

History, One of Many Tools Towards New Practices for Gender Equality in the History of Science

CAK

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Cak, Cermes3, Women's and Gender Studies Commission of the DHST, Femmes & Sciences

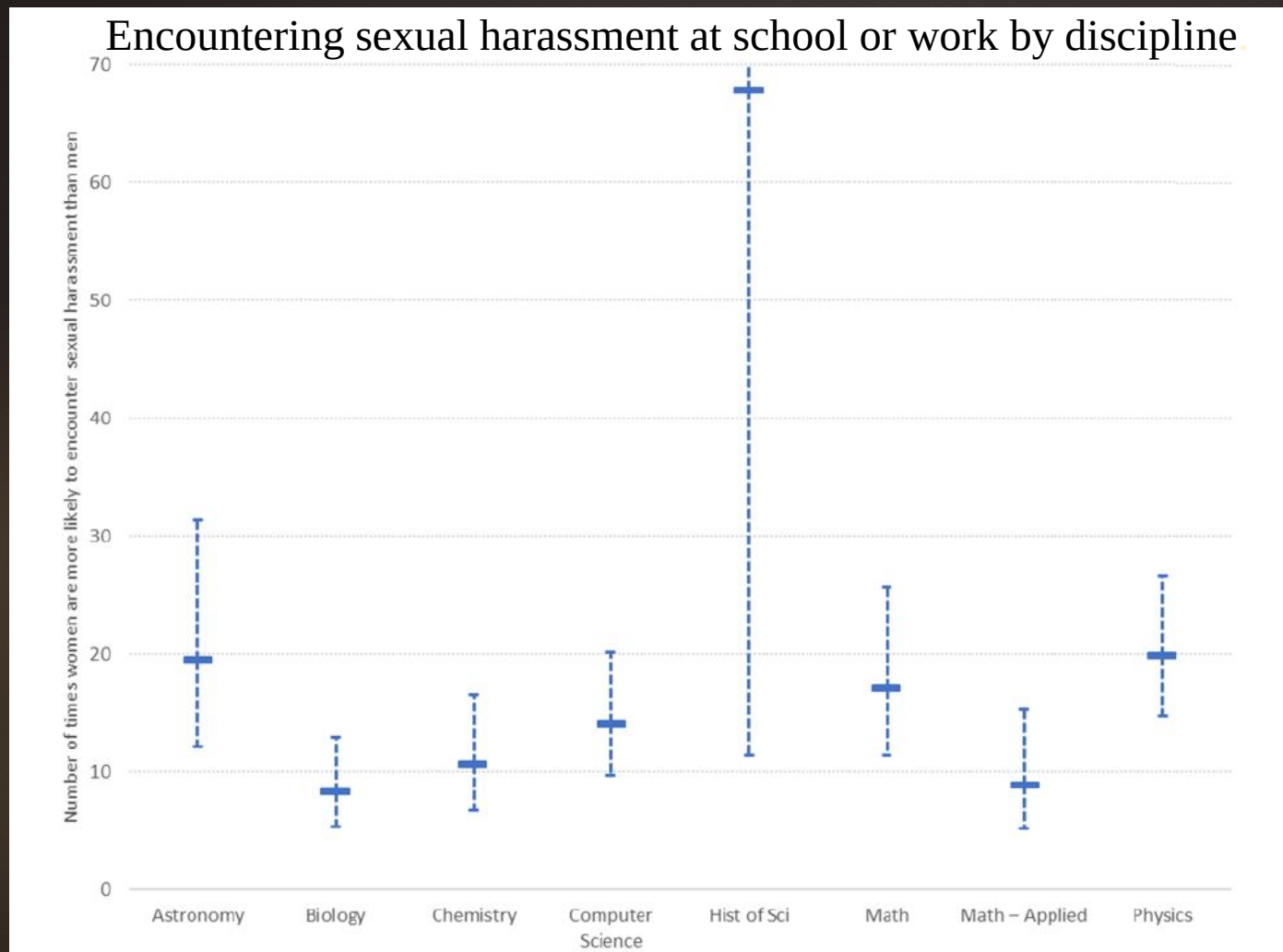
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26th ICHST – July 28, 2021

Plenary Symposium The gender gap in science, and in the history of science and technology: historical perspective and IUHPST/DHST policies
(Commission on Women and Gender in Science, Technology and Medicine) - ID 98

Lessons from the Gender Gap Project



“The horizontal bar indicates the point estimate, and the dashed lines indicate the standard error. The standard error is much larger for History of Science due to a smaller number of respondents.”

