



1./ The Gender of Science

1.1 / The Role of Women in Knowledge Production

Science and Society

Thomas Tari

A Radioactive Superheroine

[...] Today I was reading about Marie Curie: she must have known she suffered from radiation sickness her body bombarded for years by the element she had purified

It seems she denied to the end the source of the cataracts on her eyes the cracked and suppurating skin of her finger-ends till she could no longer hold a test-tube or a pencil

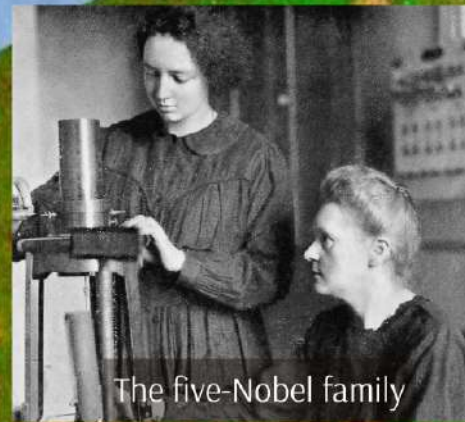
She died a famous woman denying her wounds denying her wounds came from the same source as her power.

Adrienne Rich, "Power", 1978

Anne Feller (2010) "Femmes, risque et radioactivité en France", Travail, genre et sociétés (23-1)



Glowing skin



The five-Nobel family



Mobile X-Ray Units



The 'Radium Girls' Scandal

Agnotology and Exotic Abortifacients



Maria Sibylla Merian (1647-1717)

The Peacock Flower (from *Metamorphosis insectorum Surinamensium*, 1705)

Sir Hans Sloane (Jamaica), Michel Descourtilz (Saint-Domingue) : 'ill intentions' from a physician & planter view versus 'the refusal to breed became a political act'



Londa Schiebinger (2004)
Plants and Empire,
Colonial Bioprospecting in the Atlantic World,
Harvard University Press

The Death of Nature

The Scientific Revolution



Nature Unveiling Herself Before Science, Louis-Ernest Barrias (1899)

Production, reproduction, and the passive role of women (cf. midwifery)

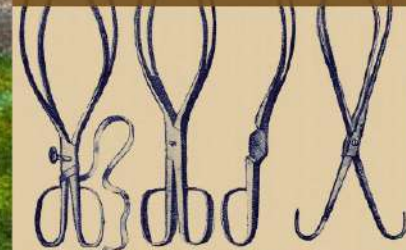
Carolyn Merchant (1980) *The Death of Nature: Women, Ecology and the Scientific Revolution*



A Man - Mid - Wife

Or a study of the animal, not human, in Buffon's sense for a more full description of the "Midwife" is an enormous book, lately published, which is entitled "Midwife of the 18th Century" and contains a variety of facts and figures which are calculated to amuse and instruct the reader in a very interesting manner. The author is the Frenchman, M. de la Roche.

Obstetric Chamberlen Forceps



Primates is Politics by Other Means

THE SOCIAL LIFE OF
MONKEYS AND APES



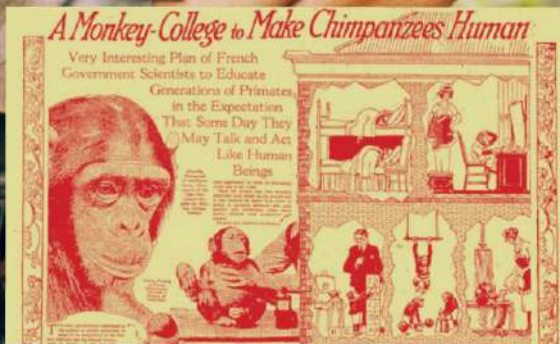
S. ZUCKERMAN

ALMOST
HUMAN



A JOURNEY INTO THE
WORLD OF BABOONS

SHIRLEY C. STRUM
With an Introduction by GEORGE B. SCHALLER



- Donna Haraway (1989) *Primate Visions: Gender, Race, and Nature in the World of Modern Science*
- Chris Herzfeld (2005) *Petite histoire des grands singes* (translated in 2017) *The Great Apes: A Short Story*

