

## Female Brains vs. Male Brains

by Serge Ginger (France)<sup>1</sup>

### Two lectures in the same time

You're lucky to-day: you'll have *two lectures*,  
And — as I have a short time — I'll give these *two lectures at the same time!*  
One for women; another one for men!

In fact, I already began: *right now, men and women haven't heard the same message!*

### Hearing with both hemispheres

For instance — *in average, of course* (with many individual variations)<sup>2</sup> — *women hear me twice as loud* (2,3 more loud) as men. So, they hear me “shouting” (and they think I'm angry) while men have the feeling I'm speaking in a confidential manner, with some kind of complicity...

The women hear me with *both their hemispheres* (left brain *and* right brain), while men listen to me with mostly their *left* brain — verbal, logic...and consequently with criticism! Women have more links between the two hemispheres (through *corpus callosum*)<sup>3</sup> and my speech is colored with emotions, perceived *subjectively* through their wishes and their fears, through their ethical or social values (like feminism!). They hear *what* I'm saying, but mostly *how* I do it, sensitive to the tune of my voice, to the rhythm of my breath, to my supposed feelings...

Of course, this predominance of *audition* and *subjective hearing* is only a detail, but its main interest is that we can observe it *here and now*.

### Two different species

To speak frankly, we belong to *two different “species”*. In our times, we just finish the deciphering of the *human genome* and you perhaps know that it's proofed that humans and monkeys have about the *same genetic inheritance*: common at a rate of 98,4% — which means only *1,6% of differences* between men and monkeys (male monkeys!)... while there is 5% difference between men and women! So, a human male is physiologically more near to a monkey than to a woman!... And, as you already guessed it, woman is near to a female monkey!

Of course, such provocative and *quantitative* calculations neglect the *qualitative* aspect: for instance, the genes which contribute to development of language, art, philosophy, etc. but they underline the big *gap between genders* — within all animal species, including human species. This *gender identity* is different from sexual identity.

Usually, I teach to my students the *impact of brain functioning on psychotherapy*, during a *four days* workshop (with some demonstrations)<sup>4</sup>, but to-day, I've only some minutes to mention it rapidly, and I'll only give a *listing* of about *twenty main differences* between men and women.

### Right brain is masculine

All researchers of all countries agree now to consider that :

- the *left brain* is more developed among *women* ;
- the *right brain* (the so-called “emotional brain”) is more developed among *men* — contrary to what is often thought by general public (and sometimes even by psychotherapists!). It's under the influence of sexual hormones and neurotransmitters (*testosterone*, etc.).

So, the woman is more involved in *verbal sharing* and *communication*, while the man is more prepared for *action* and *competition*.

Already, in the kindergarten, during 50 minutes of a class, small girls talk during 15 minutes and boys, only 4 minutes (four times less). Boys are rowdy 5 minutes; they fight *10 times more often* than the girls: 30 seconds, in average. When they are 9 years old, girls are 18 months ahead. When they are adults, women talk in average 20 minutes

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<sup>2</sup> It's estimated that 20% of men have a *feminine* brain and 10% of women have a *masculine* brain.

<sup>3</sup> It allows women to have several tasks at one time.

<sup>4</sup> During this kind of seminars, I summarize *40 000 pages* of scientific readings on this subject, in French and English (which means about 150 specialized books and the same amount of articles). See a resume of this topic in both my books (chapters on *Brain* and *Dreams*).

at each phone call, while men speak only 6 minutes, just to give an urgent information! The woman needs to *share* her ideas, feelings, emotions, while the man withdraw and *control* his emotions and try to find a *solution*. He interrupts his wife to propose a solution... and the wife don't feel to be listened to! In fact, *men are more emotional* than women, but *they don't express* their emotions and this point must never be neglected in conjugal life... and during psychotherapy.

### Orientation

- Woman is concerned by *Time* (left brain);  
Man is concerned by *Space* (right brain): the advantage of men in three dimensional spatial rotation tests is massive, since the childhood (Kimura, 2000).
- The woman finds her way with *concrete markers*: the advantage of women in memorization or denomination of concrete objects is massive.  
The man finds his way through an *abstract direction*: he is able to improvise a short cut to reach his car or his hotel.