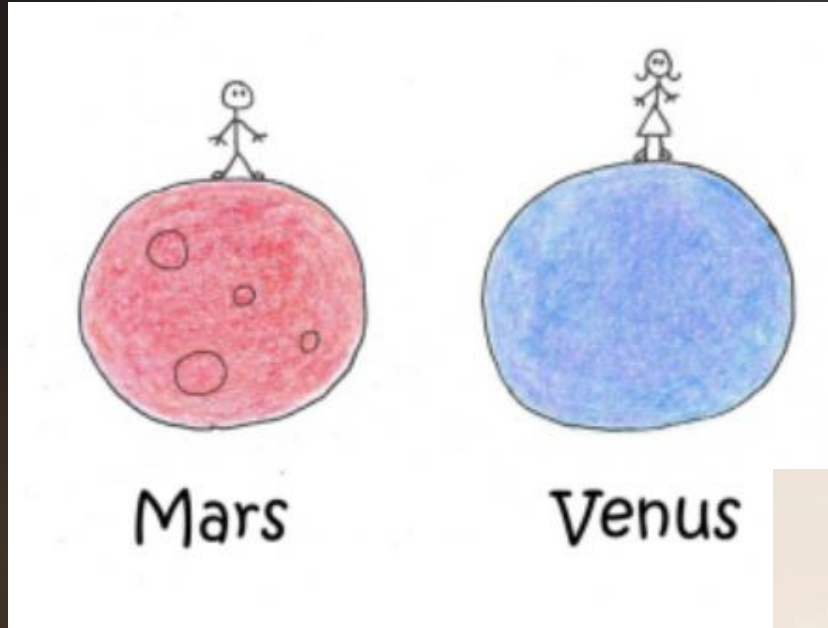


Lessons from the Gender Gap Project

Women in STEM

Women in History and Philosophy of Science

Lessons from sociology, psychology, science education studies



J. Gray, 1992



D.W. Chambers, 1983

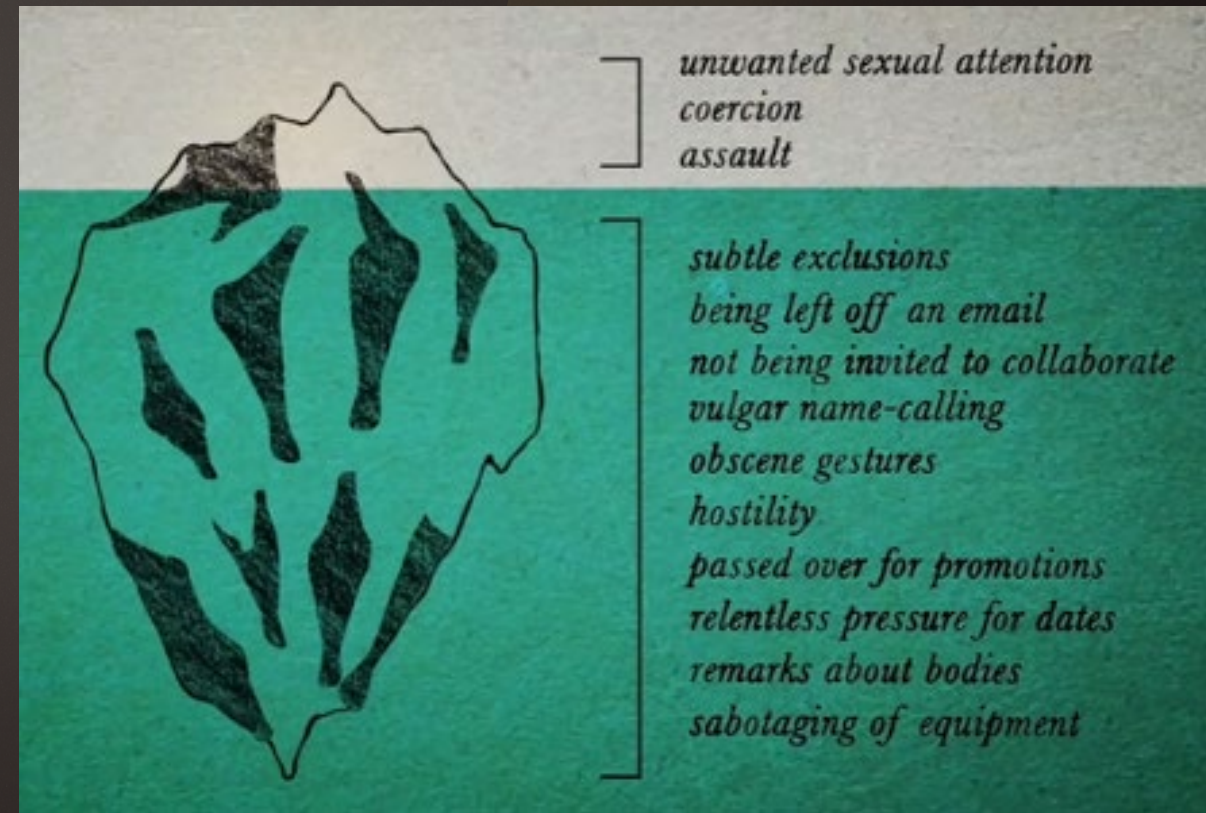


Lessons from sociology, psychology, science education studies



Ayodhya Ouditt/NPR

Stereotype threat, S. Spencer, 1999



Sexual Harassment, *Picture a scientist*, 2020

Lessons from sociology, psychology, science education studies