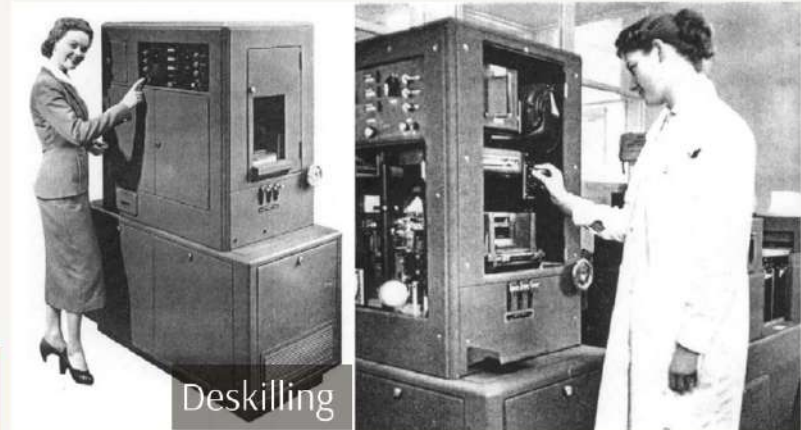
First perspective on the science and society: the social structure of scientific work

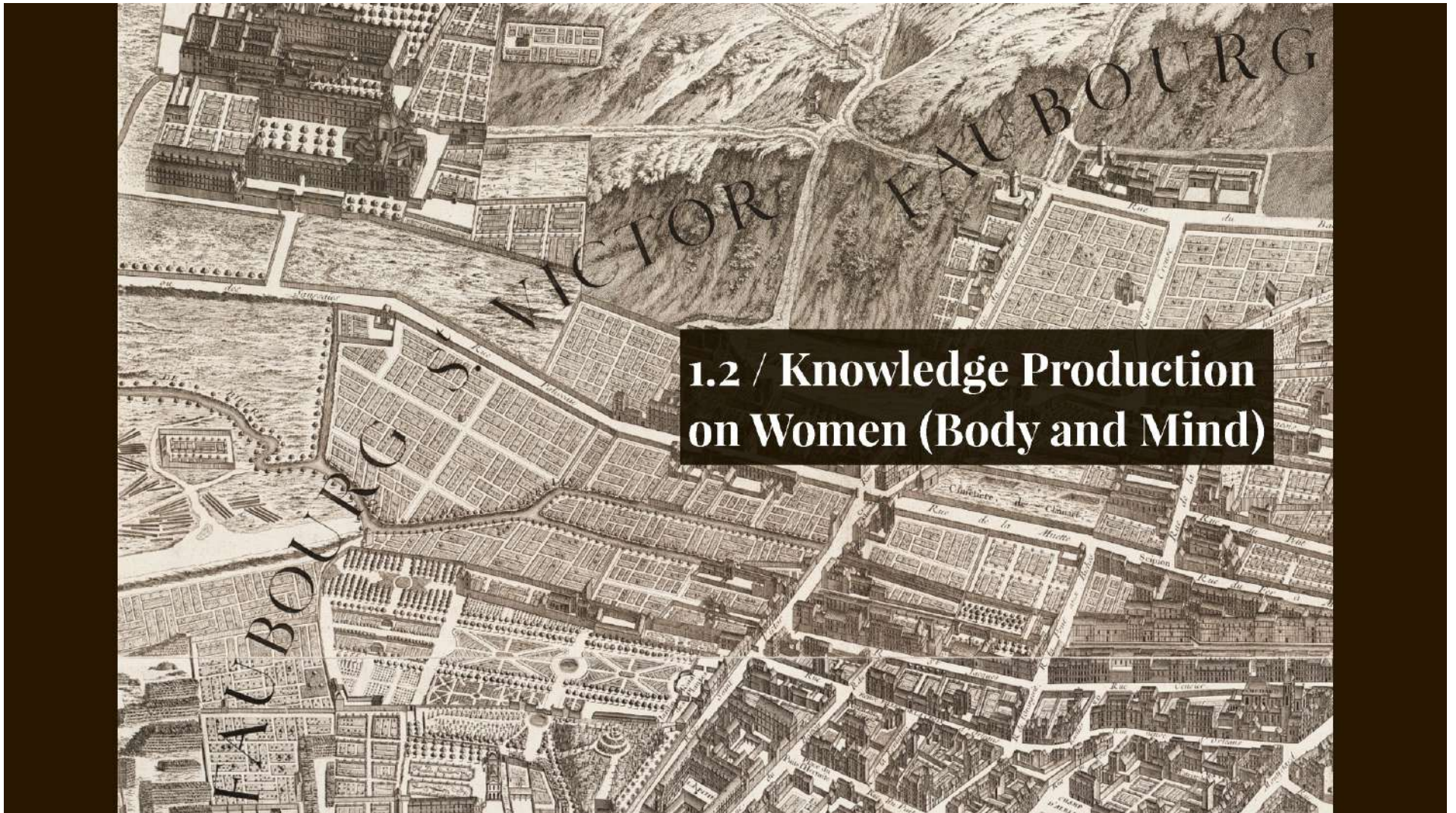
Stories of female pioneers in science highlight:

- the predominance of tacit (social, cultural or moral) rules versus the formal regulation of gender roles;
 - a non-linear, non-progressive evolution of women's acceptance or recognition of their contributions.
- humanities and social sciences have to adapt their methodology in order to make women's role visible

'Many studies focus on women who have a claim to greatness or whose activities put them at the center of major historical events [...] Career-based identities historically privilege a male subject, rarely taking into account the often circuitous and discontinuous nature of women's working lives or the social pressures placed upon women to privilege nonprofessional categories in constructing their identities.' (Mar Hicks)

Mar Hicks (2017) Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing (MIT Press)

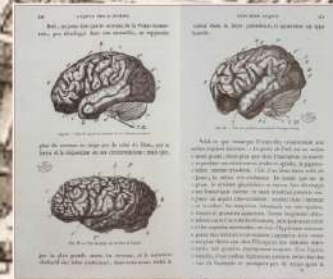




The Hottentot Venus, and scientific racism

"On a shelf just above the brains, I saw a little exhibit that provided an immediate and chilling insight into nineteenth-century mentalité and the history of racism: in three smaller jars, I saw the dissected genitalia of three Third-World women. I found no brains of women, and neither Broca's penis nor any male genitalia grace the collection. The three jars are labeled 'une négresse, une péruvienne' and 'La Vénus hottentote.'"

Stephen Jay Gould (1985) in *The Flamingo's Smile*



Georges Cuvier

Saartjie (Sarah) Baartman, 1789-1815



François-Xavier Fauvelle-Aymar (2004) 'Les Khoisan : entre science et spectacle', in Nicolas Bancel (ed) 'Zoos humains. Au temps des exhibitions humaines'

How hysteria defined womanhood

'Sometimes, in the middle of a silent night, the residents of the Saint-Marcel and Saint-Victor quarters (nearest the hospital) would hear a clamour rise up, a sort of savage groaning at regular intervals. It was 'the cry of the hospital.'

'Female genitals are often the cause and always the seat of hysteria'

Landouzy (1846)

Hysteria shows how medicine and its discursive constructions played a role in the constant reclassification of each sex in society, leading to alterity.

Nicole Edelman (2000) *"Représentation de la maladie et construction de la différence des sexes. Des maladies de femmes aux maladies nerveuses, l'hystérie comme exemple"*, in *Romantisme* (110)

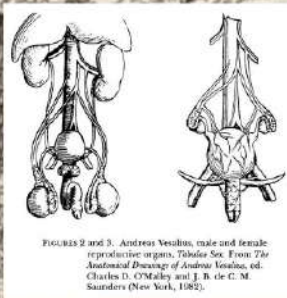


Jean-Martin Charcot performing hypnosis

In the Late Eighteenth Century, Human Sexual Nature Changed

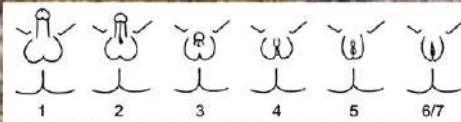
Thomas W. Laqueur (1990) *Making Sex:
Body and Gender from the Greeks to Freud*

'Instead of being the consequence
of increased scientific knowledge,
new ways of interpreting the body
were rather new ways of
representing and indeed of
constituting social realities.'



*... though they of different sexes be,
Yet on the whole they are the same as we,
For those that have the strictest seachers been,
Find women are but men turned outside in.*

Quigley scale (1995)



'Rather, the political, economic, and cultural
transformations of the eighteenth century
created the context in which the articulation
of radical differences between the sexes
became culturally imperative.'



The Pill, or the Molecularization of Gender

- Sex steroids, a bioindustrial creation: high-level biomedical research, a powerful pharmaceutical industry and the biopolitics of the Nazi regime particularly interested in the study of molecular gender building (Schering and the aryanized Kaiser-Wilhelm Ges.)

