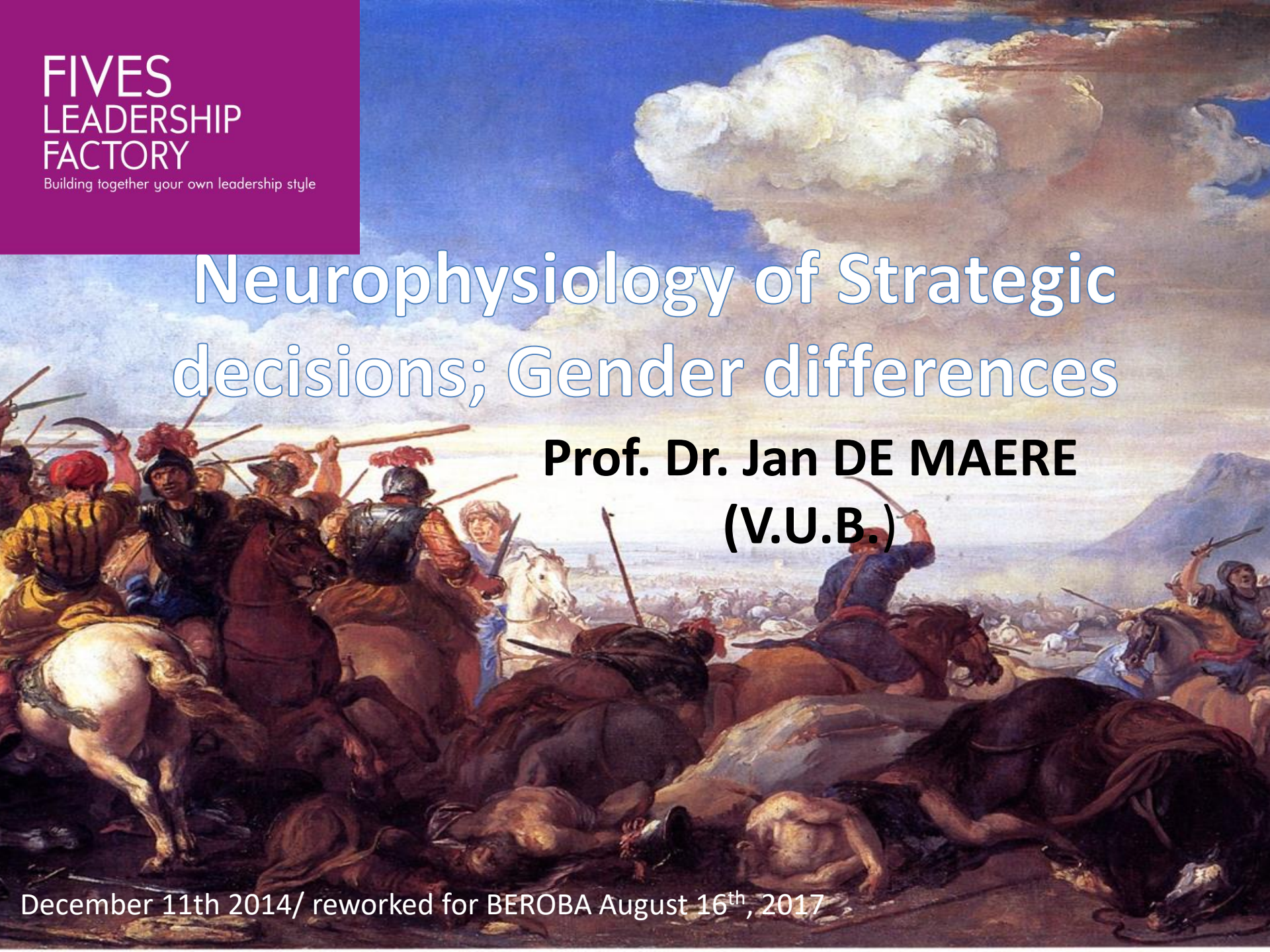


Neurophysiology of Strategic decisions; Gender differences

**Prof. Dr. Jan DE MAERE
(V.U.B.)**



Strategy et Neurophysiology

How to collaborate more efficiently: Domination or Seduction?