NCIS TV show



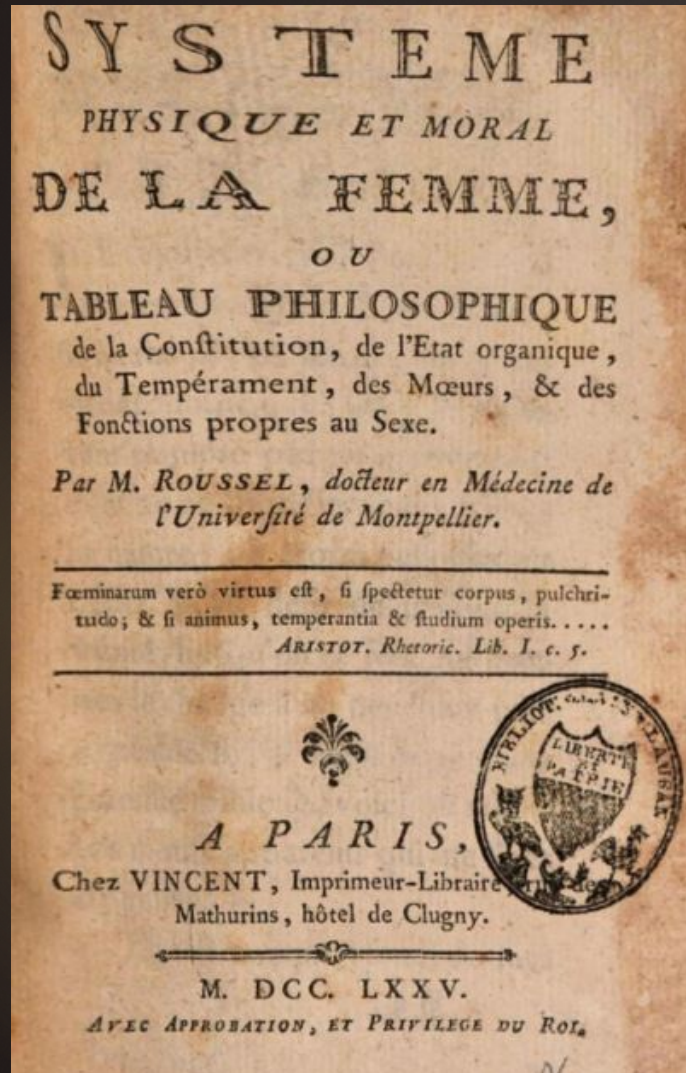
Lego - Women in science

Lessons from sociology, psychology, science education studies



Enlightenment's historical lessons

Biological limitations and social norms



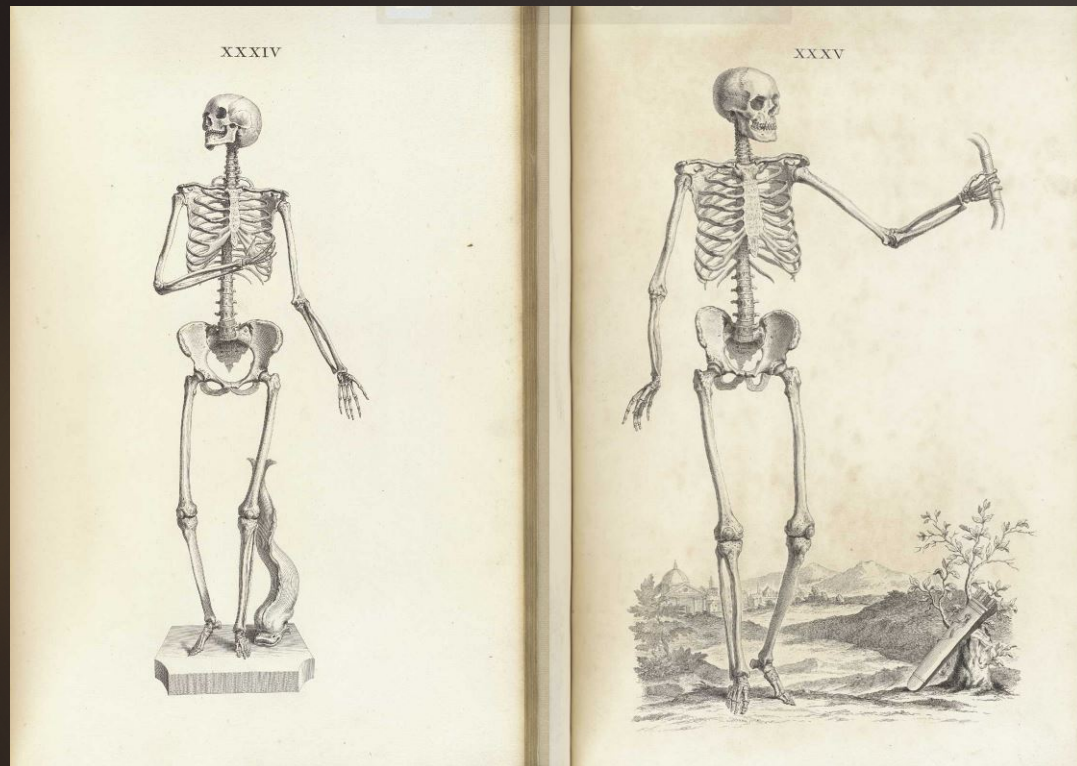
P. Roussel, *Système physique et moral de la femme*, 1775, Googlebooks

“innate genetics differences in the brains of men and women that account for this difference [underrepresentation in STEM]”

