Come valorizzare la componente femminile nelle scienze: merito o quote?

scienze umane

a room of one's own

(Virginia Wolf)

ricerca sperimentale

a laboratory of one's own

(Maria Sklodowska Curie)

attualmente

- posto di lavoro sicuro
- strumenti
- gruppo di ricerca
- fondi
- collaborazioni
- locali

con quali criteri vengono assegnati?

ne parlano anche le riviste più prestigiose

A chair of one's own

The upper reaches of academe remain stubbornly inaccessible to women.

Christine Wennerås and Agnes Wold

If a woman is to write fiction, said Virginia Woolf, she will need money and a room of her own. Likewise, if a woman is to do science she will need grants and a laboratory of her own. The female scientist will also strive for a chair of her own, but she will find it elusive. Although women hold over half of the bachelor's degrees in Europe, they hold just one-tenth of full professorships. Despite decades of debate and measures directed towards making the top levels of academe accessible to women, they remain stubbornly chairless.

Wherever they are, female academics tread a harsher pathway than their male colleagues. US female medical-school graduates are more likely than their male classmates to pursue academic careers, but they are less than half as likely to be promoted to professors. In Italy, it is twice as hard for female senior researchers supported by the National Research Council to become research directors compared with their male counterparts.

In countries where the proportion of women among the professorate is even lower than in the United States and Italy, the hurdles facing women academics are even higher. In Germany, 25% of professors would have been female, instead of the 4% seen today, if female university graduates had been able to follow male career paths. If Prometheus had lived today, he would probably have been a female scientist.

Family and children are often blamed for womens' poor academic success, but studies refute this explanation. In the United States, Finland and Norway, female researchers with children are actually more productive than their childless female colleagues. The true reason for women scientists' sluggish careers must be sought within academia itself.

During the millennium of their existence, universities have devised more or less ingenious strategies to exclude womankind. The coarsest schemes prohibited women from entering the university and attending lectures, often with the backing of legislation. A more refined line of conduct was to allow women to study, but with severe limitations. For example, only certain disciplines were open to them. Women were also frequently denied the right to take degrees, and — as Woolf bitterly experienced — access to university libraries was carefully circumscribed for women scholars. Today, women academics don't face such formidable opposition, yet still they lag behind. Why?

Talent alone does not determine a scientist's career. Time, space and money must be added to the brew. But nowhere in the world are these shared equally between the sexes. In the United Kingdom, only 20% of Medical Research Council or Wellcome Trust grants end up in the pockets of female researchers, who make up 44% of the biomedical academic staff. At the US National Cancer Institute, women researchers on average receive less than two-thirds of the budget and 63% of the research staff compared with male peers of equal seniority. This fact alone can account for the apparent lower scientific productivity of these female scientists.

Identical pieces of work, for example paintings or essays, are often judged more severely if they are assumed to be made by a woman. Scientists are not exempt from the prejudices against women that prevail to this day in all societies. Three years ago, we examined the peer-review process at the Swedish Medical Research Council and found that women had to produce twice as many scientific papers of equivalent quality to those written by men to be considered equally competent. The systematic underestimation of female performance is particularly deleterious in fields such as science, where individuals are constantly evaluated. Repeated small injustices accumulate to produce visible differences in career paths between the sexes. Only if she has excellent contacts can a woman compete on equal terms with a man.

Women's slower pace of rank advancement in itself hampers their scientific productivity. High academic rank makes it more likely that people will include you on their author lists. A junior scientist can produce one good paper per year, a leader of a small research group three to five, whereas the principal investigator of a large team can easily churn out 20. This creates a vicious circle, in which low rank feeds feeble productivity, succeeded by poor career advancement. To those who have, more will be given.

Junior scientists' frustration at the pace of their scientific productivity is normal at the beginning of their careers, when they do most of the benchwork by themselves. But female scientists tend to remain at this level their entire working lives. One should thus not underestimate the importance of having a chair of one's own. To return to Virginia Woolf: "Nobody in their senses could fail to detect the dominance of the professor. His was the power and the money and the influence." It is high time for female scientists to become women of influence. ■

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BETTMANN/CORBIS

Personal space: Marie Curie was a rarity among women scientists in having a lab at her disposal.

Nature, 2000

loro hanno
***le** quote!*

È stato dimostrato che gli uomini sono favoriti

Christine Wenneras and **Agnes Wold**, “Nepotism and sexism in peer-review,”. **Nature** 387, 341-343 (1997).

