

Scene on Radio

The Skeleton War (MEN, Part 3): Transcript

<http://www.sceneonradio.org/episode-48-skeleton-war-men-part-3/>

Londa Schiebinger: So, um, what do you want to know about? So one section is gender and science. This section is colonial science....

John Biewen: Professor Londa Schiebinger, of Stanford University, is showing our producer her library, at her home in the Bay Area. Eventually she gets to a framed document on the wall.

Londa Schiebinger: This is the page from Maria Winckelmann's diary. This is the comet that she discovered....

Celeste Headlee: The photocopied page represents Schiebinger's own important discovery, early in her career as an historian. She found the page in Paris, in the astronomical notebooks of a German couple.

Londa Schiebinger: We often think of women coming into science as a 20th century phenomenon. But really, women were scientists and very good scientists in the 17th and 18th century as well. So Maria Winckelmann is an interesting story. She wanted to be an astronomer, she studied to be an astronomer, and she married the leading German astronomer and became the assistant astronomer at the Academy of Sciences in Berlin in 1700.

John Biewen: Winckelmann and her husband made observations, created calendars. Maria herself published several pamphlets on their findings.

Londa Schiebinger: They were doing the work side by side. The telescope would have been the property of the academy. The astronomers lived in the academy, their house was part of the academic building.

There was something called the guild system, which was the economic production system at this time in Europe. And the wife of the guild master was such an important part of the family economy that many guilds required that the master be married. So I think they fit nicely into that pattern and they were both excellent astronomers.

Celeste Headlee: But it was Maria who made the couple's first real scientific discovery. Schiebinger found proof in the notebooks of Maria's husband, Gottfried Kirch.

Londa Schiebinger: The husband writes, 'While I was asleep my wife discovered a comet.' And I thought, well isn't that interesting. (Laughing) Women are always doing most of the work. But no, that's not true. Astronomy at the time was a family business and often the family would divide up the work. The husband would observe one night, the wife would observe another night, and they would then be able to have continuous observations.

[MUSIC]

John Biewen: Discovering a comet is a big deal.

Celeste Headlee: Yeah, it is. But I assume Maria Winckelmann didn't get credit in her lifetime, because the couple's findings would have been published under her husband's name.

John Biewen: You would be assuming correctly. And imagine, a man taking credit for a woman's work.

Celeste Headlee: I'm shocked.

John Biewen: Stunned. But there's an even more important part of Maria Winckelmann's story, which we'll get to a bit later.

Londa Schiebinger: And I see this as a door slamming shut for women.

Celeste Headlee: From the Center for Documentary Studies at Duke University and PRX, this is Scene on Radio. Part 3 of our series, MEN.

John Biewen: It's a season-long look at male supremacy – how we got it and how it works. I'm John Biewen.

Celeste Headlee: I'm Celeste Headlee.

John Biewen: Celeste, could you read this quotation for us? [sliding paper sound]
It also comes from Londa Schiebinger's work.

Celeste Headlee: Sure. Whose words are these?

John Biewen: Well, let's see if you can guess. At least maybe what sort of person might have written it, and roughly when.

Celeste Headlee: Okay, here's the quote: "It would be a pleasant thing indeed to see a lady serve as a professor, teaching rhetoric or medicine; ... or playing the part of an attorney, pleading before judges; or seated on a bench to administer justice in the supreme court; or leading an army, serving in battle; or speaking before states and princes as the head of an embassy."

Celeste Headlee: Okay, so this was obviously written before women were allowed to do those things, so, a couple hundred years ago, a few hundred years ago? An early feminist?

John Biewen: That's right.

Celeste Headlee: And a woman, I assume.

John Biewen: Actually, no. It's a guy.

Celeste Headlee: It's a guy!

John Biewen: Francois Poullain de la Barre, if I'm saying that right, French writer and follower of the great philosopher René Descartes. Poullain wrote those words in 1673.

Celeste Headlee: Wow.

John Biewen: He also wrote, uh, "L'esprit...." Here, you speak French, you'll say it better. Read this part.

Celeste Headlee: *L'esprit n'a point de sex.* The mind has no sex.

John Biewen: By which he meant, women's minds are just as good as men's. Not the prevailing belief among influential men at the time.