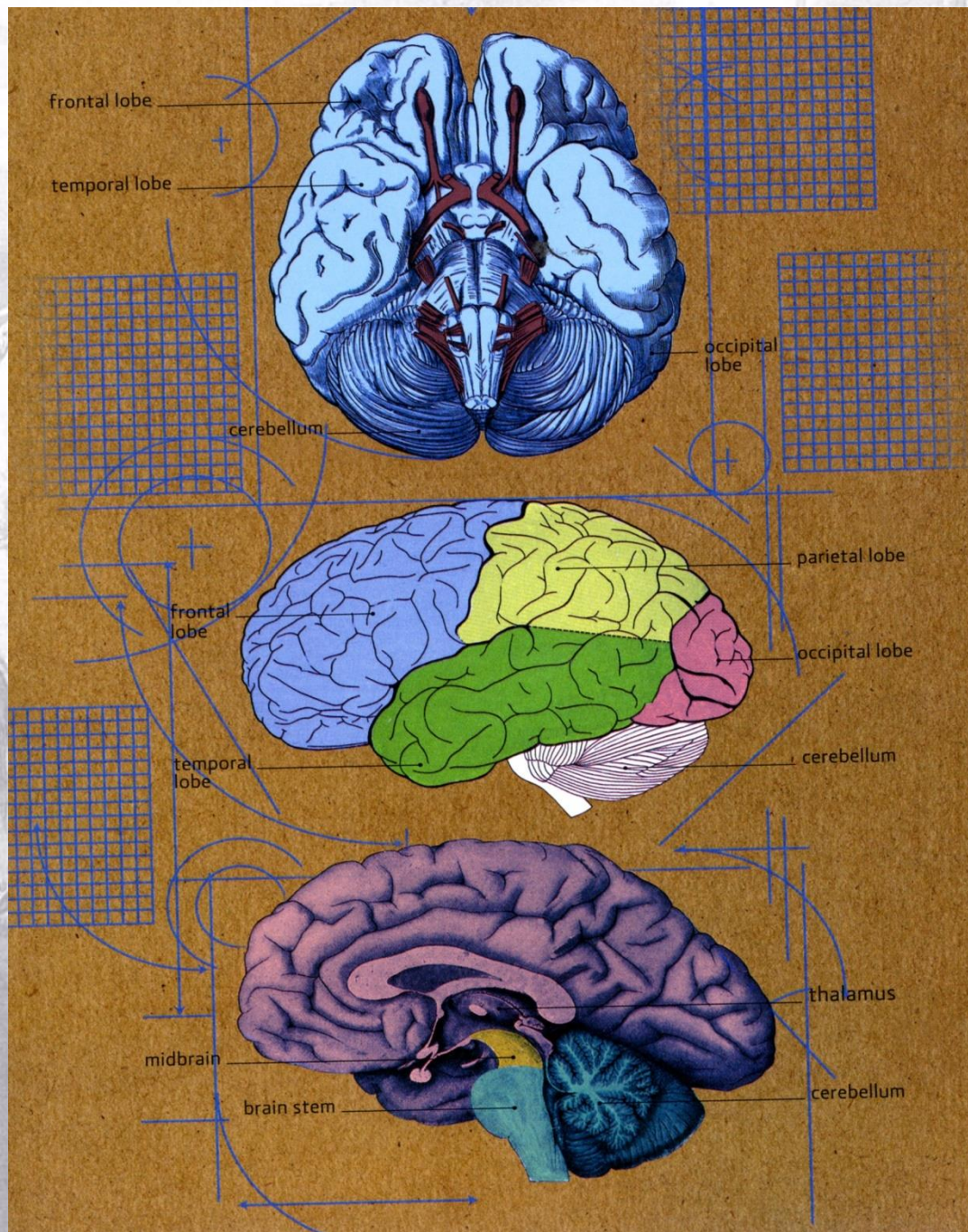
- The Mythology and Symbolism of the battle
Paris' bridges named after victorious battles of lost Napoleonic wars
- The adaptation of resources to the field and enemy tactics by hard power is essential in Battle; at the end everything is decided by negotiations
- Knowing to flatter an Alpha male narcissistic illusions: the erotic drive, an appeal to his primitive innate instinct or the '*Armed Venus*'?
- The Alpha Male Leader's charisma and personality versus Female Seduction & Force:

-Alexander the Great
-1302 Courtrai- guérilla
Ferdinand III-Nördlingen
-Sobiewski et les Turcs

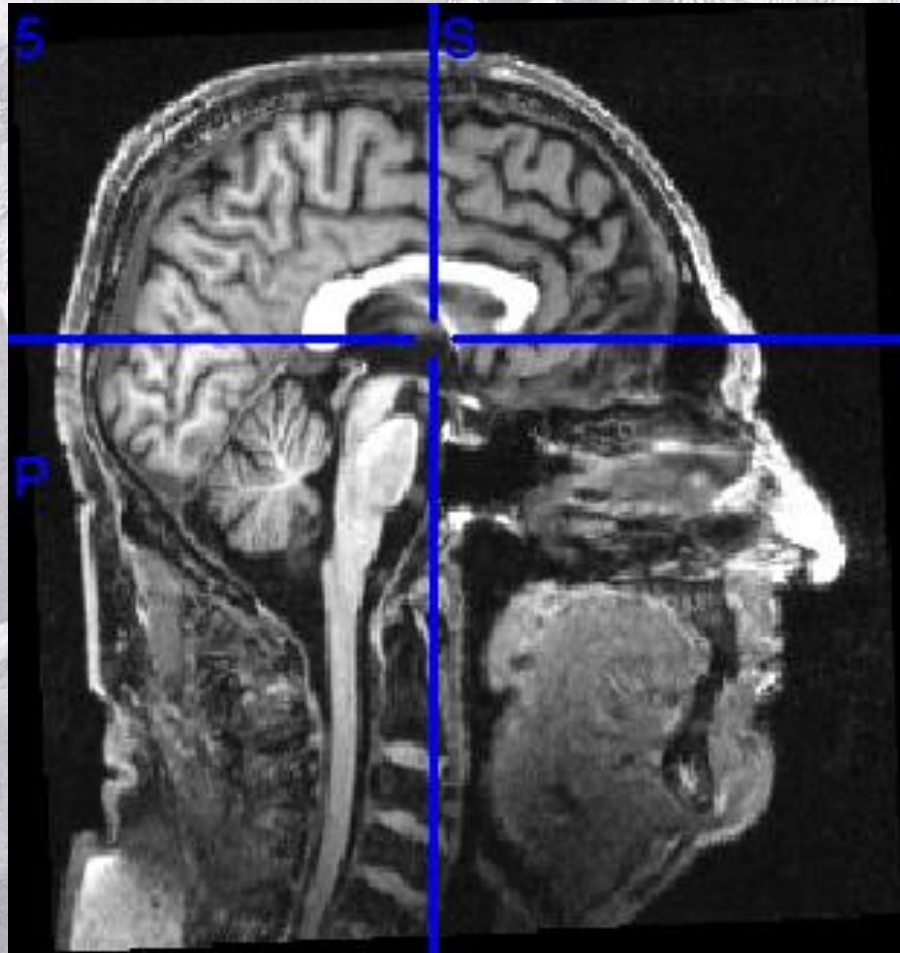
-Le XIV Le Passage du Rhin
-1705 Marlborough, Blenheim
-1815 Wellington, Waterloo
-First World War