*Nel maggio 1997 due neurobiologhe svedesi, **Christine Wenneras** e **Agnes Wold**, hanno pubblicato su "**Nature**", una ricerca su come il comitato direttivo dei Consiglio per la Ricerca Medica svedese assegnasse i fondi alle varie candidature. Hanno dimostrato con una rigorosa analisi statistica che "per ottenere lo stesso punteggio di un candidato, una candidata deve essere 2,6 volte più brava, aver pubblicato decine di articoli in più".*

le donne nel mondo della ricerca sono “soggetti deboli”

come valorizzarle?

con le quote?

cambiando i criteri di valutazione e promozione?

esistono caratteristiche femminili nel fare scienza

le caratteristiche di genere non necessariamente corrispondono sempre al sesso

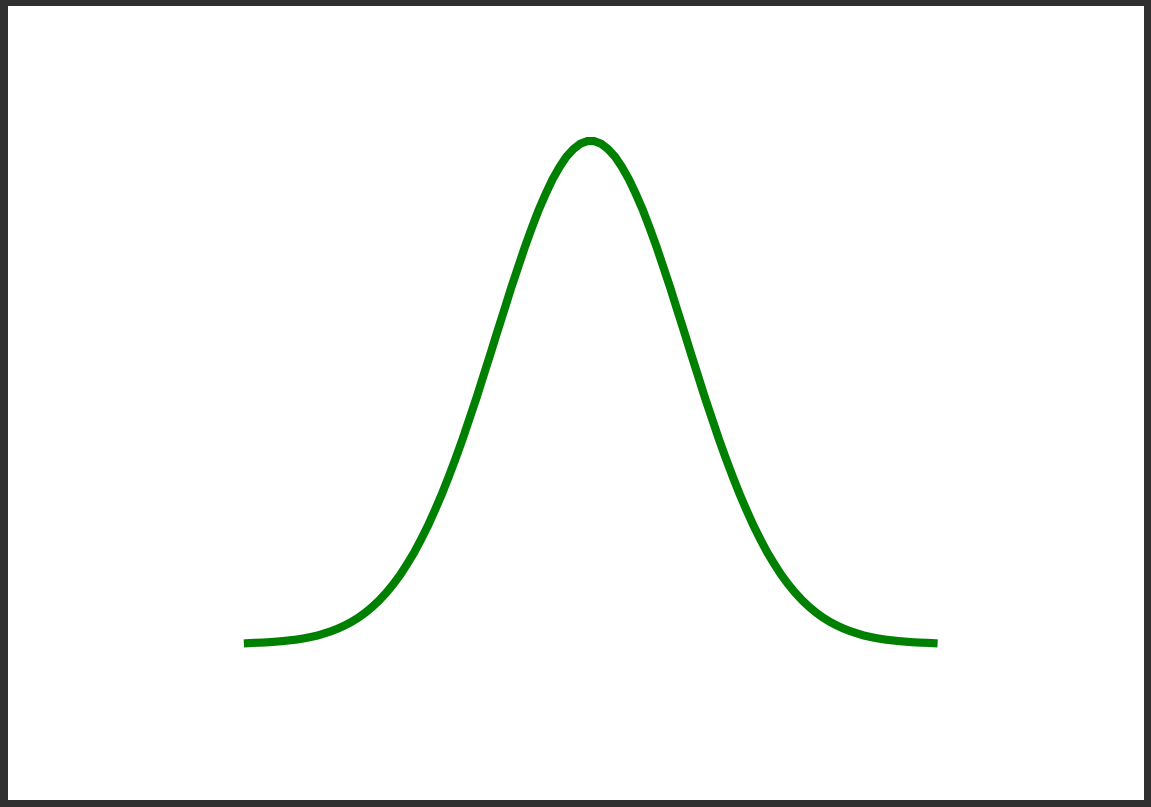
Il genere maschile ha elaborato i criteri di valutazione

I criteri di valutazione attuali favoriscono le caratteristiche “maschili”

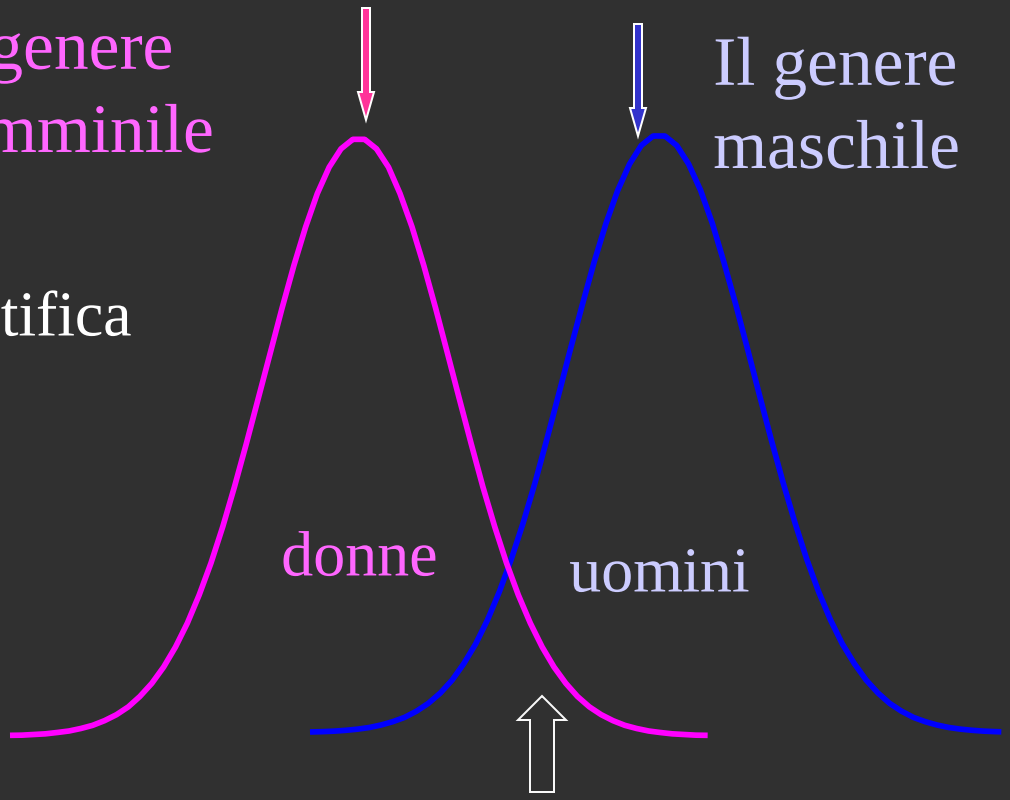
Nuovi criteri di valutazione scelti a partire dal genere femminile