Celeste Headlee: So, 1673. That's after the Renaissance. The Scientific Revolution would have been in full swing. Early days of the Enlightenment.

John Biewen: Yes, so people like Leibniz and John Locke are making waves, taking on the old dogmas that were handed down from the ancient world and the church. Ushering in new reliance on evidence – empiricism.

Celeste Headlee: And ideas about natural rights – the right to life, liberty, and property – saying those belong to all people regardless of their rank.

John Biewen: Right.

Celeste Headlee: In principle, though, right? Because in practice, they didn't really mean ALL people. For one thing, those very resourceful white men of the Enlightenment found ways to justify racism, much like their ancestors had.

John Biewen: Yes, as we explored last season on this podcast. But in that quote you read, Francois Poullain, for one, sounds like he's ready for women to have equal opportunity.

Celeste Headlee: Well, mostly. I mean, I notice that "head of state" isn't in the list of things he wants to see women doing. But, you know, in the 17th century, even suggesting that women could be professors or judges was pretty darn progressive.

John Biewen: And actually he wasn't alone. During the Enlightenment, and around the time the American and French revolutions were taking place, there were real fights about whether these newly embraced, God-given human rights would extend to women. And if not, why not? They called it The Woman Question.

Celeste Headlee: No need for a spoiler alert here. We know how the Woman Question was eventually answered. Women would essentially remain the property of men long past the Enlightenment. And a few hundred years later we are still fighting for equal rights. But look, I don't know about other people. I've

never really heard the story of how it all actually went down back then. What went wrong? Why didn't "all men are created equal" become "all *people* are created equal"?

John Biewen: Why did the patriarchy win out for so long over principles of equal rights for all.

Celeste Headlee: So John, you asked Londa Shiebinger and other experts on that time period, so ... tell us what you found out. And then we'll talk about it.

John Biewen: Okay.

One clue to where we're going with this story is that Londa Schiebinger specializes, as a historian, in science.

Londa Schiebinger: And I do research on the history of science and also sex, gender, and ethnicity in science.

John Biewen: She's written and edited a bunch of books, including *The Mind Has No Sex?: Women in the Origins of Modern Science*. That book focuses mainly on the early modern period in Europe, but let's back up further.

Londa Schiebinger: So in the ancient world, there was the theory of humors, which explained where men and women fit in cosmology. [Music] And women were cold and wet, men were hot and dry. And of course the valued quality was

heat. And it was seen, it was thought that women just didn't have the essential heat to have that spark of genius which would make them great thinkers in these societies.

John Biewen: Schiebinger writes about Aristotle, who viewed men as inherently active, and women as passive beings who should simply obey men. Galen, the 2nd century Greek physician and philosopher in the Roman Empire, said women were an inferior version of men.

Lisa Wade: And this was called the one sex theory.

John Biewen: That's Lisa Wade, back again, the sociologist from Occidental College.

Lisa Wade: We didn't really believe that women were somehow different than men. We just thought they were less. For example, we believed that the male genitals were actually just the same thing as the female genitals but outside of the body.

John Biewen: Galen asserted that women's genitalia just lacked the energy, or the "heat," to emerge from the inside of the body to the outside. He also decided that the noblest part of the human body was ... wait for it ... the testicles.

Lisa Wade: And so everything about men was kind of stronger and more present whereas women were kind of thinner, weaker versions of what men were.

[MUSIC]

John Biewen: We can fast-forward well over a thousand years, because these dominant ideas about men and women don't change much in Europe until the Renaissance. Only then, people start rethinking all kinds of things, including the gender hierarchy. The German thinker Agrippa, in the early 1500s, says women are superior to men. Not for the reasons Mel Konner reached that conclusion here in the 21st century – we heard from Konner in the last episode. Agrippa's reasons five hundred years ago were grounded in religion. He said God created Eve last, so she was God's masterpiece. And, Agrippa said, a woman gave birth to the son of God, and a man couldn't do that.

But the Woman Question really got urgent with the Scientific Revolution. For one thing, Londa Schiebinger says, women were part of it.

Londa Schiebinger: Well I was very interested, when doing this book and looking at women in the scientific revolution, that there were a number of women ready and willing to take their place in science in 1700.