Lawrence Summers, Harvard president, 2005

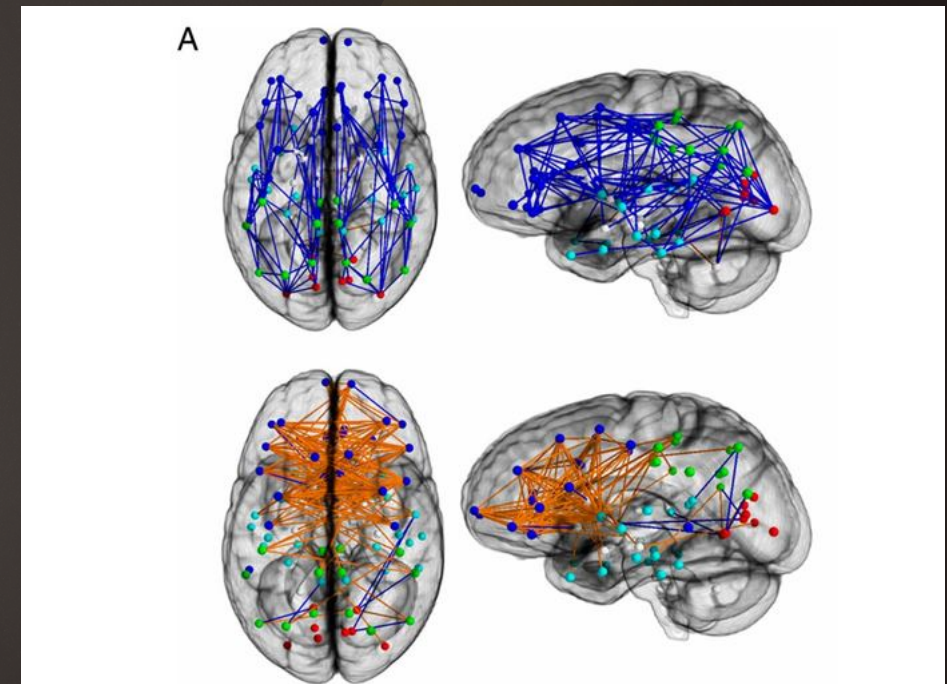
Enlightenment's historical lessons

Biological limitations and social norms



William Cheselden, *Osteographia or the anatomy of the bones*, Londres, 1733

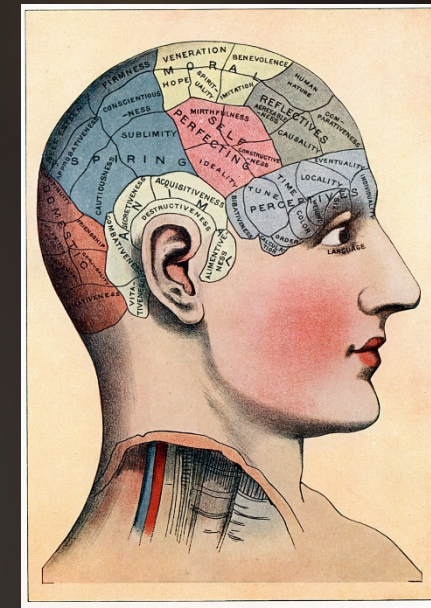
“Women's brains are suited to social skills and memory, men's perception and co-ordination”, *The Guardian*



M. Ingalhalikar et al., Sex differences in the structural connectome of the human brain, *Proceedings of the National Academy of Sciences*, Jan 2014, 111 (2) 823-828

Enlightenment's historical lessons

Intellectual limitations and social norms



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“ The search for abstract and speculative truths, principles, axioms in the sciences, everything that tends to generalize ideas, is not the domain of women [...] Women are more witty, and men have more genius ; women observe, and men reason. ”

J.J. Rousseau, *L'Émile ou de l'éducation*, 1762

“Women on average show a higher interest in people and men in things.”