i nuovi criteri di valutazione favorirebbero la maggioranza delle donne

….le fluttuazioni casuali di una qualsiasi caratteristica intorno a un valor medio sono descritte dall'andamento di una curva detta "gaussiana" …..



anche la distribuzione di un qualsivoglia atteggiamento in una popolazione può essere descritta da una gaussiana.
Ipotesi: *tali distribuzioni sono diverse tra donne e uomini*

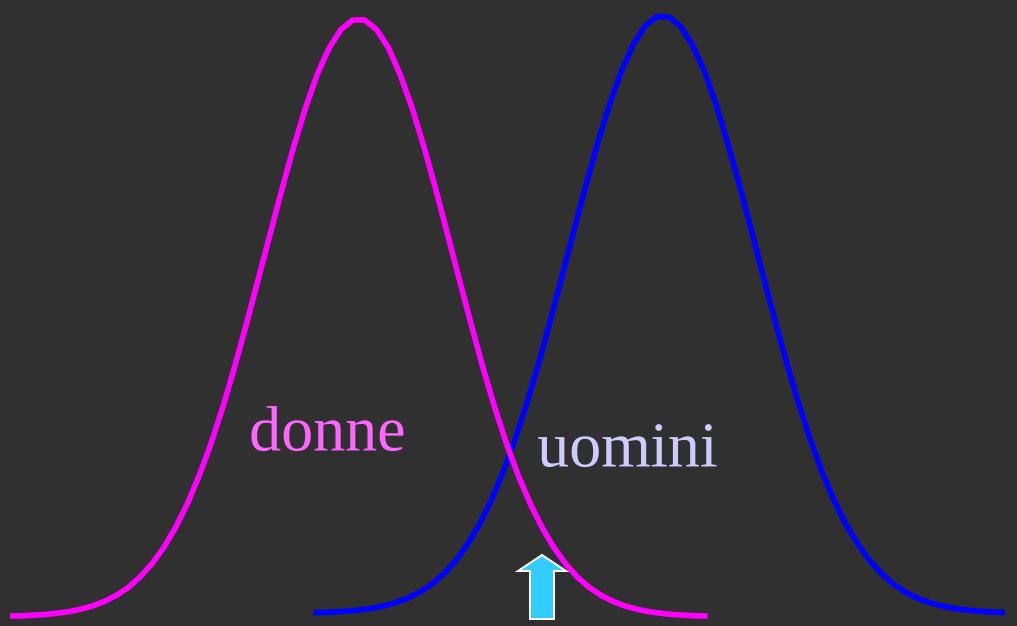


Il valor medio identifica "il genere"

