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The Godfather of Sexist Pseudoscience

This skull-measuring quack believed women are no smarter than gorillas. So why do his 19th-century ideas still influence education policy?

Narratively | Stephanie Newman

Illustration by Sarula Bao.

In the summer of 1881, Frenchman Gustave Le Bon entered the forbidding Tatras Mountains of southern Poland. A bearded man of 40, Le Bon was a Parisian polymath with an appetite for science, anthropology, and psychology. His mission in Poland was to locate and study the society of Podhaleans living in the Tatras. Using the portable cephalometer he invented years prior, Le Bon hoped to record the skull measurements of these curly blonde-haired, blue-eyed mountain people. Convinced of the relationship between race and intellect, Le Bon suspected that only a superior breed could thrive in the inhospitable Tatras — a race that must have evolved beyond their Polish peasant neighbors. How else could they have built a society on terrain so dangerous that even Russian generals avoided sending troops through the peaks?

With his contraption of steel rulers and pressurized screws, Le Bon measured the

cranial dimensions of 50 Podhalean men. According to his calculations, their heads were larger than both Polish peasants and Jews. The only population Le Bon determined had more brain mass than the Podhaleans were "elite Parisians," among which Le Bon happened to count himself.

Today craniometry is considered pseudoscience. In 19th-century France, however, the measurement of skulls was seen as "so meticulous and apparently irrefutable," that it "won high esteem as the jewel of nineteenth-century science," explains Stephen Jay Gould in his 1980 essay "Women's Brains." As a result, Le Bon earned a reputation as the "father of modern social science." Gould describes Le Bon as a disciple of Paul Broca, the "unquestioned leader" of craniometry, and writes that Le Bon differentiated himself as the "chief misogynist" of Broca's school. While many craniometrists strived to prove the inferiority of non-white races, Le Bon took pride in using his work to denigrate women and dismiss the burgeoning movement for gender-equal education in France.

"There are a large number of women whose brains are closer in size to those of gorillas than to the most developed male brains," he wrote in a fiery 1879 essay against sending ladies to school. "This inferiority is so obvious that no one can contest it for a moment. ... A desire to give them the same education, and to pose the same goals for them, is a dangerous chimera." His remarks explain why he didn't bother to use his cephalometer on a single Podhalean female.

Le Bon's assertions were based on measurements of ancient skulls that Paul Broca excavated from L'Homme Mort cave in 1873. Of the seven male skulls and six female skulls in the cave, the average cranial capacity difference was 99.5 cubic centimeters. Because the modern-day size difference between male and female skulls is larger (129.5 – 220.7 cc^3, to be exact), Le Bon concluded that males had evolved to become more intelligent than females, much as, in his mind, the Podhaleans were evolutionarily more fit than their Polish counterparts.

Children photographed by Le Bon for his study on the society of Podhaleans living in the Tatras.

His leap from data to interpretation seemed justified by 19th-century standards. Charles Darwin himself believed that evolution revealed female deficiencies. In *The Descent of Man* in 1871, Darwin claimed that "the chief distinction in the intellectual powers of the two sexes is shewn by man attaining to a higher eminence, in whatever he takes up, than woman can attain. ... Thus man has ultimately become superior to woman." If women could achieve more than men, why hadn't they? Le Bon was merely drawing on facts, with a dash of common sense.

Naturally, contemporary feminists who are familiar with Le Bon loathe his work. His name still crops up in the occasional text, including Andi Zeisler's 2016 *We Were Feminists Once*, a radical feminist critique of media and pop culture. Zeisler, the co-founder of Bitch Media, points to his gorilla brain comment as a signature example of gender essentialism, or "the belief in binary, fixed differences between men and women that account for 'natural' behavior and characteristics."

Gender essentialism, also known as gender fatalism, insists that men and women come pre-programmed with a set of sex-based qualities. Coincidentally, or maybe not, these qualities usually align with our most prominent cultural narratives about men and women. Prime examples include the common stereotypes that men are competitive, while women are collaborative; that men are physical, while women are emotional; and that men are systems thinkers, while women care about human perspectives.