### Sense organs

Globally speaking, the woman is more *sensitive*<sup>5</sup>:

- Her *hearing* is more developed: hence the importance of sweet words, of voice tune, of music;
- Her *sense of touch* is *much more* developed: she has 10 times more skin receptors, sensitive to contact; *ocytocin* and *prolactin* (hormones of *attachment* and *cuddle*) increase her need to touch and to be touched;
- Her *olfaction* (smell) is much more sharp: 100 time more at certain periods of her menstrual cycle!
- Her *Vomero Nasal Organ* (VNO), the real "6<sup>th</sup> sense" (*chemical* and *relational* organ) seems to be more developed and perceives sharper the *pheromones* — which express different kinds of emotions: sexual desire, anger, fear, sadness... Perhaps it's what is called "*intuition*"?
- As for *sight*, it's more developed among men, and *erotized*: hence their interest and excitement for clothes, make-up, jewellery, nakedness, pornographic magazines... However, women have a better *visual memory* (for recognizing *faces*, tidying of objects...).

### Why such differences? The Theory of Evolution

The researchers explain these important *biological and fundamental differences* between men and women by the *natural selection* through more than one million years of evolution of the human species<sup>6</sup>. Such adaptative evolution is supposed to have shaped our brain and sense organs through the combined action of *hormones and neurotransmitters*:

- Men adapted to *hunting* on large space and distance (and also to struggle and *war* between tribes). Usually they had to *silently* pursue game (animals), sometimes during several days, and then to find back their cavern (sense of orientation). *Very few verbal sharing* (it has been estimated that a prehistoric man met not more than 150 persons *during his whole life*).
- During the same period, women's brain adapted to *children's breeding* and education — which implies *verbal sharing* in the limited space of the cave.

So, on a *biological* level, men are programmed for *competition*, while women are programmed for *cooperation*.

And so, everybody can see that *biologically, psychotherapy is a women business!*<sup>7</sup>

These predispositions seem to be linked to *biology* (hormones and neurotransmitters). They are constituted during the *very first weeks of intra-uterine life* and seem to be very few influenced by education and culture.

### Nature and nurture

To-day, neuroscientists and geneticists seem to consider that our personality is determined:

- **for about 1/3, by heredity**: chromosomes from the nucleus of our cells and *mitochondrial* DNA heredity, coming from the *mother*;
- **for about 1/3, by intra-uterine life**: during the *first weeks after conception*; the embryo (fetus) is *feminine* (Durdeen-Smith & Desimone, 1983; Badinter, 1992; Magre & al.; 2001) and *masculinity* is a slow and hard hormonal and educational *conquest*. So, the girl is not a boy who *lost* his penis (Freud's hypothesis), but the boy is a girl who *won* (*gained*) a penis. The psychoanalytical so-called *envy or need for penis* is an hypothesis which has never been controlled. Among *transsexual* people, one can find five times more men wishing to become a women than women wishing to become a man...

During the war, two times more *male homosexuals* were born, probably because of mother's stress, disturbing her hormonal balance (Durdeen-Smith & Desimone, 1983; Le Vay, 1993).

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<sup>5</sup> More "sensitive" (sense organs), but not more "emotional".

<sup>6</sup> On the face of a clock, 10 000 years of civilization, out of one million years of human evolution, represent about half a minute.

<sup>7</sup> See KRAUSE-GIRTH Cornelia (2001). *The Position of Women in Psychotherapy*.

These two *hereditary and congenital* parts seem to be important: for instance, if a male twin is homosexual, his *identical* twin is also homosexual in 50 to 65% of the cases<sup>8</sup>; if he is only a *fraternal* twin, it's the case in 25 to 30%, which means two times less — but still 5 times more than in the general population! Homosexuality could be predicted since the age of 1 or 2 years, in many cases (Le Vay, 1993).

• **for about 1/3, acquired after birth:** cultural bath or steep, education, training, occasional circumstances... or psychotherapy!

In a more general approach, the **global correlation between personalities** is estimated<sup>9</sup> at:

- 50 % between *identical* twins (heredity)<sup>10</sup>
- 25 % between *fraternal* twins (hormonal impregnation during intra-uterine life)
- 10 % between *brothers and sisters* (education)
- 0 % between *strangers*.

These *three thirds* (heredity, acquired *in utero*, acquired during life) have been found — in different proportions — in many fields of abilities: intelligence, music, sports, and even optimism<sup>11</sup>.

Depending on the amount of pessimistic or optimistic genes you've inherited, you could formulate this researches in different manners:

- “Our personality is *predetermined* — since our *birth* — at about 2/3”.
- “Our personality is *constructed* — since our *conception* — at about 2/3”.

## Hormones

When you put a ball on the earth, boys give it a kick; girls take the ball and clasp it to their heart. It seems to be independent of their education and culture, and directly related to their hormones.