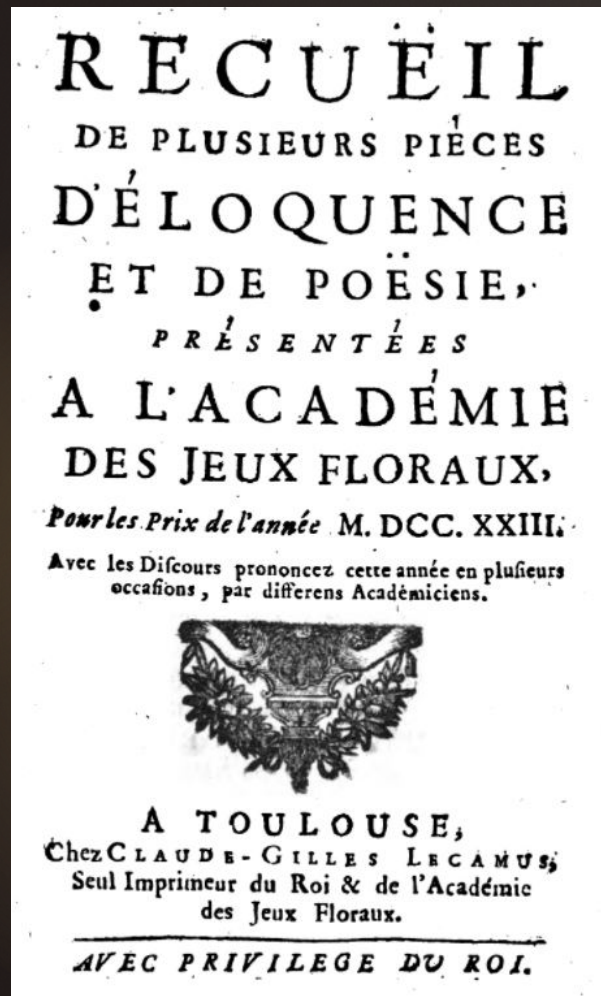
James Damore, Google engineer, 2017

Enlightenment's historical lessons

Women in science as monsters



Priscille de Catelan de Portel (1662?-1745)
Musée de Narbonne



“it is in them a **prodigy** which is a **monster** : it is rather, something **singular** and **extraordinary** than great and beautiful”.

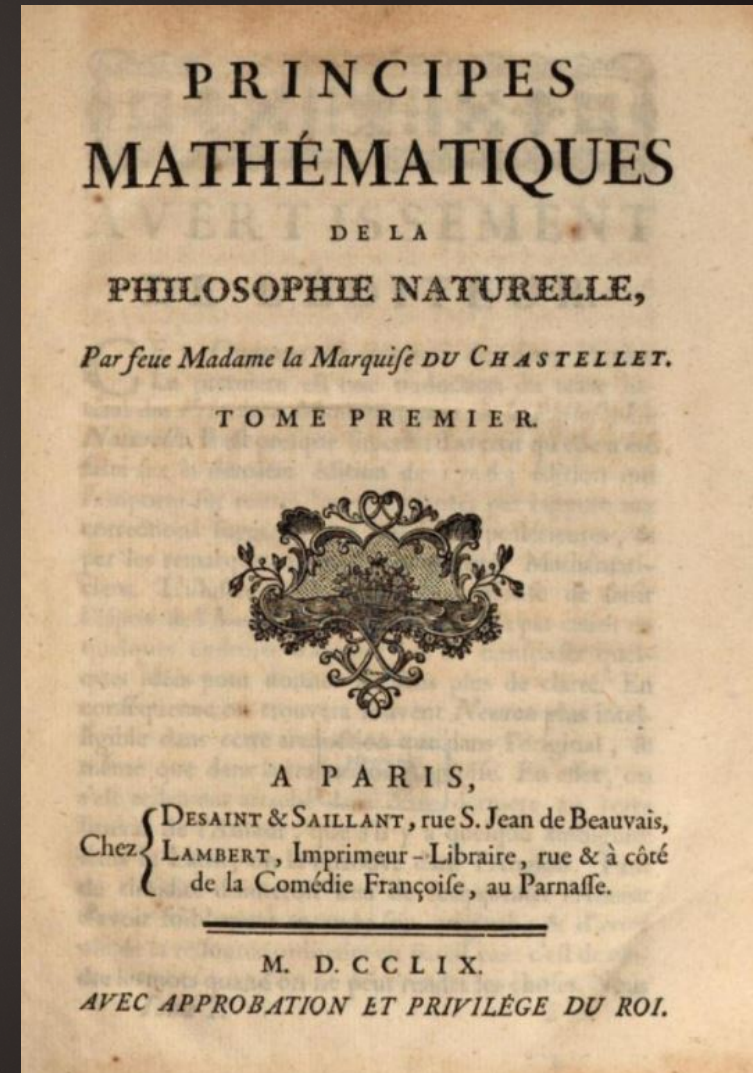
Recueil de l'Académie des Jeux Floraux, Toulouse, 1723, p. 189

Enlightenment's historical lessons

Women in science as monsters



Émilie Du Châtelet (1706-1749)
Maurice Quentin de la Tour, 18th century



Enlightenment's historical lessons

Social representations

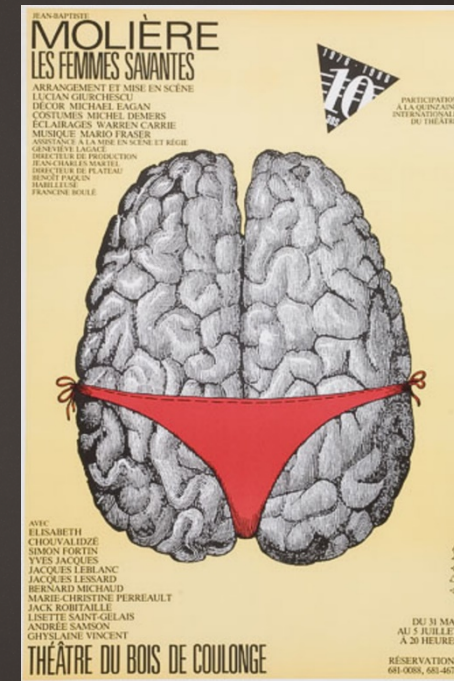


Les Femmes Sçavantes. Act. 3^e. Sc. 2.