le caratteristiche di genere non necessariamente corrispondono sempre al sesso

Il maschile come valore

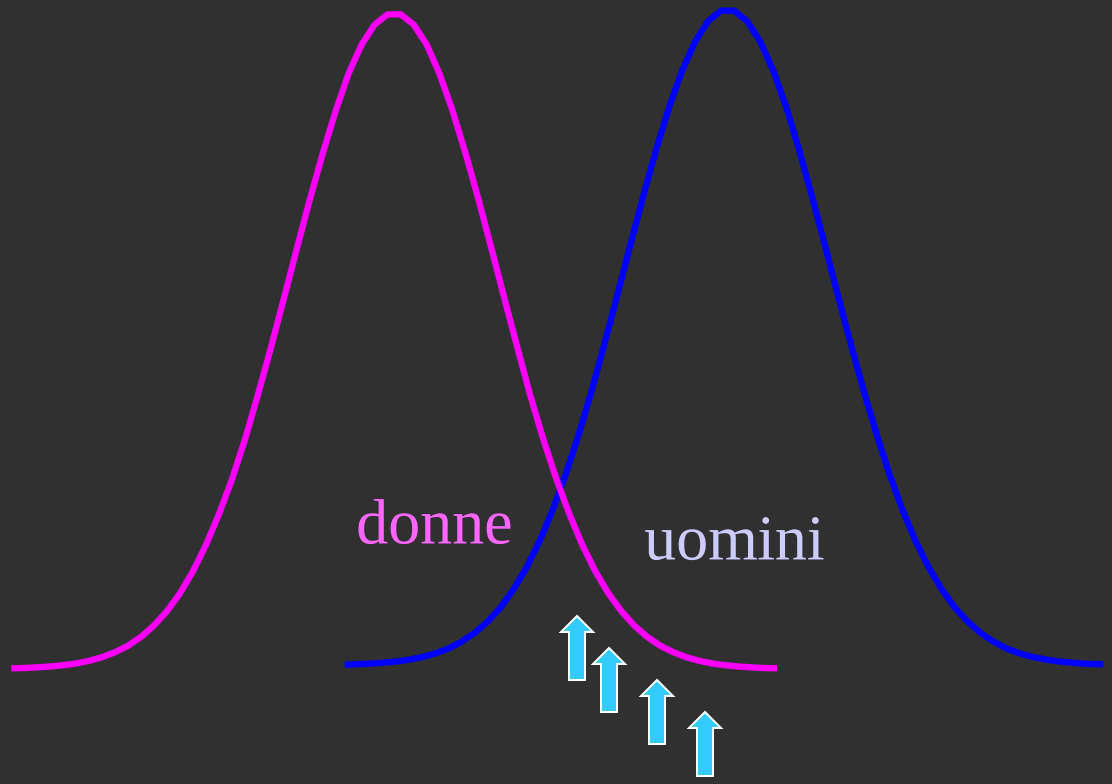
Il genere maschile ha elaborato i criteri di valutazione



Queste le donne che sono state "cooptate"

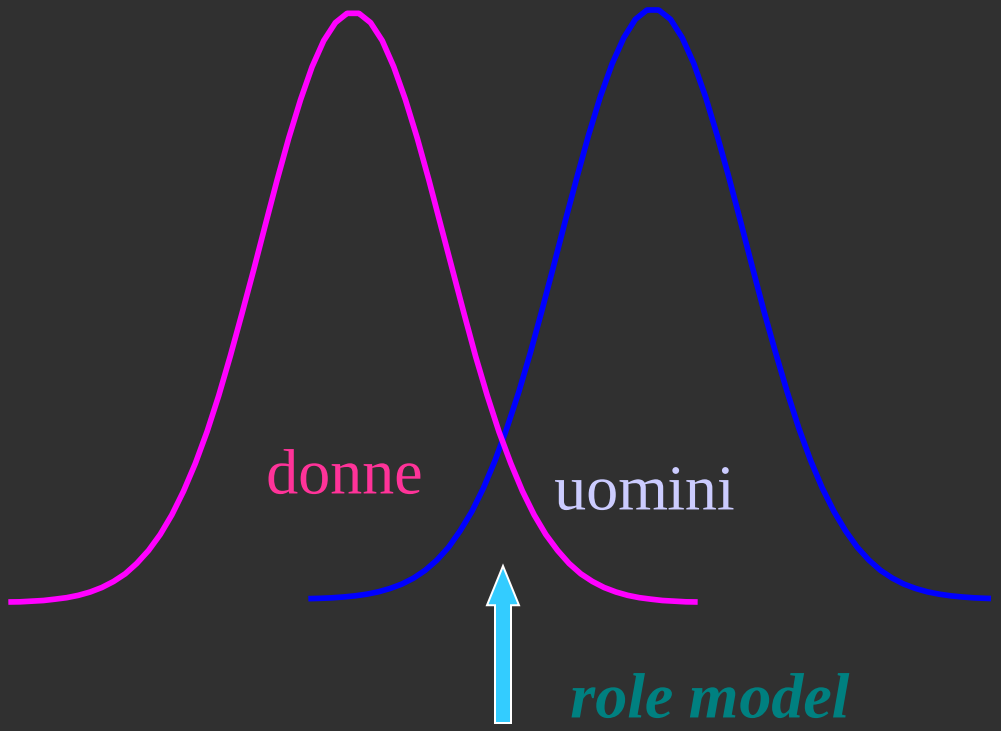
I criteri di valutazione attuali favoriscono le caratteristiche "maschili"

le quote



Le quote non farebbero che aumentare di poco le persone collocate all'estremo del grafico