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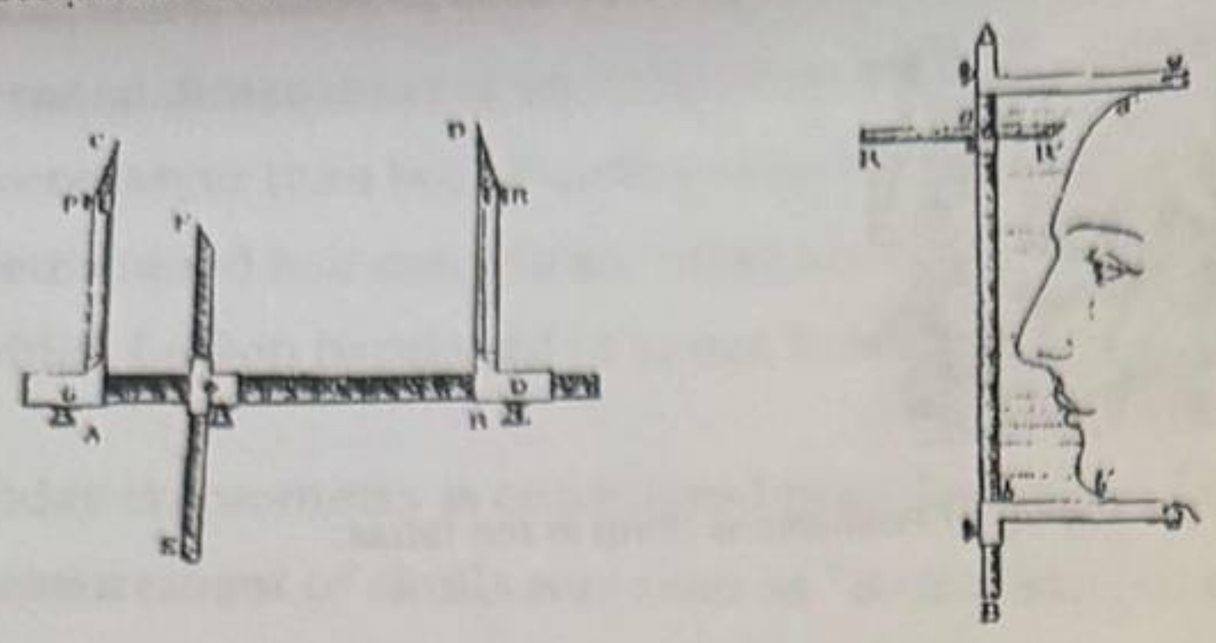

Illustration of a portable cephalometer invented by Le Bon.

Zeisler suggests that his gender essentialist claims still influence education policy, to women's detriment. And sure enough, Le Bon's essentialist approach to gender and the brain continues to thrive. Rather than skull dimensions, in the 21st century it's brain scans and neuro-imaging that have roiled a national conflict. On one side of the debate are gender-based learning advocates pointing to research they call indisputable — brain scans so clear on male/female differences that the only reason for protest is political correctness. Opposing them is a group of academic scientists and women's rights advocates, desperately raising their hands to publicize the harm caused by gender-segregated classrooms. By collaborating with the ACLU, these researchers and lawyers hope to stem the tide of neuro-sexism, the term they've coined to describe the co-optation of brain science as a vehicle for gender-based treatment.

* * *

"I'm going to show you scans of how the male and female brain operate differently," Michael Gurian, CEO of the Gurian Institute, told a crowd of Google employees in 2008. He had just published his book *Leadership and the Sexes*, and he was speaking as a guest in Google's author series for employees. He pointed to side-by-side brain scans, explaining to his audience the "natural differences between the male and female brain that every corporation, every firm, has gotta bring into the mix, and from which all tools can be developed to help men and women in the workplace."