- A biochemical continuum / the limits of distinct sexual hormones

- From the medicalization of female sterility to contraception

- From the Women Liberation Movement to strokes and mental load

Jean-Paul Gaudillière (2003) "La fabrique moléculaire du genre : hormones sexuelles, industrie et médecine avant la pilule", Cahiers du Genre (34-1)



How hysteria defined womanhood

Sometimes, in the middle of a silent night, the residents of the Saint-Marcel and Saint-Victor asylums reported the hospital would hear a clamor that was a sort of savage growling at regular intervals. It was "the cry of the hysteric."

"Female genitalia are often the cause and always the seat of hysteria" (Lambouzy (1840))

Hysteria shows how medicine and its discursive constructions played a role in the constant reclassification of each sex, a victory, leading to identity.

David E. Johnson (2000): "Representation of the medical construction of the difference des sexes. Des malades de femmes aux maladies nerveuses. Hystérie comme exemple, in *homotopie* (2000)



In the Late Eighteenth Century, Human Sexual Nature Changed

Thomas W. Laqueur (1990) *Making Sex: Body and Gender from the Greeks to Freud*



though they of different sizes to act on the whole they are the same as we, for those that have the smallest sources have the most potent effects.



Butter, the political, economic, and cultural transformations of the eighteenth century created the context in which the articulation of radical differences between the sexes became culturally imperative.



Instead of being the consequence of increased scientific knowledge, new ways of interpreting the body were rather new ways of representing and indeed of constituting social realities.

Second perspective on science and society:

1.2 / Knowledge Production on Women (Body and Mind)

The need to study knowledge production

The Hottentot Venus, and scientific racism

From the 18th to the 19th century, the Hottentot Venus, a woman of African descent, was exhibited in Europe as a specimen of 'scientific racism'. Her body was used to illustrate the supposed differences between 'civilized' and 'uncivilized' races, and to justify the colonial project.



Georges Cuvier
Scientific Racism
Eschmann, 1999, 1010



François-Xavier de Beaulieu (2004): *Les Hottentots: entre science et spectacle, in *Musées de France* (ed): *Les Hottentots, Au temps des expositions universelles**

lies in the intertwined evolution of the scientific description of the world and the normative production of the social order.



1.3/ Gendered Knowledge and Objectivity



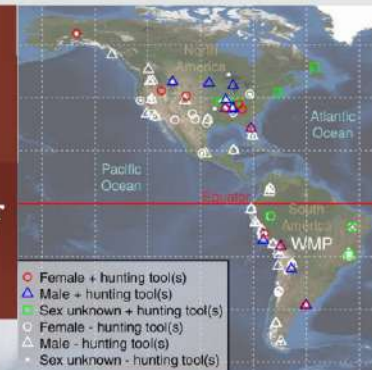
A Gendered Myth of the Origins

'The first cultural device was probably a recipient. [...] It is hard to tell a really gripping tale of how I wrestled a wild-oat seed from its husk'

So long as culture was explained as originating from and elaborating upon the use of long, hard objects for sticking, bashing, and killing, I never thought that I had, or wanted, any particular share in it. The society, the civilization they were talking about, these theoreticians, was evidently theirs; they owned it, they liked it; they were human, fully human, bashing, sticking, thrusting, killing. [...]

If it is a human thing to do to put something you want, because it's useful, edible, or beautiful, into a bag, or a basket, or a bit of rolled bark or leaf, or a net woven of your own hair, or what have you, and then take it home with you, home being another, larger kind of pouch or bag, a container for people, [...] – if to do that is human, if that's what it takes, then I am a human being after all. Fully, freely, gladly, for the first time.

Ursula K. Le
Guin (1988)
*The Carrier
Bag Theory of
Fiction*



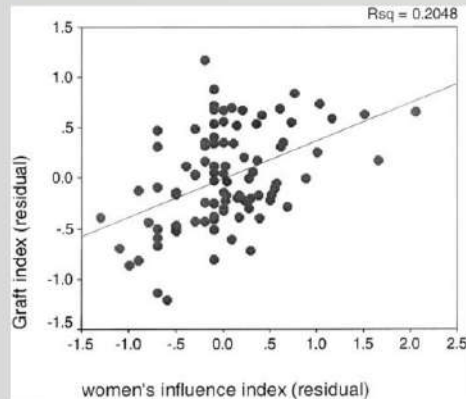
Haas R et al. Female hunters of the early Americas. *Sci Adv.* 2020 Nov 4;6(45)

A scientific 'fairy tale'



Emily Martin (1991) 'The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles', in Signs: Journal of Women in Culture and Society (16-3)

Gender and Corruption



Two studies (Swamy et al. 2000; Dollar et al. 2001) pretend that women are 'the fairer sex' and that we should promote them to public roles accordingly.