Delilah & Samson
Judith & Holofernes
Sisera & Jaël
Dulle Griet

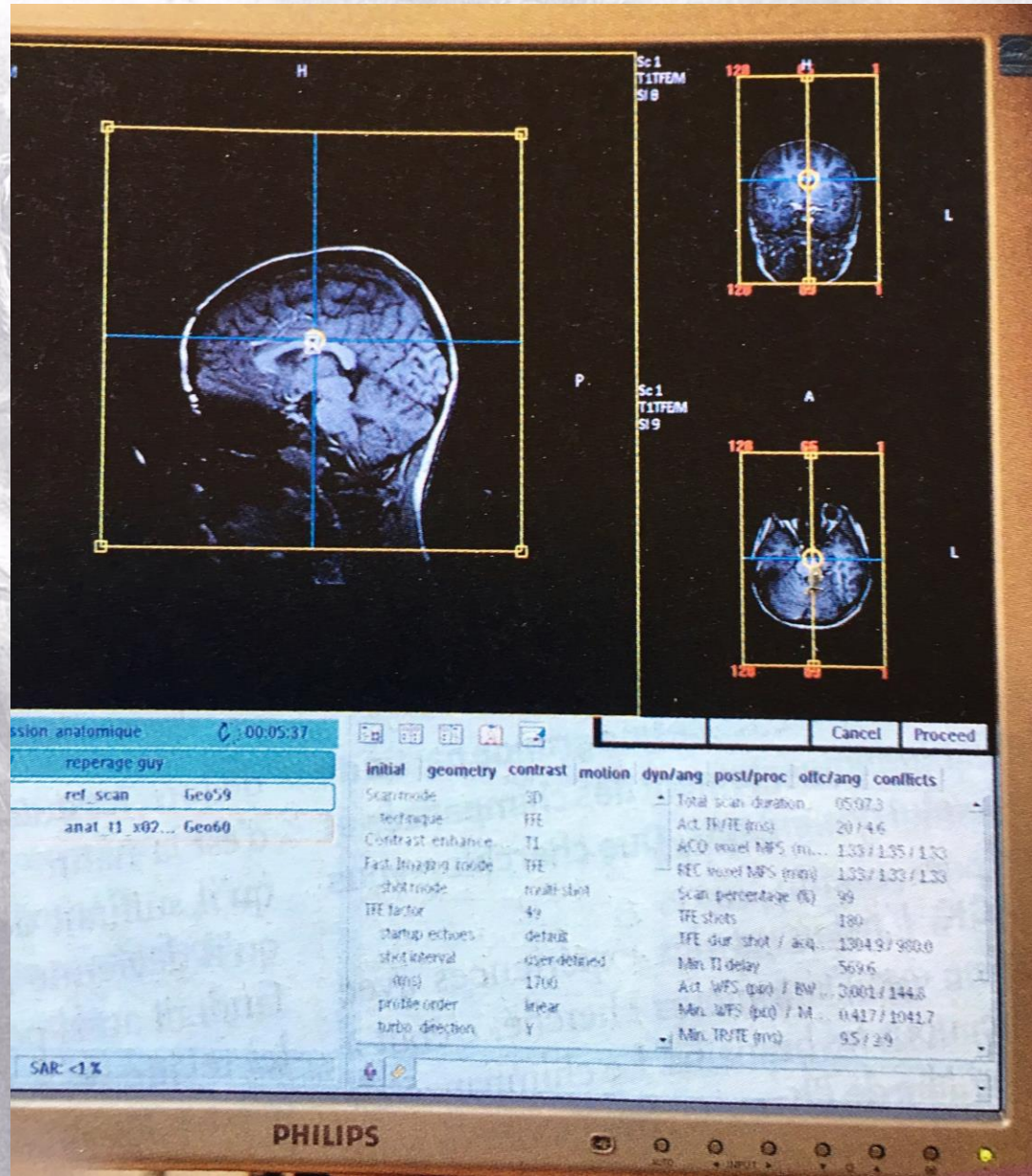
Antiope, amazon
Jeanne d'Arc
Marilyn Monroe
Elena Ceausescu