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Some of these natural differences, according to Gurian's body of work, include left-brain and right-brain lateralization, higher verbal acuity in girls, and better spatial processing in boys. He concedes that while males and females differ due to a combination of factors — nature, nurture, and culture — he's most interested in "nature." He describes himself as a brain-based consultant, meaning that he relies on brain scans to illustrate the gender differences that arise in utero.

Michael Gurian is one of the most prominent advocates for gender-differentiated learning: the belief that males and females must be taught differently to account for disparities in their brain chemistry. According to its website, the Gurian Institute has worked with 2,000 schools and 60,000 teachers across the country. Gurian has written over two-dozen books, including some titles that have become *New York Times* bestsellers, though he doesn't conduct his own primary research.

In many of his books and speeches, Gurian voices his belief that contemporary education fails to accommodate the male brain, setting boys up at a disadvantage that lubricates the school-to-prison pipeline. The solution he preaches is intense teacher training in gender-based behavior.

"When the teachers get trained, they alter," he says. "They stop over-punishing males" for rough-housing with each other and not standing still in line; behaviors, he specifies, that are "locked into the brain." He also believes that gender-based education leads to more female empowerment and more involvement of women in STEM fields. When it comes to girls in single-sex classrooms, his mantra is, "There's no negative for girls. It's all good for girls."

Despite what Gurian says, an abundance of hard data shows the dangers of gender-segregated schools. Rebecca Bigler, a psychology professor at University of Texas, has run multiple experiments on gender bias in the classroom. One study found that children in all-boys or all-girls classes were "more likely to rate occupations as appropriate for 'only men' or 'only women.'" Another study, with a sample size of 367, "found that for both boys and girls, the more [gender-segregated] classes they took in

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the fall, the more gender stereotyped they were in their responding in the spring (controlling for initial levels of gender stereotyping)." A meta-analysis of over 1,000 similar studies concluded that no benefits come from single-sex education.

Galen Sherwin, the lawyer who heads up the Women's Rights Project at the ACLU, sides with Bigler. Her involvement in a case against sex-segregated schools, Doe v. Wood County, West Virginia, convinced her of the devastating individual impact of stereotype-based teaching methods on children who don't fit the presumed gender molds.

"In the West Virginia case," Sherwin shares with me, "one of our clients was a young women who had learning disabilities and ADHD."

This student yearned for the more active learning style taught in the boys' classroom at her sex-segregated school. Boys were allowed to go out on the playing fields during class and stand and toss footballs during lessons. This girl wasn't. "In the girls' classroom," recalls Sherwin, "she could literally see the boys outside playing on the fields during math class." Instead of joining, she had to sit quietly in a circle with the other girls.

* * *

At the 1889 World Exhibition in Paris, education was a hot topic. Amidst the unveiling of the Eiffel Tower, the opening of *Galerie des Machines* as the world's largest pavilion, and live exhibits of the new-fangled telephone, the International Women's Congress was taking place across the *Invalides*. Eleven years had passed since the first Congress took place in 1878, and finally, the women seemed confident that education was heading in the right direction. Yes, critics like Le Bon had railed against their demands back in the 1870s, but 1880 had seen the passage of the Camille Sée law, which established secondary schools for girls. The opening of Lycées for young women seemed to fit into an overall narrative of progress. As one attendee summarized: "Already we are seeing, since the advent of the Republic, a movement taking shape among the popular masses.

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The development of primary teaching, the opening of secondary schools to young girls, have pushed many parents to steer their daughters towards an education more complete than that which they received themselves."

They weren't privy to the show that was going on simultaneously, across the *Invalides*, where Gustave Le Bon addressed the all-male International Colonial Congress. His imperative was to warn Congress against educating native populations in the French colonies. Surrounded by admirals and university professors, Le Bon asked the statesmen why French colonies weren't as prosperous as the territories by the English and Dutch. Was it because these rivaling nations had done a better job assimilating their colonized populations into European culture? Absolutely not. Le Bon saw grave danger in the way the British had enforced Western education on the Indian population.