≥ **Testosterone** is the hormone of *desire, sexuality and aggression*. It could be called the “hormone of *conquest*” (military or sexual!). It develops<sup>12</sup>:

- *Strength* of muscles (40% muscles for men; 23% for women);
- *Speed* (reactions) and *impatience* (92% of drivers who hoot at a traffic light are men!);
- *Aggression, competition, domination* (the dominant male maintains the quality of the species);
- *Endurance, tenacity*;
- *Healing* of wounds;
- *Beard and baldness* ;
- *Vision* (far away, as “teleobjective”);
- *Right side* of the body and fingerprints (Kimura, 1999);
- *Throwing* with precision;
- *Orientation*;
- Attraction by a *young* female (able to give birth).

### Influence of oestrogens:

- *Dexterity*, separate movements of fingers (Kimura, 1999);
- *Left side* of the body (and fingerprints);
- In average, 15% fat for a man *and 25% fat* for a woman (to protect and nourish her baby);
- *Hearing*: women perceive larger range of sounds, they sing in tune 6 times more often, they have a sharper recognition of sounds and music (to recognize their baby);
- *Smell*: their *olfaction* is 100 times stronger (at certain periods);
- Nomination of *colors*: the cones, which recognize colors, are situated on the X chromosome;
- *Verbal and visual memory* of the localization of things;
- Attraction by a *dominant male*, strong, able to protect her, experienced, socially recognized — which means generally *older*.

## To conclude: some applications in Psychotherapy

The research in neurosciences confirms a lot of traditional knowledge. It helps the everyday work in *psychotherapy* and *counseling* (with individuals or *couples*):

And now, to finish this brief lecture, *some concrete examples* of the daily impact of neurosciences.

### They help the Psychotherapist to:

- *Listen a woman* with patience, until she is finished, without trying to “solve” her problem (which would be a *male* reaction, oriented toward *action*: instead of “mother” her, he becomes her “father”);
- Encourage the man *to speak more* and to *express and share* his emotions;

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<sup>8</sup> According to different studies.

<sup>9</sup> PLOMIN R. & al. (1997). *Behavioral Genetics*. New York: Freean & Company.

<sup>10</sup> Which leaves 50% freedom!

<sup>11</sup> LYKKEN & TELLEGEN (Minnesota University).

<sup>12</sup> When in *optimal* concentration: not too weak, not too high (Kimura, 1999).

- Underline the *importance of sight for men* and of *hearing for women*, especially in *erotic* preliminary (music and sweet voice);
- *Stimulate the ill persons*: install patients near a window (open on the outside world) helps healing; stimulate the aged: passive retirement accelerates aging;
- Exploit, during psychotherapy, the intimate *links between sexuality and aggression* (both of them, controlled by *hypothalamus* and by *testosterone*);
- Be very prudent about “*memories*” of *early sexual abuse*: the memory of a scene, real or only seen *in imagination*, is treated in the *same* brain regions, and creates the same neurochemical reactions (*40% of the “memories” are false memories, reconstructed* from conscious or unconscious fears or desires);
- Mobilize the *frontal lobes*, center of *responsibility* and autonomy (be able to say “no”); hence, richness of *paradoxical and provocative therapy*;

### Some general remarks:

- To *make love* accelerates healing of wounds (testosterone);
- *Body oriented* therapies help to mobilize neurological paths: movement > right brain > limbic brain > emotions > deep engrainment (encoding) of experience...
- A certain amount of *emotion helps memorization*; verbalization *afterwards* helps to *recall* in the future;
- *Long term memorization* occurs mostly during *dreams* (REM sleeping); hence, in case of mental *trauma* (accident, death of a close person, rape, terrorist attack, earthquake...), usefulness of a *debriefing before the first dream* time (“emergency Gestalt”, Ginger, 1987).
- Women commit ten times more suicide *attempts* (they *express* their emotions); men *succeed* in their suicide (*enactment*);
- Women *speak* without thinking; men *act* without thinking!
- Women who are not happy in their *relations*, have problems in their job;  
men who are not happy in their *job*, have problems in their relations;
- Women need *intimacy* to appreciate sexuality; men need *sexuality* to appreciate intimacy.

Finally, it’s fundamental to *follow the research in genetics and neurosciences*<sup>13</sup> and update in permanence (*weekly*) our knowledge.

• It’s probably not indifferent to work with a *male or female therapist*: it *does matter*<sup>14</sup>, it makes the difference! (Krause-Girth, 2001).

- Our perception of the world is very different... but pleasantly complementary!...

Serge Ginger

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<sup>13</sup> The simplest way seems to consult on the *Internet* the research engine [www.google.com](http://www.google.com), the only way to read *recent* studies, not yet published or translated.

<sup>14</sup> Contrary to psychoanalytical hypothesis, *not confirmed* by different studies.