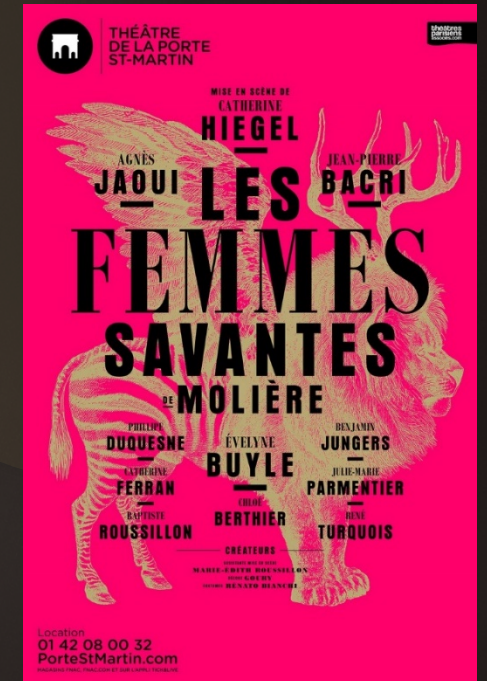
Gravé par Joullan sur le dessin de Ch. Coppel, 1726

Suivant à Paris chez Derrière aux des Roisiers

Coppel, 1726, commons.wikimedia.org



Yvan Adam, 1986



2016



Enlightenment's historical lessons

Social representations



2016

Enlightenment's historical lessons

Norms integration...



Charlotte von Saxe-Meiningen,
duchess of Gotha (1751-1827)
Stiftung Schloss Friedenstein
Gotha. Isabelle Lémonon, 2017



Lunette méridienne
Stiftung Schloss Friedenstein
Gotha. Isabelle Lémonon, 2017

TABLES D'ABERRATION, CALCULÉES À GOTHA.

LIEU du SOLEIL ou du NŒUD.	17 ζ CASSIOPÉE.				30 ε D'ANDROMÈDE.			
	ABERRATION.		NUTATION.		ABERRATION.		NUTATION.	
	Ascension.	Déclinaison.	Ascension.	Déclinaison.	Ascension.	Déclinaison.	Ascension.	Déclinaison.
O ^s od VI ^s	- 30"2+	- 3"2+	- 12"5+	+ 1"1-	- 20"7+	- 6"0+	- 5"1+	+ 1"2-
10.	30,4	5,9	15,3	- 0,2+	20,8	7,5	7,9	- 0,1+
20.	29,6	8,4	17,7	1,4	20,4	8,8	10,5	1,3
I. o. VII.	28,0	10,7	19,5	2,6	19,3	9,8	12,8	2,5
10.	25,5	12,6	20,8	3,7	17,6	10,6	14,7	3,6
20.	22,3	14,2	21,4	4,7	15,4	11,0	16,2	4,6
II. o. VIII.	18,3	15,3	21,3	5,6	12,7	11,1	17,1	5,5
10.	13,8	16,0	20,6	6,3	9,6	10,9	17,5	6,2
20.	8,9	16,1	19,3	6,8	6,3	10,3	17,4	6,7
III. o. IX.	- 3,7+	15,8	17,4	7,1	- 2,8+	9,4	16,8	7,0
10.	+ 1,5-	15,0	15,0	7,1	+ 0,9-	8,2	15,7	7,1
20.	6,8	13,8	12,1	7,0	4,5	6,8	14,1	7,0
IV. o. X.	11,8	12,1	8,8	6,7	8,0	5,2	12,0	6,7
10.	16,5	10,1	5,3	6,1	11,2	3,4	9,6	6,1
20.	20,7	7,8	- 1,6+	5,4	14,1	- 1,5+	6,9	5,4

Aberration table, *Connaissance des temps*, 1801, Gallica

Enlightenment's historical lessons

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Norms integration... and clear-sightedness



“if the time ever comes when women are given the same education as men, I am sure that we shall see many learned women, but we are not there yet, and we must be content as long as we are left with the common sense that is sometimes lacking in the greatest scientist.”

BMI Carpentras, Fonds Raspail, Ms 2761 fol. 57/58, Letter from M. C. de Gotha to M. J. Lefrançois, April 23, 1799

Je vous laisse mon cher Oncle pour revenir à mes études, pensez bien souvent
à votre Niece qui vous aime beaucoup.
Charlotte

Enlightenment's historical lessons

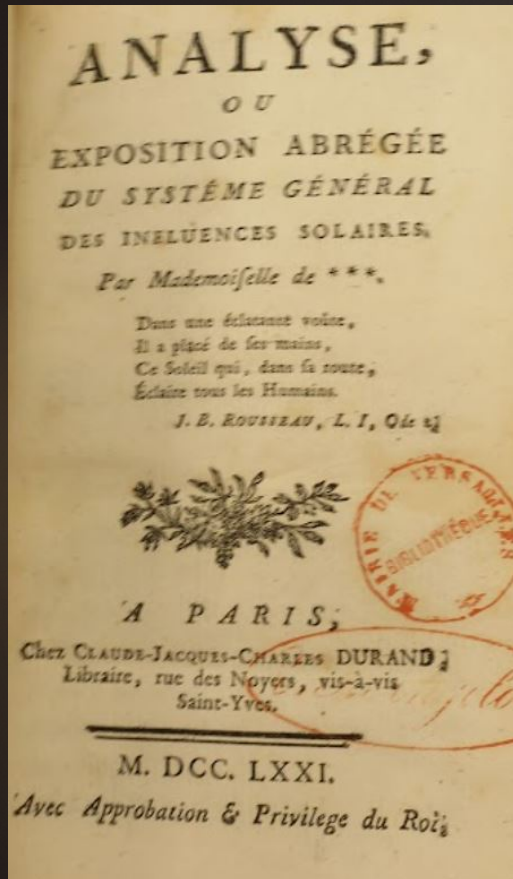
Norms questioning... and evolution

“Why are the advantages not equal where there is the same necessity? [...] There is no difference between the senses, the organs, the mind of the one sex and the other. The very delicacy or weakness of the female sex makes it more capable of acquiring science, being free from the male mass.”