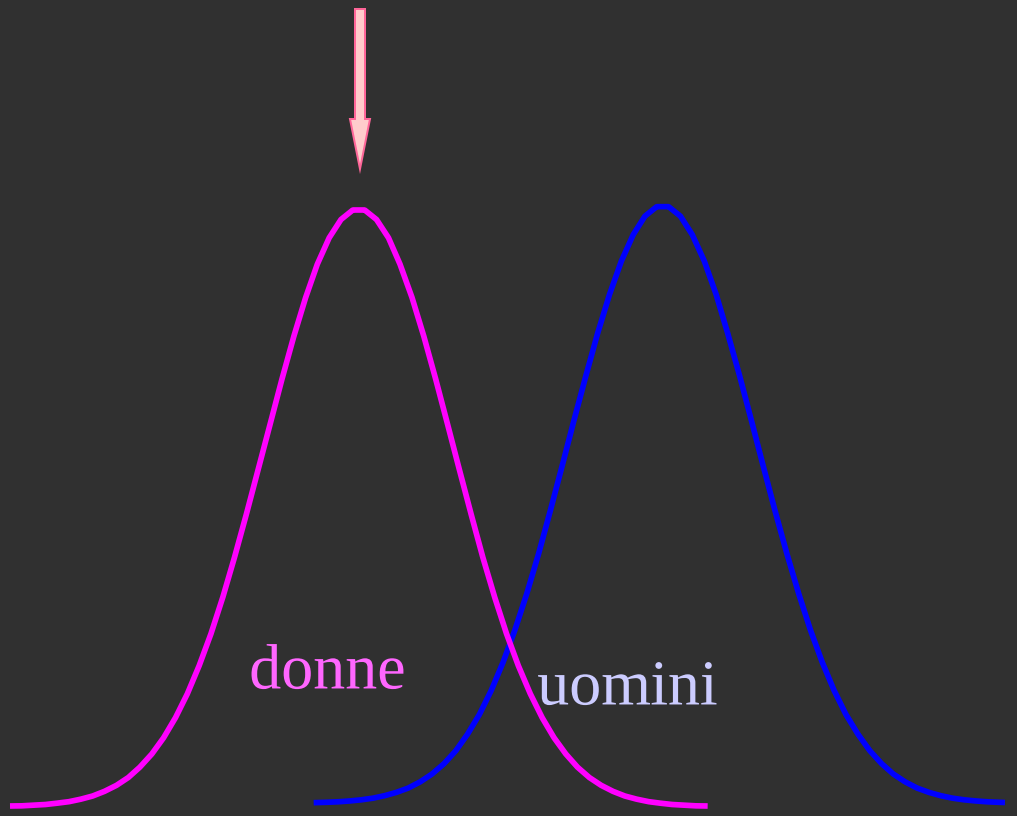
i “role models”



i “role models” sono ancora lontani dal “femminile come valore”

i nuovi criteri di valutazione

criteri di valutazione scelti a partire dal genere femminile



i nuovi criteri di valutazione favorirebbero la maggioranza delle donne

quali criteri?

valutazione in base al merito

invece di

cooptazione in base all'appartenenza

garanzia che a un lavoro svolto bene corrisponderà un riconoscimento che permetta di raggiungere determinati obiettivi

Documento su www.donnescienza.it
"La valutazione e i soggetti deboli" di Bice Fubini e Flavia Zucco

Lo stesso concetto è stato espresso in USA, in Cina, in Giappone

Women don't want to be 'one of the boys'

At the top of Japan's scientific establishment, women are faced with a past they thought they had escaped.

At the annual meeting of the Molecular Biology Society of Japan last December, there was a special symposium featuring a panel made up entirely of prominent Japanese women scientists. Held to highlight the achievements of women in research, the symposium provided evidence that Japanese science is making some headway in the quest for gender equality.

Thanks to the courage of prominent women scientists in exposing examples of discrimination (see *Nature* 410, 404–406; 2001), Japan is facing up to its poor record in promoting women to senior positions. University departments and academic society committees now know that it looks progressive to have a woman among their members. And at increasing numbers of scientific meetings, childcare facilities are provided to make it easier for researcher–mothers to participate.

But how deep is this new-found commitment to women's rights? Not very, argue many of the women who have been let into Japan's upper scientific echelons. They still face accusations that they were promoted just because they were women — and, indeed, many suspect that they received their position as a token gesture. One of the panellists who participated in the December special symposium said she would never do it again. "I am a researcher, not a woman researcher," she told *Nature*.

When it comes to a real understanding of sexual discrimination, or of sexual harassment for that matter, a sizeable part of Japan's academic establishment — mostly the older portion — just doesn't seem to get it.

This has led to some awkward situations. Official gatherings of senior scientists often have the atmosphere of a men's club. On one level, perhaps, it is encouraging that senior women are now invited to such gatherings. But there is little satisfaction to be gained from attending an event that causes you to squirm with embarrassment. Some among the new class of prominent women researchers, for instance, have been given the 'honour' of participating in outings in which scientists are entertained by geisha.

Geisha are traditional purveyors of song, dance, jokes and various other arts. But there are also sexual overtones to their work, which usually involves entertaining successful men. Leaving aside the issue of whether scientific organizations should be spending the large sums needed to invite a geisha on other, more practical concerns, the organizers of such events should be more sensitive to the attitude of participants.

"It was clearly sexual. It made me feel uncomfortable," laments one researcher of her encounter with a geisha. "But I was polite to her, and she was polite to me."