"We must ask ourselves if the individuals who have received this English education are becoming friends or enemies of the power which it has provided to them," he said. Reassuring his audience that he would stick to scientific facts, he incorporated his conclusions on the brain constitution of Hindus. "[European] education, maladapted to the mental constitution of the Hindu, has as its consequence the destruction in him of all the results of an earlier, long-lasting culture."

Couched in progressive language, Le Bon tried to argue that refusing education to the natives was in their own best interest — similar to how protecting women from education would allow them to thrive in their domestic lives. After a Western country imposes education on the native, "He does not have a place anymore in society, finds himself constantly miserable, and inevitably becomes implacable towards those who have provided him this deadly education."

Being a scientist, Le Bon made sure to mention brain chemistry as well. "It is not the instruction itself," he continued, "but an instruction that is poorly adapted to the mental constitution of a people which produces the sad results." He goes on the list the negative effects of educating Arabs and Indians in the Western tradition, claiming that the educated turn into "rapacious men without scruples" who marry multiple women and

consider their wives "beasts of burden." He could have easily directed his audience outside to the Colonial Pavilion, where 400 Africans were on display in a Negro Village and Javanese dancers performed for white spectators. They were clearly *meant* to uphold their culture and natural talents. Let them dance, let them sing, but don't stuff their head with unnecessary ideas that might lead to revolt against their European masters.

Left, Woman of southern India preparing flat cakes of combustible dung. Right, Lower caste hindus. The photos were taken by Le Bon during his study of the Indian culture.

Le Bon eventually incorporated his views into an article for the 1891 *Revue Scientifique*, called "The Education of Women and Its Effects." Extending his gorilla analogy from the 1870s, Le Bon proclaimed, "To understand the intellectual constitution of woman and to judge the effects of our system of education upon her, we must first glance at the facts of intellectual evolution among barbarian and half-civilized peoples." Just as he warned about the education of natives, he spoke with dread about women learning to become contemptuous of the men whose social expectations she has to uphold.

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Like Le Bon, present-day education advocates refer to primatology as justification for their views on gender-based teaching. Leonard Sax, M.D., Ph.D., another adamant

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supporter of gender-based education, shares Michael Gurian's belief that essential male/female brain differences lead to different learning styles. As evidence for his views, Sax conjures a familiar primate: the gorilla. "In reality, gender is ... a biological fact of our species, just as it is for gorillas and chimpanzees and every other primate," he writes in *Why Gender Matters: What Parents and Teachers Need to Know About the Emerging Science of Sex Differences.* "A primate researcher who ignored these differences would be a poor researcher. But a researcher studying humans who dares to highlight similar differences among humans, and to suggest that those differences might be hardwired — as they clearly are in chimpanzees — is now likely to be denounced as a reactionary tool of the patriarchy."

Not all scientists agree. One of the first warnings about Leonard Sax's practices arrived back in 2006, when University of Pennsylvania linguistics professor Mark Liberman started examining Sax's scientific claims in a series of blog posts. He found several inaccuracies in Sax's representations of data, which he maintained even after Sax wrote him a letter in self-defense. Liberman's final words on the matter were that Sax's scientific claims could not be trusted.

Portait of Le Bon. Photo courtesy Wikimedia Commons.

Both Liberman and Lise Eliot, Professor of Neuroscience at The Chicago Medical School of Rosalind Franklin University of Medicine & Science, believe that small sample sizes mar Sax's and Gurian's conclusions. Gurian often asserts in books, presentations, and trainings that boys use the right side of the brain to work on abstract problems, while girls use both sides. According to Eliot, Gurian likely sourced his conclusions from "one high-profile fMRI study." He doesn't publicize that "since

1995, over two dozen studies" have contradicted those results.