Marie Gasparde de Copponay de Grimaldi (169? - 1740), ca 1714, in F. Mugnier, 1893, p. 190

Enlightenment's historical lessons

Norms rejection



“I am well aware that, thanks to the injustice of men, our sex seems to have renounced serious study in general; but this certainly does not prove that we are incapable of it. [...] A dispute has given me the desire to defend our rights publicly [...] Why should I not try [...] to claim some of the rights that have been usurped from us.”

*Analyse ou exposition abrégée du système général des influences solaires par Mademoiselle de ****, Durand, Paris, 1771

Enlightenment's historical lessons

Self-fashioning and networking as factors of integration

Self-fashioning

Emilie Du Châtelet (1706-1749)
 Marie Charlotte de Gotha (1751-1827)
 Geneviève Thiroux d'Arconville (1720-1805)
 Victorine de Chastenay de Lentz (1771-1855)

Social status

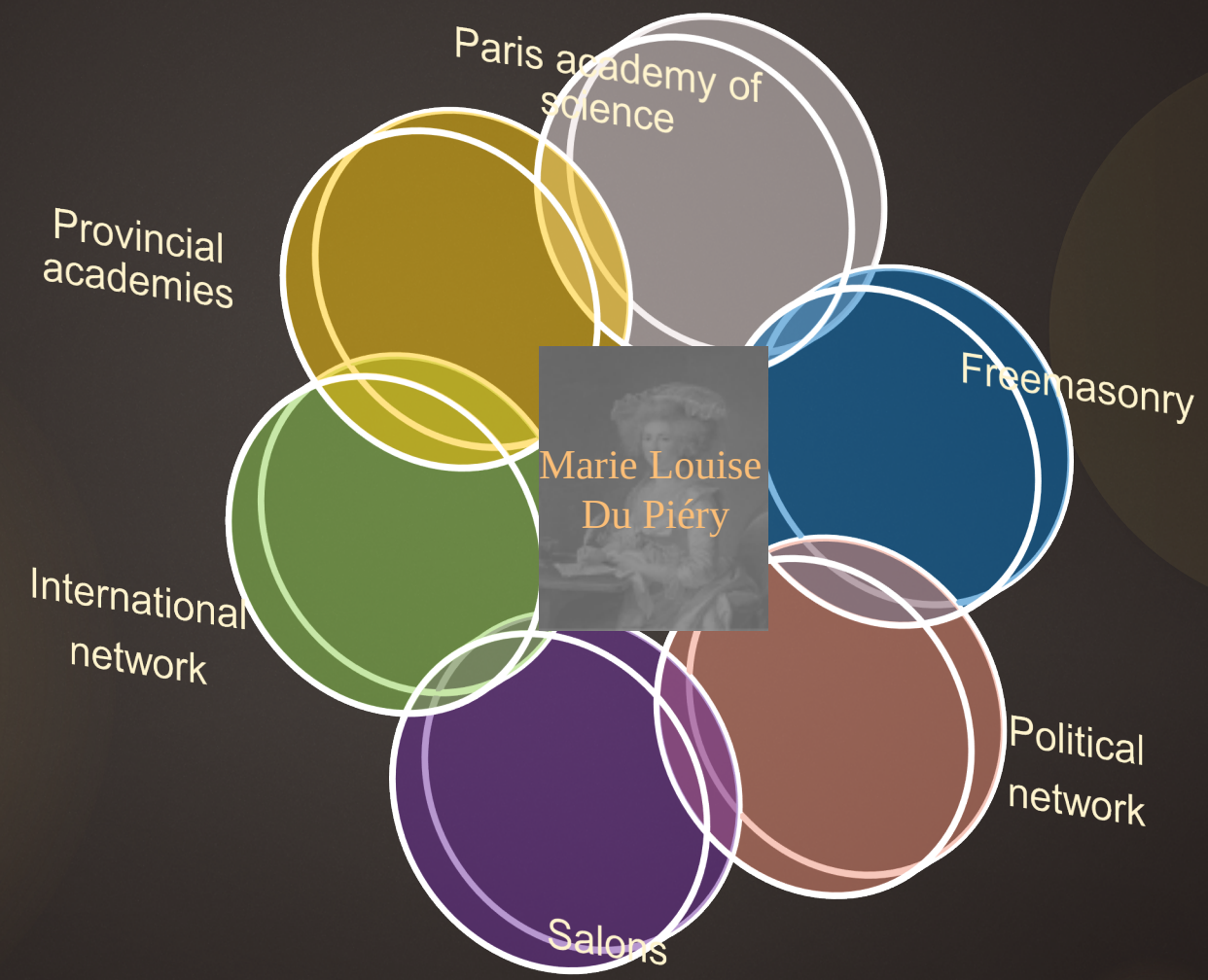
Self-fashioning and Networking

Angélique Delisle (1696-1777.)
 Marie Anne Pigeon d'Osangis (1724-1765)
 Nicole Reine Lepaute (1723-1788)
 Marie Louise Du Piéry (1746-1830)
 Marie Jeanne Lefrançois (1760-1832)
 Claudine Picardet (1735-1820)
 Catherine Tigny (17..-1813?)