Unfortunately, Japanese etiquette also required her to be polite to whoever organized the outing. But an insult is an insult, no matter how well-dressed and sweet-sounding. ■

Alcune caratteristiche di genere….

ricerche interdisciplinari

occupazione ruoli con spirito di servizio

formazione e passaggio del testimone

capacità di collaborare

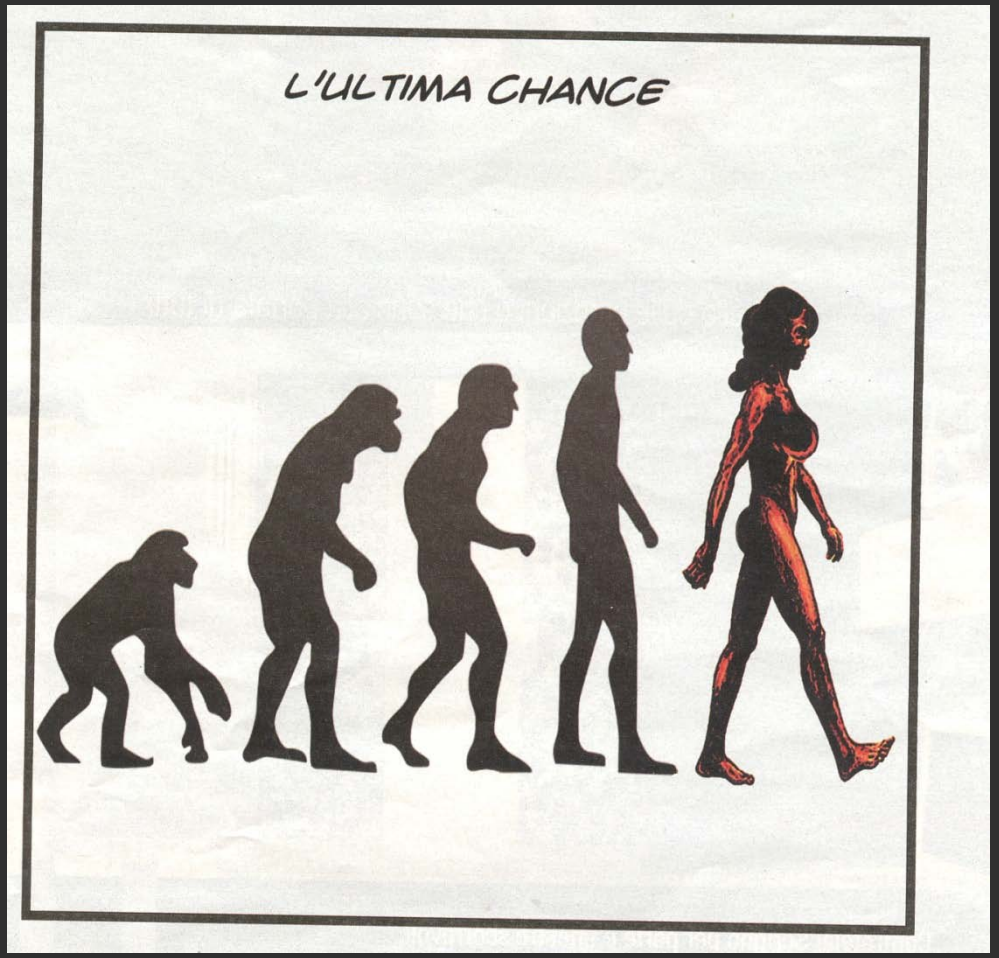
Il femminile come valore

Il genere entra nel modo di fare e gestire la scienza.
Ne cambieranno i contenuti, i metodi, gli indirizzi, le applicazioni, il modo di organizzare il lavoro di ricerca?
O il contenuto della scienza stessa?

LONDA SCHIEBINGER

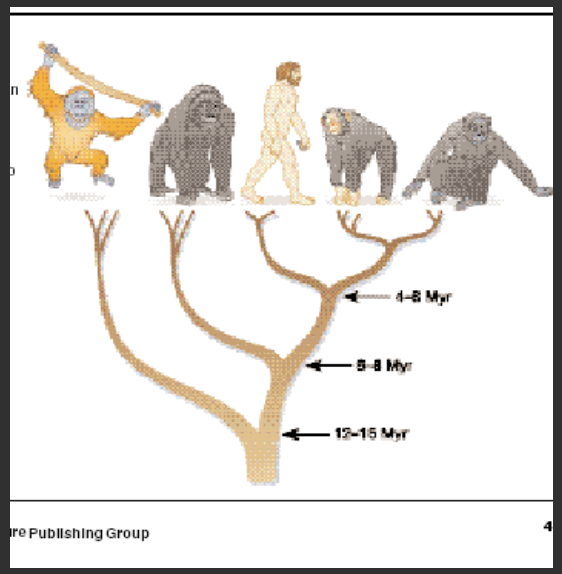
HAS FEMINISM CHANGED SCIENCE?