John Biewen: She writes not only about the astronomer, Winckelmann, but about other accomplished women scientists of the period. Maria Merian was another German woman. She traveled to South America in 1699 and made important discoveries about tropical insects and flowers.

But getting back to Maria Winckelmann, who discovered that comet while working with her husband at the Berlin Academy of Sciences. For Londa Schiebinger, the more crucial and telling chapter of Winckelmann's life came later:

Londa Schiebinger: So in 1710 her husband dies, and Maria Winckelmann then applies to be the Astronomer of the Academy. And interesting – so, this is all documented. The great philosopher Leibniz was for her. He supported this application with great energy.

Leibniz, voiceover: “I do not believe that this woman easily finds her equal in the science in which she excels. She favors the Copernican system, like all the learned astronomers of our time. ... She observes with the best observers, she knows how to handle marvelously the quadrant and the telescope.”

Londa Schiebinger: But eventually, after two years, the Academy decides that if a woman was their astronomer people would laugh. This is actually what they say. They were a young Academy at the time. Paris was where the scientific action was, not in Berlin. They were looking for status and prestige and they were worried that a woman would destroy that status and prestige. So they deny her.

[MUSIC]

And I see this as a door slamming shut for women. If Maria Winckelmann had been the astronomer of the academy in 1710, it may have been that women would

have followed, that this would have opened a door to the regular participation of women in astronomy.

John Biewen: Celeste, Schiebinger says in her research she found that in the early 1700s, about 10-percent of astronomers in Germany were women. Almost three hundred years later, when she was writing her book, the percentage was lower.

Celeste Headlee: That is incredible. Looking back, we may think it was inevitable. Of *course* Maria Winckelmann didn't get that job. Of course male dominance would prevail for several more centuries. It seems like a given because we know the end of that story, right? But Schiebinger seems to be saying it could have gone the other way.

John Biewen: Yeah. What happened to Maria Winckelmann just looks like a power play by the men in charge of the Berlin Academy. She deserved the job, she was already in the job – and in fact, a few years after rejecting her for the position, they gave it to her son, with Maria as her son's quote-unquote assistant, just as she'd been her husband's assistant. So the Academy retained her services anyway as one of their in-house astronomers.

Celeste Headlee: They just weren't going to give the title to a woman. Just because. That just was not done. But that kind of blatant exclusion was potentially going to get more problematic as you moved further into the 1700s and Enlightenment ideas really took hold.

John Biewen: Right. The old explanations for women's alleged inferiority, the theory of humors and so on, going back to the Greeks, those ideas were crumbling. So if the men in charge were gonna continue keeping women down, they needed a new story.

Celeste Headlee: And that new story involved some creativity with skeletons.

[BREAK]

John Biewen: It would have been such an interesting time to be alive, wouldn't it? The late 1700s, in Europe or the New World. The Age of Revolution, as historians call it.

Celeste Headlee: Yeah well, you're a guy. As a woman, there aren't a lot of places that I'd want to travel back in time to visit, thank you very much. Certainly not as a woman of color. But yes, a fascinating time to think about now, in retrospect. The American, French, and Haitian revolutions. Later there was the Irish Rebellion and the wars of independence in Latin America. Aristocratic or colonial regimes being replaced by these new vibrant republics.

John Biewen: In doing research for this episode, I learned something about that time that I never knew or would have imagined. The changes that came about, say, from the American and French revolutions, in some ways were a setback for women. At least many historians think so. Here's Londa Schiebinger again.

Londa Schiebinger: You know, upper class aristocratic women, say, in France, had a lot of power in the 18th century. So it's not just a continuous, bland subordination.

Celeste Headlee: *Aristocratic* women. So she's talking about wealthy, white, noblewomen in salons, chatting over tea and sips of wine.

John Biewen: Exactly. It's a limited kind of power, and only available to the one-percent, the aristocracy. But the point is, there were women in those pre-revolutionary societies in Europe and Colonial America who were highly respected for their knowledge and intellect.

Celeste Headlee: And these women hosted and presided over gatherings of powerful people, they discussed art and culture, and the issues of the day. Politics. Maybe brokering alliances. So in some cases, they could wield real influence.