The Author's Brain



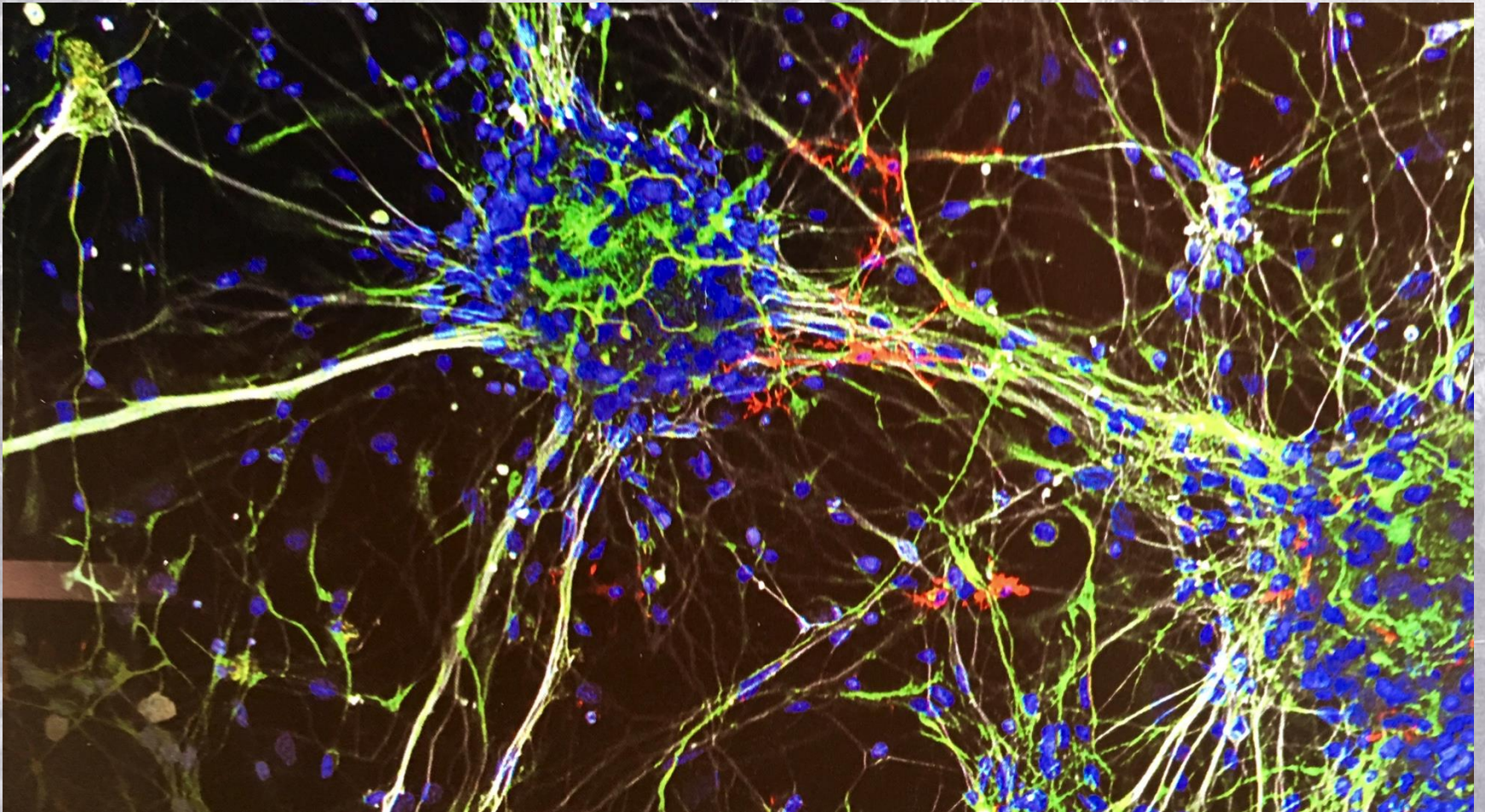
F-MRI computer image



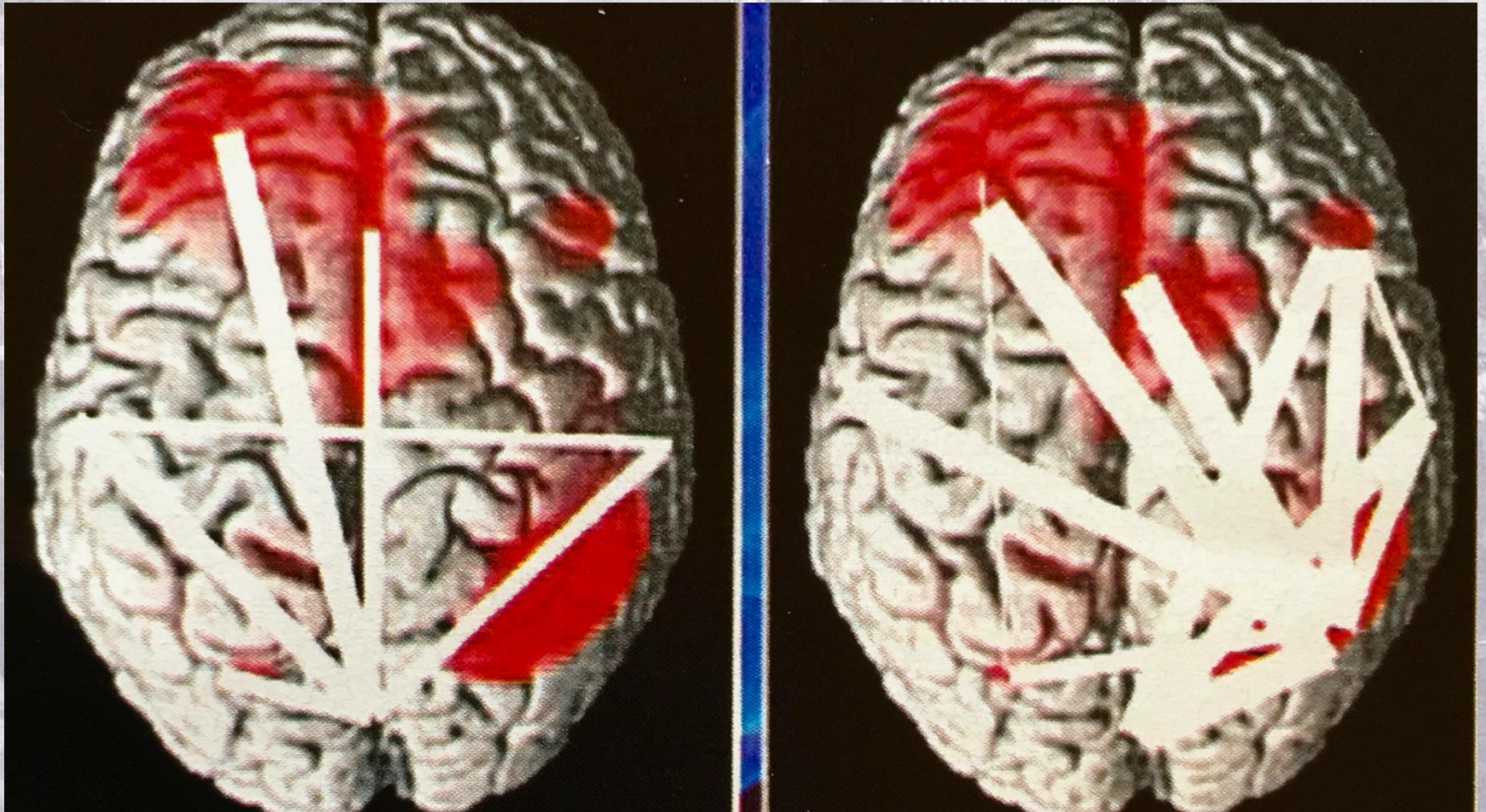
A Neuro-strategy of Decision making

1. The dual concept of mind-body, as well as the dichotomy between reason and emotion is out dated. **We are the discontinuous synaptic activity of our brain!**
2. Thought is the product of the brain's physiological functions. Neuroscience proved this in a necessary and sufficient way. **Reduction & Abstraction are innate essentials of Natural Evolution. Nature (Darwin) versus Nurture (Galton).**
3. Theoretical models of decision making are based on the idea that we are rational beings, able to evaluate risk. Information is incomplete and overabundant. **Beliefs, memory and contextual inferences guide & mislead us (Bias). Resisting them by educated intuition validated by ratio & peer-review!**
4. We are less rational than imagined; more driven by affects/emotions in our way of dealing with the world. **Reacting on emotion is a bad strategy!**
5. Our brain is set up to recognise familiar patterns, generally associated with a feeling of security. **Examine your automatisms, they are 95% of our decisions. Good strategy Is always disruptive & surprising.**
6. We are social beings, looking for mutual recognition & appreciation. We prefer to be wrong in a group then to be smart alone. **A leader has to confirm the group's beliefs & expectations, before taking action; keeping his long term strategy secret.**