Non si tratta di questo…



In alcune discipline molto è già cambiato

Archeologia
Primatologia
Antropologia
Psicologia

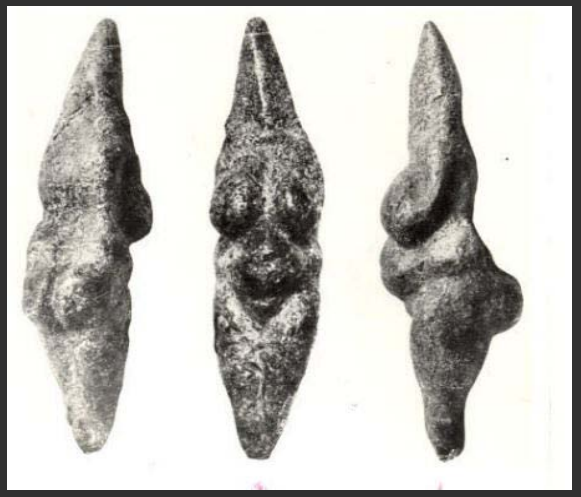


… in altre, per ora, ad esempio Chimica o Fisica, è cambiato il modo di organizzare il lavoro di ricerca

antropologia

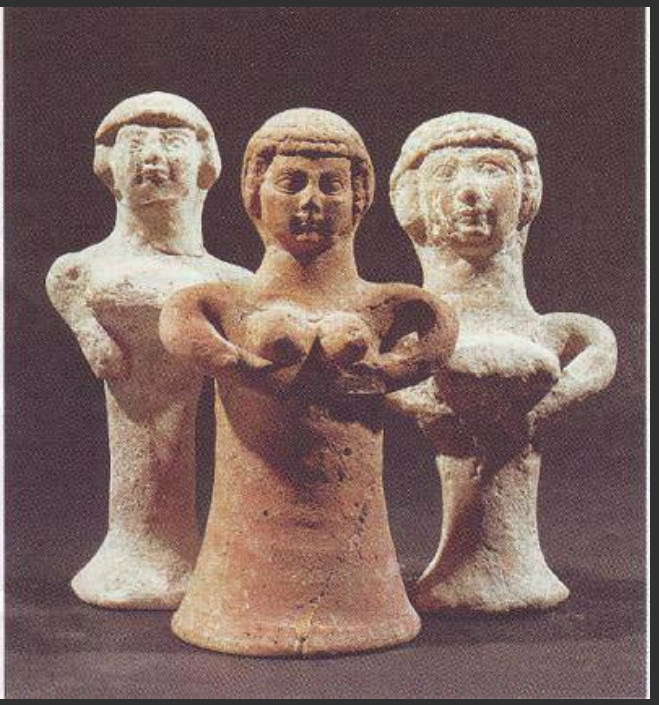
Una delle più antiche forme di scultura (circa 33.000 anni fa) ha per soggetto il corpo femminile: gli archeologi le chiamarono "veneri" in quanto si pensava rappresentassero un ideale estetico. Molte vennero liquidate con il generico appellativo di "statuette della fertilità"

Laussel e Willendorf
circa 25.000 anni fa



(Golan, Balzi Rossi,
Tiglieto di Savignano)

Erano invece immagini diverse del culto della Terra Madre



Inanna dea sumerica della Terra Madre

Astarte, protettrice delle città fenicie di Tiro, Sidone, Cartagine e Biblo,, la Terra Madre che, unendosi con il suo sposo celeste Baal, genera ogni essere vivente.
I

primatologia

al di là di facili speculazioni…temi come questo un tempo non venivano studiati

Nature, Aprile 2004

Sex differences in learning in chimpanzees

Young females quickly learn how to fish for termites — but young males prefer to play.

The wild chimpanzees in Gombe National Park, Tanzania, fish for termites with flexible tools that they make out of vegetation, inserting them into the termite mound and then extracting and eating the termites that cling to the tool[1]. Tools may be used in different ways by different chimpanzee communities according to the local chimpanzee culture[2]. Here we describe the results of a four-year longitudinal field study in which we investigated how this cultural behaviour is learned by the community's offspring. We find that there are distinct sex-based differences, akin to those found in human children, in the way in which young chimpanzees develop their termite-fishing skills.

Chimpanzees use tools for more purposes than any other non-human species[2]. The cultural variation in tool-use repertoires among chimpanzee communities may be attributable to individuals socially learning from other members of their community[2]. We investigated this process in wild chimpanzees in Gombe National Park by videotaping 14 animals, who were all under 11 years old, and their mothers during termite-fishing sessions (for methods, see supplementary information).

We knew the ages of six individuals at the point when they first successfully obtained termites with a tool. In these individuals, we found that female offspring termite-fished when they were an average of 27 months younger than male offspring (for females: $n = 3$, mean of 31 months, s.d. of 4 months; for males: $n = 3$, mean of 58 months, s.d. of 6 months).