John Biewen: Not by virtue of any official position, but because they belonged to powerful families. This is Toby Ditz, she's a history professor at Johns Hopkins University.

Toby Ditz: In those settings, elite women, anyway, can exercise a certain amount of political authority, or they can exercise, let's put it this way, a certain amount of political influence because they are members of those leading families and can act on behalf of those leading families.

John Biewen: But then, and here's Londa Schiebinger again:

Londa Schiebinger: In a way the revolution was a, had a leveling effect, because all women were to be disenfranchised.

Celeste Headlee: OK, John. I need to hear more about this, so take it away.

John Biewen: All right. See you soon.

[MUSIC]

John Biewen: Those old beliefs about men being the rightful bosses of women because the Bible said so, or because men had more heat? By the 1700s, those notions just weren't holding up anymore in societies newly interested in actual evidence. And not only that, this was the Enlightenment, and people were embracing the idea that all people were born with God-given, "inalienable" rights. In the Englishman John Locke's formulation, in the late 1600s, the rights to life, liberty, and property. These ideas were creating new complications for the racist and sexist societies on both sides of the Atlantic, says Londa Schiebinger.

Londa Schiebinger: Now if you wanted to *not* give rights to women or to African slaves or to others in the society, you had to explain from nature why they are not equal. So, anatomy. So the study of the female and the male body takes center stage.

John Biewen: What follows, in the mid-1700s, is what Schiebinger calls a war over skeletons. Scientific illustrators were making the first detailed drawings of female skeletons, and even though this was supposed to be pure science, the drawings were politically loaded. The two that became the most influential were drawn by a German man, Samuel von Sommerring, and a French woman, Genevieve d'Arconville. And this story isn't gonna go the way you might expect. Schiebinger says both had problems, but the drawing by the French woman was the more sexist of the two.

Londa Schiebinger: The German man portrays the female skull as large. The French woman portrays the female skull as smaller. And she portrays the pelvis as very, very large and roomy, very large in proportion to the rest of the body. And it was the skull and the pelvis that became the sites of political debate.

John Biewen: To make this clear: Madame d'Arconville didn't just happen to choose a model skeleton with a smallish head and a broad pelvis. Her drawing was out of proportion with any normal woman. Women's skulls are slightly larger than men's in proportion to the rest of the body. But in her drawing, d'Arconville made the woman's head unnaturally small, and her pelvis very big, even though women's pelvises are no broader than men's. Schiebinger says Thomas Sommerring's drawing was more accurate, but Genevieve d'Arconville's became the more popular image of the female anatomy, the one most adopted by doctors and medical schools. Maybe because it squared with an emerging narrative about gender differences:

Londa Schiebinger: The new anatomy gives a scientific foundation to the exclusion of women, and on top of that is layered a lot of ideology. And instead of, if you take liberal philosophy, that men and women should be equal, there was developed this theory of complementarity. And that's the idea that men and women complement each other. They aren't the equals of each other but they are the natural complements. And this again shows that men should belong to the public sphere of science and the professions and the state, and women should belong to the private sphere of the home and children, of the loving and nurturing private life.

[MUSIC]

John Biewen: This appeal to anatomy helped the patriarchal thinkers win their argument over the egalitarians. And that argument was real, even though in a male-dominated society, the battle took place mostly among men. Here's the Johns Hopkins historian Toby Ditz again.

Toby Ditz: There is constant debate, constant pushback, constant conflict. Even though what you're seeing is a certain kind of stability and continuity, it takes enormous labor to keep reproducing that. And there were always moments when things went differently, could have gone differently, and then there's backlash.

John Biewen: Women like Mary Wollstonecraft called for women's rights in the late 18th century, but before her, there were prominent men. Poullain, who we

heard from at the top of the episode, and other leading Enlightenment thinkers like Buffon, Condorcet, Locke, and Leibniz – all argued, with varying degrees of passion, for the equality of the sexes.

Londa Schiebinger: Yes! Yes. Men are often wonderful feminists.