Enlightenment's historical lessons



Giants and Dwarfs? or Token and Subalterns ?

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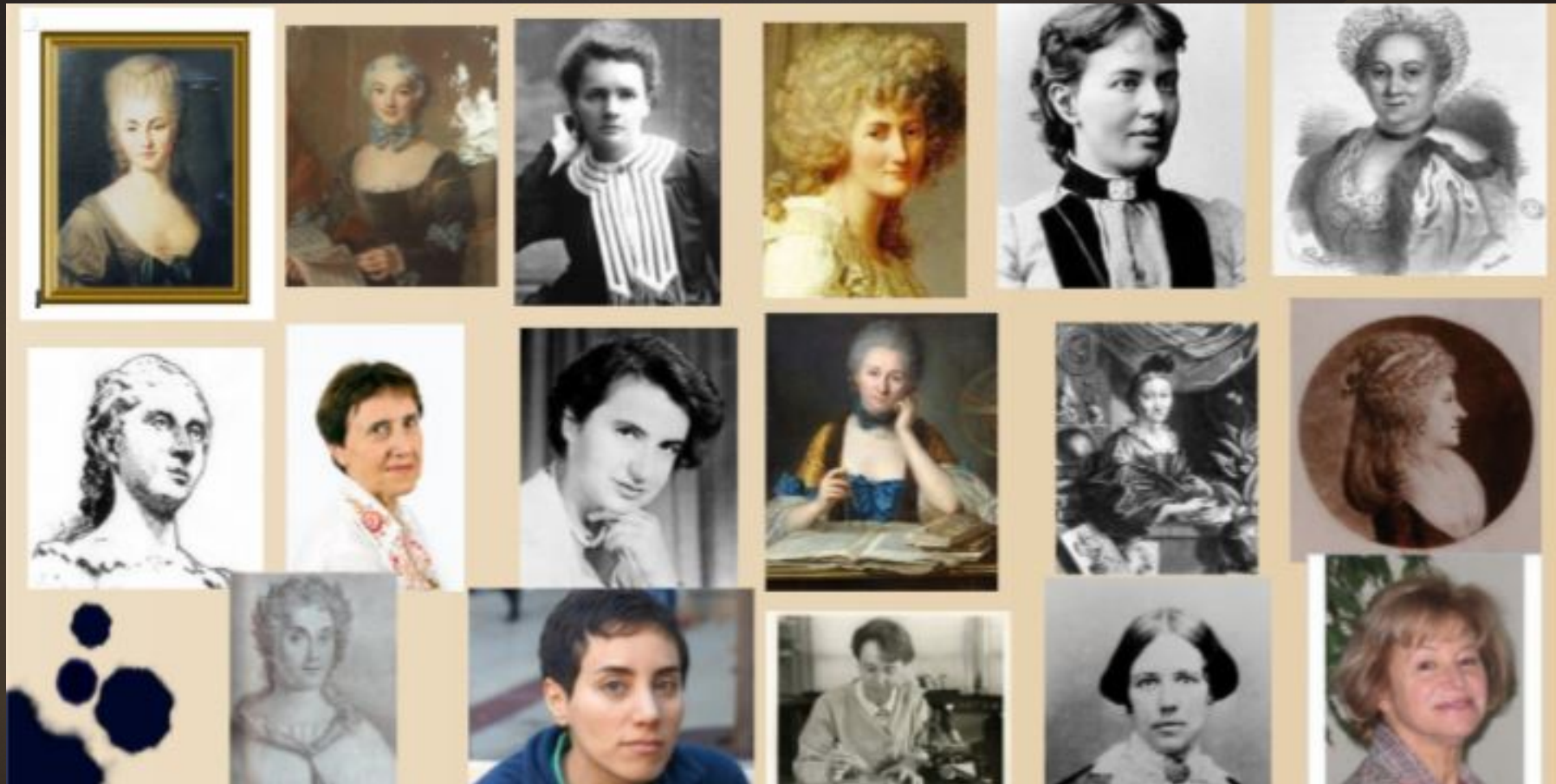
G. Rippon, *The gendered brain*, 2019

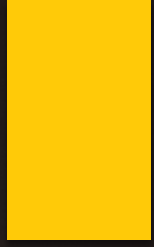


“ individual occupational preferences are social products. Aspirations for STEM work are shaped by the (real or perceived) culture of STEM fields and by deeply rooted beliefs about the intrinsic natures of men and women. ”

S. Thébaud et M. Charles, 2018

Thank you for your attention





Enlightenment's historical lessons