In 2011, Eliot and Diane Halpern, an academic and former president of the American Psychology Association, co-authored an article in *Science* called "The Pseudoscience of Single-Sex Schooling." They directly cite Leonard Sax as a pseudoscientist teaching harmful single-sex practices. Eliot has no hesitation using the word "pseudoscience" to describe Gurian and Sax. After all, Judge Joseph Goodwin used that terminology, too, when he ruled "against the single-sex classes at Van Devender Middle School in Wood County, West Virginia." Judge Goodwin claimed specifically that the school district had been "led astray by the teachings of Dr. Leonard Sax," and "referred to brain sex rationales for single-sex education as 'pseudoscience.'" And regardless, the law about stereotypes and education is clear: sex classification cannot be based on stereotypes or generalizations about the way boys and girls learn.

Even though federal judges have ruled against gender-based teaching in public schools, Gurian remains unfazed by ACLU complaints against the districts that have adopted his practices. "The ACLU-Eliot quote-unquote study was not really a study," he said to me. "It was just a diatribe." He called the accusations "unfortunate politics" that mixed racism and sexism and "all of that old stuff." Gurian went on to note that everyone in his field gets attacked, but that "there's no real basis for it all in reality." His bottom line about gender-based education: "Show me the harm. ... Anything that doesn't have proof of harm is vacuous to me."

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During his foray into craniometry, Le Bon had yet to write what would become the most famous of his books and the one that drew Adolf Hitler into the Le Bon fandom: *The Crowd: A Study of the Popular Mind*. In 1895, Le Bon published the book as an analysis of the collective mind. How does the human brain function in a mob? And how would a crowd mentality influence the social and political climate in France?

Le Bon's answers weren't pretty. He argued that the crowd mind was contagious, as a

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bacterial disease might be. It causes rebellion and turns men into beasts. The catalyst for such mass contempt, Le Bon writes, is education. Not only are "democratic ideas" about public education "in profound disagreement with the results of psychology and experience," but the French system of education transforms the majority of those who have undergone it into enemies of society." At the Colonial Congress, Le Bon had hypothesized that Western education would turn Natives into enemies. In *The Crowd*, he applied the same belief to the French bourgeois, using since-disproven psychology to support his claims.

After the publication of *The Crowd*, Le Bon's influence grew. He had the ear of Theodore Roosevelt, who kept a Le Bon book by his bedside. Sigmund Freud expanded Le Bon's crowd theories in his 1921 book *Group Psychology and the Analysis of the Ego*. Benito Mussolini claimed to have read all of Le Bon's work, and scholars believe it possible that Mussolini considered Le Bon a personal mentor. Even Maria Montessori, who believed in women's right to education, measured her students' skulls to forecast their intelligence.

Stephen Jay Gould's 1980 paper "Women's Brains" marked the first time that an academic debunked Le Bon's findings and broadcast the results to the world. But even as the Frenchman's theories have fallen out of favor, his approach to solving social ills echo in the voices of today's gender essentialists. Le Bon's motivation all along was preserving a social order that he believed was best: one in which women weren't forced to contend with ideas beyond their perceived capacity, one in which victims of colonialism weren't forced to adopt Western ideals, and one in which revolts could be quieted instead of stirred. Le Bon had his own highly biased metrics for success. He never expressed curiosity about women's perspectives on education or interviewed Hindus about their feelings toward Western institutions. Even if he had, it's unlikely Le Bon would have given credence to their answers. Qualitative information couldn't hold up against what he believed were scientific facts. Of course, his scientific facts didn't hold up either.

Today, it's easy to dismiss Le Bon as an old-fashioned bigot. Untangling his personal beliefs from their lasting influence over education policy has proven to be a much harder pursuit.

Stephanie Newman is writer in NYC. Her work has appeared in Narratively, The Establishment, the Los Angeles Review of Books, Quartz, Forbes, and elsewhere. Stephanie blogs at Writing on Glass.

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