the Founding Fathers had that in challenging the authority of the British crown all bonds of authority could be questioned. He wrote "our struggle has loosened the bonds of government everywhere," that children were challenging their parents, students their teachers, slaves their masters. "But," he continued, "your letter was the first intimation that another tribe, more numerous and powerful than all the rest, were grown discontented." He dismissed Abigail's concerns, and argued that however the law defined women in society, and it was clear he did not envision them having the same equality that was soon to be announced in the Declaration of Independence, their pre-eminent role in the family would never be challenged by men.

This sequestration to the home was intolerable to Abigail, and it would become intolerable to an increasing number of women in the ensuing years. The claim that equality was the foundation of American society sounded less and less convincing in the face of women's persistent second-class status in American society. The result was the Declaration of Sentiments, released in 1848, at the birth of the American women's rights movement in Seneca Falls, New York, by Elizabeth Cady Stanton and Lucretia Mott.

Stanton and Mott demanded that America must be true to the universal principles of equality and natural rights that the country was founded on, and as such they purposely crafted their document on the Declaration of Independence, pointedly emphasizing the inclusion of women and their rights in a male-dominated society – pointedly emphasizing as well that the male exploitation of women paralleled the British exploitation of America as detailed in the Declaration of Independence. They wrote:

We hold these truths to be self-evident: that all men and women are created equal; that they are endowed by their Creator with certain inalienable rights; that among these are life, liberty, and the pursuit of happiness; that to secure these rights governments are instituted, deriving their just powers from the consent of the governed. Whenever any form of government becomes destructive to these ends, it is the right of those who suffer from it to refuse allegiance to it. . . .

. . . [and] when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their duty to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of the women under this government, and such is now the necessity which constrains them to demand the equal station to which they are entitled. The history of mankind is a history of repeated injuries and usurpations on the part of man toward woman having in direct object the establishment of an absolute tyranny over her. To prove this, let facts be submitted to a candid world.

What followed was a list of grievances as weighty as the original list the colonists had used to justify their independence from Britain, and proved that women had been systematically relegated to second-class status in American society. These grievances included: the denial of the right to vote, that women were subject to

ment, which my students in US History, Part I, do, is a critical reading of the Declaration of Independence – questioning its universal themes based on the reality of those excluded from its promises, and then seeing the long term consequences of this tension – seen in the birth of American Women’s Rights movement. The second assignment, done by my students in Modern World History, investigates if the Industrial Revolution did in fact lead to a sexual revolution for women, and how that story is told has much to do with how contemporary events strongly influence historical narrative.

In discussing the Declaration of Independence, it is always tempting to view it as simply the culmination of the American struggle against British exploitation, against the British threat to American’s natural rights of life and the enunciation of universal principles which other peoples subsequently latched on to – for instance in the French Declaration of the Rights of Man. Certainly, the universal themes of the Declaration need to be understood, and thus I have my students closely read the critical paragraph that begins:

“We hold these truths to be self-evident:

That all men are created equal; that they are endowed by the Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness; that, to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed; that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness.”

In class discussion, the universal themes of equality, natural rights, and the right to rebellion are highlighted from the document. But then, we move on to the problems of this document. Often times a student will ask, “How can we take this document seriously, when it talks about equality and freedom, and yet America had slaves?” And, just as importantly, someone will question how women fit into this document.

To investigate the position of women in the Declaration, I have my students read selections of letters between John Adams, one of the nation’s Founding Fathers, and Abigail Adams, his wife. These letters were exchanged just prior to the issuing of the Declaration of Independence. The goal is to show that even at that time women recognized that in a struggle for freedom and equality, in the birth of a new nation, the fundamental inequality of men and women in American society had to be addressed. Abigail Adams pointedly told her husband, who was then in Philadelphia pushing for independence, that:

In the new code of laws which I suppose it will be necessary for you to make, I desire you would remember the ladies and be more generous and favorable to them than your ancestors. Do not put such unlimited power into the hands of the husbands. Remember, all men would be tyrants if they could.