The increase over one-year age categories in the proportion of time spent attempting to termite-fish while at a termite mound, whether successful or not, closely resembles a logistic growth curve for both sexes (Fig. 1a). However, females termite-fished significantly more, and at an earlier age, than males in age classes from 0.5 to 5.5 years (general linear model[4] (GLM): $n = 25$, adjusted $r^2 = 0.82$; for age, sex, age × sex, $F_{10,14} = 12.06$, $P < 0.0001$). In young chimpanzees that had already acquired the skill (aged 3.5 to 10.5 years), females were also more proficient, as measured by the number of termites gathered per dip (GLM: $n = 12$, adjusted $r^2 = 0.62$; age, $F_{1,9} = 15.23$, $P = 0.004$; sex, $F_{1,9} = 10.94$, $P = 0.009$) after adjusting for age.

Videotape recordings (E.V.L.) were used to categorize the length of the tool used by mothers and their offspring in terms of a chimpanzee's fist measure (see supplementary information): a tool inserted to less than 3 fists' length was categorized as short; 3–5 fists as medium; and more than 5 fists as long. Each mother showed a distinct pattern of apportioning her dips among the different length categories. Daughters' termite-fishing techniques resembled their mothers with regard to tool insertion length, whereas the sons' did not.

For every tool insertion-length category, the proportion of a daughter's termite-fishing dips in that category correlated closely with her mother's (Fig. 1b, top); each son's percentage of dips in a particular category did not correlate with his mother's (Fig. 1b, bottom). (GLMs for sex by mother's tool insertion-length category: short, $P = 0.009$; medium, $P = 0.01$; long, $P = 0.02$.)

There were no significant differences between the sexes in the frequency of social interaction with the mothers, and mothers did not show any difference in tolerance towards male or female offspring. Because active demonstration of nut-cracking by a chimpanzee mother in the Tai forest has been described[5], we looked for evidence of such behaviour in mothers at Gombe. We saw no cases of active teaching, by mothers or any other individuals, which would have been indicated, for example, by the offering of tools or modification of offspring behaviour.

Young females spent more time than young males watching their mothers fish for termites (generalized additive model[6] (GAM): sex and age × sex interaction both give $P < 0.0001$), whereas males spent significantly more time playing at the termite mound (GAM: sex and age × sex interaction both give $P < 0.0001$).

Although our results are necessarily based on small numbers of chimpanzees, we used non-parametric models when standard model assumptions were violated, and tested for effects due to repeated measures where appropriate (see supplementary information). The sex differences in termite-fishing behaviours were consistent and strikingly apparent.

Our findings indicate that female chimpanzees start to fish for termites at a younger age than males; they are more proficient than males once they have acquired the skill; and they each use a technique similar to their mother's, although males do not. To our knowledge, this is the first systematic evidence of a difference between the sexes in the learning or imitation of a tool-use technique in wild chimpanzees. A similar disparity in the ability of young males and females to learn skills has been demonstrated in human children[7–11] and may be indicative of different learning processes. A sex-based learning difference may therefore date back at least to the last common ancestor of chimpanzees and humans.

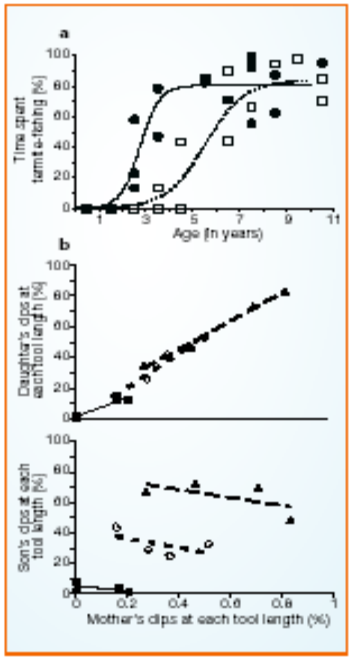


Figure 1 Sex differences in wild chimpanzees learning termite-fishing. **a**, Percentage of the time at the termite mound spent termite-fishing by young chimpanzees aged 0.5 to 10.5 years. Data are from 8 males (squares) and 6 females (circles) sampled over several years; fitted curves (dashed and full lines, respectively) represent the logistic prediction. **b**, Daughters' techniques (top) correlate strongly with their mothers' (for short tool insertion length (triangles), $P = 0.005$, $r^2 = 0.99$; for medium tool insertion length (diamonds), $P = 0.013$, $r^2 = 0.97$; for long tool insertion length (filled squares), $P = 0.009$, $r^2 = 0.98$); sons' techniques (bottom) do not correlate with their mothers' (short, $P = 0.378$, $r^2 = 0.39$; medium, $P = 0.439$, $r^2 = 0.32$; long, $P = 0.461$, $r^2 = 0.29$). Points represent an offspring's percentage of dips at a particular tool insertion length plotted against his or her mother's percentage of dips in the same length category. Regression lines are shown for each of the three categories of tool insertion length.

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E adesso?

Più donne donne nel mondo della ricerca, sempre più brave…

… ma la precarietà che copre ormai una buona parte dell'età fertile le potrebbe riportare indietro, riaprendo la forbice e riproducendo le esclusioni