Bérendère Sim et al. (2017) 'Gender and corruption: A toolkit to address the 'add women and stir' myth.' OECD conference



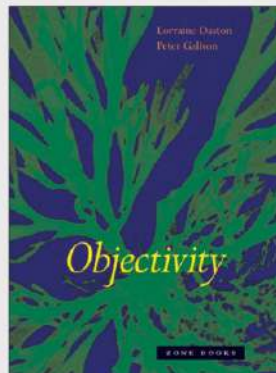
TABLE 1. SUMMARY OF RESEARCH ON GENDER DIFFERENCES IN CORRUPT BEHAVIOUR

Attitude towards corruption	Accepting bribes	Offering bribes
Survey responses suggest a lower tolerance of women towards corrupt behaviours	With some exceptions that seem to respond to contextual factors, there is no significant difference between men and women	Men are more likely to offer bribes
However, it seems that this is true only in democracies, but not in autocracies and environments where corruption is endemic and widely tolerated	Women behave more opportunistically: they may accept the bribe, but don't reciprocate with a corrupt favour	The value of bribes offered by men tends to be higher
	Women are less likely to accept bribes than men when there is a perceived risk of sanctions	Both men and women offer higher bribes to men than to women

An Epistemology of Situated Knowledges

Third perspective on science and society:

Knowledge production is social by nature and purity claims can actually alter the validity of facts and the value of science



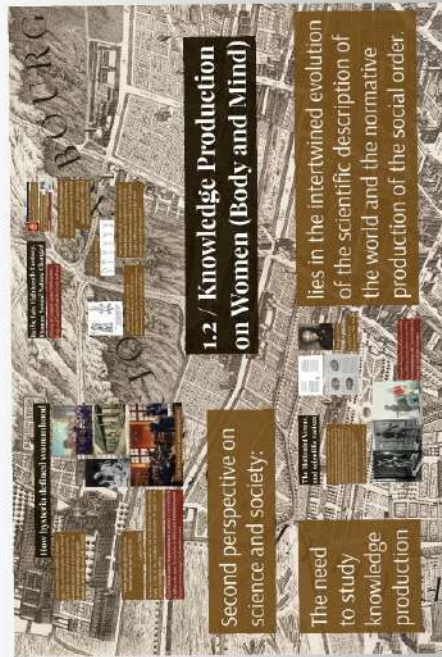
Objectivity understood as impartiality and a "view from above, from nowhere" is a perspective that under the guise of neutrality, may hide many cultural, social biases. It has an history and the 'mechanical' objectivity is outdated.

SITUATED KNOWLEDGES: THE SCIENCE QUESTION IN FEMINISM AND THE PRIVILEGE OF PARTIAL PERSPECTIVE

DONNA HARAWAY

Academic and activist feminist inquiry has repeatedly tried to come to terms with the question of what we might mean by the curious and inescapable term 'objectivity.' We have used a lot of toxic ink and trees processed into paper decriing what *they* have meant and how it hurts us. The imagined 'they' constitute a kind of invisible conspiracy of masculinist scientists and philosophers replete with grants and laboratories. The imagined 'we' are the embodied others, who are not allowed *not* to have a body, a finite point of view, and so an inevitably disqualifying and polluting bias in any discussion of consequence outside our own little circles, where a 'mass' subscription journal might reach a few thousand readers composed mostly of science haters. At least, I confess to these paranoid fantasies and academic resentments lurking underneath some convoluted reflections in print under my name in the feminist literature in the history and philosophy of science. We, the feminists in the debates about science and technology, are the Reagan era's "special-interest groups" in the rarified realm of epistemology, where traditionally what can count as knowledge is policed by philosophers codifying cognitive canon law. Of course, a special-interest group is, by Reaganoid definition, any collective historical subject that dares to resist the stripped-down atomism of Star Wars, hypermarket, postmodern, media-simulated citizenship. Max Headroom doesn't have a body; therefore, he alone sees everything in the great communicator's empire of the Global Network. No wonder Max gets to have a naive sense of humor and a kind of happily regressive, preoedipal sexuality, a sexuality that

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1.3/ Gendered Knowledge and Objectivity



Thanks for listening, watching or interacting!
Tomorrow's lecture is on 'A Politics of Things'