John Biewen: On the other side were men like Immanuel Kant, Francis Bacon, and, maybe the most pivotal thinker on the Woman Question, Jean-Jacques Rousseau. Writing in the 1760s, Rousseau appealed to the supposed anatomical differences between men and women – women’s smaller brains and bigger pelvises – to back his theory of *complementarity*. Women aren’t less inherently valuable than men; that would have gone against Rousseau’s liberal ideals. Instead, he said, women were just fundamentally different, but different in ways that proved nature designed women to serve men.

Rousseau, voiceover: “The women’s entire education should be planned in relation to men. To please men, to be useful to them, to win their love and respect, to raise them as children, care for them as adults... these are women’s duties in all ages and these are what they should be taught from childhood.”

John Biewen: So, Toby Ditz says, complementarity becomes the new justification for excluding women from ... lots of things. But especially from the halls of political and economic power.

Toby Ditz: And you begin to say, weellll, she's not as rational, maybe, you say that. You draw on that string of discourse. She's rational but not *as* rational. She is disqualified on the basis of her physiology, you know, female physiology. She's disqualified because of her higher maternal duties, you all of a sudden get new ways of defining difference between men and women that would work better to justify exclusion from equal citizenship.

John Biewen: Equal citizenship. On both sides of the Atlantic before the American revolution, only some men ... only some *white* men ... got full citizenship rights.

Toby Ditz: He might be a middling family farmer or he might be a gentleman plantation owner, but he owns property. And in virtue of the ownership of that property, though, he also has authority over a wide range of household dependents. So there's this bright line between the independent head of household and his dependents, and those dependents are everyone from his wife and children to his free white servants and his enslaved servants, both men and women. Um, this figure comes to you not only with property but with authority over this wide range of people. And those things together are what confer on him, ideologically speaking, his, what do we want to say? His virtue, his political virtue.

John Biewen: Toby Ditz has written widely about gender and masculinity in Colonial and early U.S. history. She says the American Revolution kicked out the king and the English aristocracy and, of course, replaced them with a republic. But it was a republic controlled by a fraternity of patriarchal brothers. That white,

property-owning head of household gets to vote. And he gets other civil rights that are denied to all women, black and Native American men, and white men without property – for example, the right to appear in court on one’s own behalf.

Toby Ditz: If a neighbor sues her, *he’s* going to go into court for her, to represent her. So there are a whole series of ways in which....

John Biewen: Now, hearing all this, you could be thinking – OK, it’s one thing to have these ideas in the air, complementarity and so on. But the men in charge of the new United States had to decide whether to base the nation’s laws on these updated patriarchal values, or to be really bold and go for the gender equality that some Enlightenment thinkers were calling for.

John Biewen, on tape: When you talk about that early American period, I’m curious about – and Thomas Jefferson has been a recurring character actually in the previous series we did on whiteness....

John Biewen: Here I’m speaking with Toby Ditz. And I *swear* I don’t have a personal vendetta against Thomas Jefferson. I was not out looking for him, trying to make him the bad guy yet again, but there he was.

John Biewen, tape, to Ditz: It struck, it jumped out at me in your book when you talked about, or your article, when you said he promoted a “narrow, cramped understanding of marriage and the domestic woman.” Can you elaborate on that?

Toby Ditz: Yes. Jefferson is the advocate of a yeoman's republic, agrarian simplicity, but that also means advocate of a expanding territorial empire. I mean, we are both a republic and an empire of liberty. And he had lots, lots to say about that and lots of good company.

[MUSIC]

Toby Ditz: And part of that pitch was that he himself drew a much stronger ideological line between the public and the private, between what matters publicly and what doesn't matter because it is private. And was a fierce exponent of the kind of domesticity I was talking about before that you first see, say, in Rousseau, in which we picture a cloistered private home that shelters, you know, a highly effective marital relationship, married couple, that shelters a domestic woman who is devoted to the cultivation of familial affections.

John Biewen: Obviously, as Ditz says, Jefferson was not alone in promoting these ideals or enshrining them in law. But once again, it seems he can serve as a standard-bearer for the side of the argument that won out. In this new liberal democracy, founded on noble principles of universal human rights, slaves would stay enslaved, Native Americans would be shoved off their homelands in a near genocide, and a woman's place would remain ... in the home.

[MUSIC]

John Biewen: So, Celeste, what do you think? Any takeaways?

Celeste Headlee: What an incredible amount of time we have wasted in justifying patriarchy. We would have been so much better off. We would have saved time, but we also would have made so much more progress if we'd just allowed everyone a seat at the table and had the benefit of all those bright minds and new ideas. I don't know, it just feels like a waste. And also, this is such a great reminder that issues of gender equality are not just women's issues. They are human issues and they always have been human issues. Men can be great feminists, and women, like that French artist who drew the sexist skeleton, they can be tools of the patriarchy.

John Biewen: Yeah, in fact, Madame d'Arconville's attitudes about women were well-documented. In her book, Londa Schiebinger writes that d'Arconville, who was an aristocrat, had a "bleak" view of women and said, for example, that women should not be allowed to practice medicine.

Celeste Headlee: That's internalized sexism. We still have women like her today, working hard to buttress male supremacy and, in some cases they've been nicely rewarded for doing so. But I have another reaction to the story you told. I think it's fair to ask whether the Enlightenment really lost the fight to the patriarchy, or if it's more accurate to say the Enlightenment was never about "all people are created equal" in the first place. Because really, so many of the big Enlightenment thinkers never intended for their so-called "universal" human rights to apply to everybody.

John Biewen: That's true. There were thinkers who seemed to understand the spirit of "human rights for all" in ways that we would recognize today – universal meant universal. But it seems those people were outnumbered and outgunned – forgive the violent metaphor – by those who were talking about a more limited "all men" – those white male yeoman landowners. Or, some of those influential people, and some would say this applies to our friend Thomas Jefferson, some of those people believed human rights should apply to everybody maybe in principle, eventually, but didn't think it was practical to go there just yet.

Celeste Headlee: Eventually. I mean, it took eighty years after the Declaration of Independence for all *white men*, even, to get the vote in the United States. The requirement to own property in order to vote was done away with gradually, state-by-state, between 1820 and 1856. Then you get the 14th and 15th Amendments, in 1868 and 1870, gave citizenship rights to all male persons and also guaranteed the right to vote to freed slaves. Freed male slaves. We know what happened to that guarantee during the century of Jim Crow laws.

John Biewen: Right. And then of course it's not until 1920 that the 19th Amendment prohibits the federal or state governments from denying anyone the right to vote on the basis of sex. It's staggering to me that it's still less than a hundred years ago that this country saw fit to guarantee grown women the right to vote. When my grandparents were born, women couldn't vote in much of the country.

Celeste Headlee: But it did happen in 1920. And here in 2018, there are more women running for office than ever before. And that leads us to just one more lesson that I think we can draw from the history you've covered here. What comes through, again, is that none of this was ever necessary. Right? In a sense it's like race: We think it's normal, some even think it's natural, simply because it's so pervasive in the world as we find it. But it is optional. We could choose another way.

John Biewen: And even if you think there are some innate differences between men and women, on average, as we talked about in the last episode, that's not the same as saying male *supremacy* is inevitable. At all. And of course, as we learned in the first episode, for ninety percent of human history we didn't have patriarchy as we have had it for the last ten thousand years, according to the experts. So male *dominance* is a social construct. And it can be unbuilt.

Celeste Headlee: Just like racism can be unmade. So many parallels, when you listen to this history, between racism and sexism and the way they were justified.

John Biewen: Right down to bad science with skulls. These types of oppression are similar in some ways, and they're also entangled more than we usually admit.

Celeste Headlee: We tend to talk about racism and sexism separately.

John Biewen: And we've done that on this podcast, in the big picture, right? We did a big series on race and now we're doing a series on male dominance. But

next episode, more history: the 19th and 20th centuries in the U.S., and the fights over gender and race.

Celeste Headlee: How those movements for justice interacted, competed sometimes , informed one another, and how in some ways they were one-and-the-same struggle.

[MUSIC]

John Biewen: Recording help this time from Najib Aminy. Thanks to Dirk Philipsen and Jean-Christian Rostagni who did voiceovers for us.

Music by Alex Weston, and by Evgueni and Sacha Galperine. Our theme music is by Alex Weston. Music and production help from Joe Augustine at Narrative Music.

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