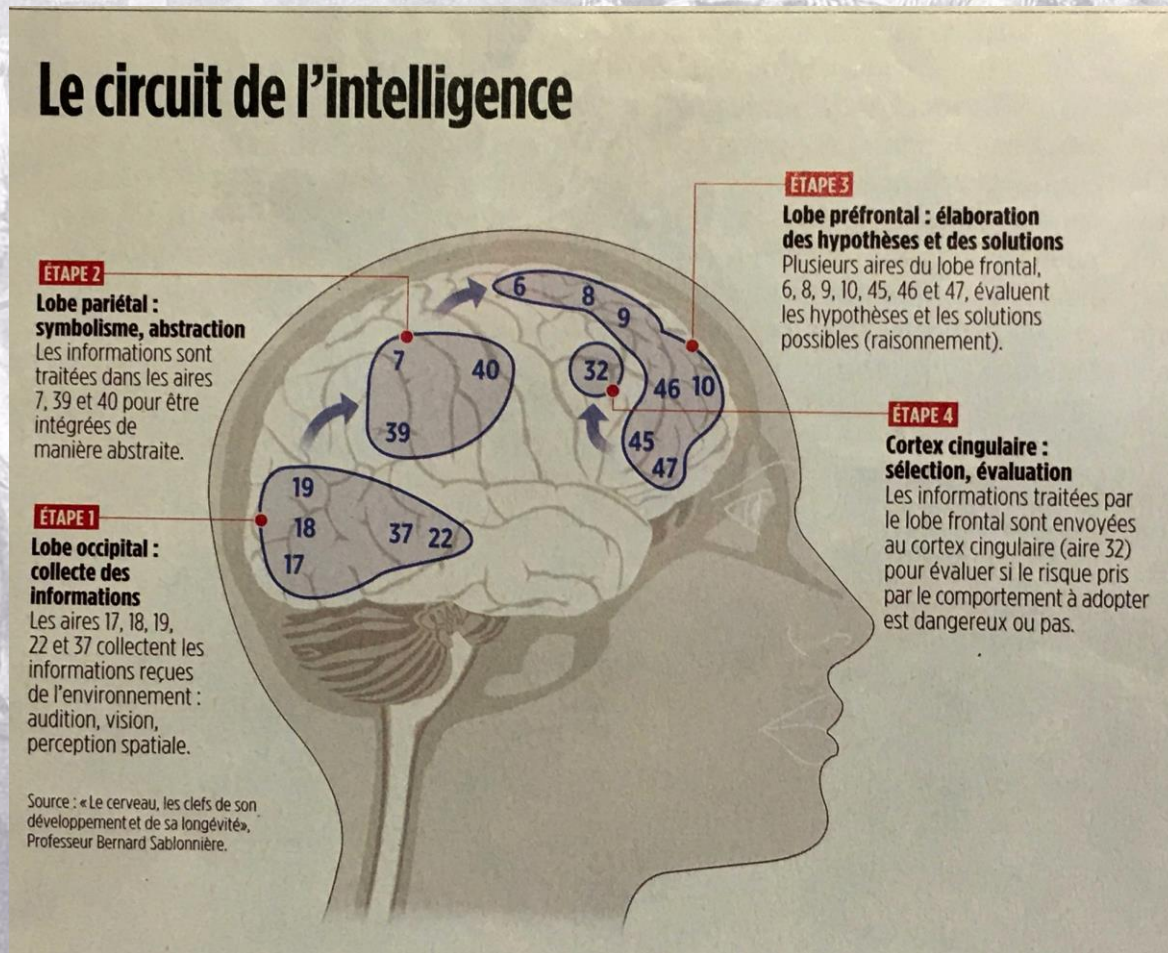
Cell, synapses & axones



Non conscious & conscious perception

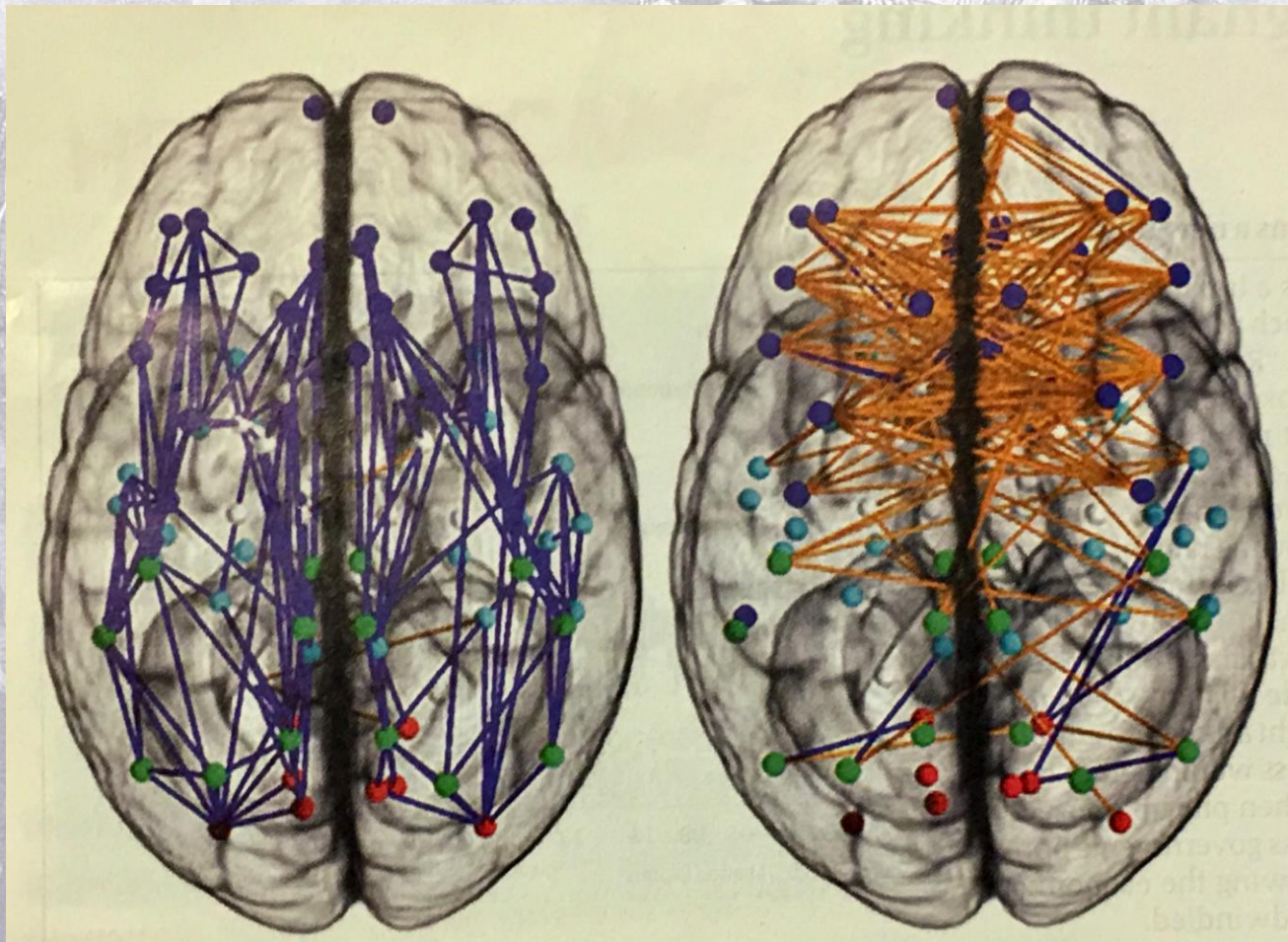


Intelligence: a distributed strategy to adapt to the environment by creating gradual abstractions of a higher order (cortex parietal):
info-analogy & abstraction-hypothesis selection & evaluation



Thinking & Decisions: Male-Female differences:

Hierarchical abstractions vs Emotional interconnection



Medical and Military strategy: automatisms, cognition and logistics

1. We retain better what we understand.
 - * Intelligence is based on: Structure, Analysis & Historical perspective before diagnostic in function of high domain knowledge & peer review.
 - * Strategy needs: capacity, subsidiary delegation, logistics & control
2. Reimagining is re-living. We see almost the same distribution of cerebral activity during an act of remembering as well as during an act of imagining or self projection in the future. **Learn from experience!**
3. We are more convinced by our believe what the problem we confront, is , than what it is for real. **Question your beliefs & context!**
4. **A great leader is transparent, just & in control of his narcissistic behavior**

Emotion, Pleasure and Learning

1. The brain is endowed with rewarding mechanisms that discharge neurotransmitters like dopamine, associated with **pleasure**; a positive feeling when solving a problem by a good decision.
2. We acquire most of our emotions by means of experience and education, mediated by our innate genetic capital & epigenetic evolution. **We are not born equal. Everybody is good in something when motivated. Negative critic is less effective than positive coaching & motivation by reward.**
3. The acquired and the innate of mental content:
part of our cerebral connexions are innate. Half of the brain's connections are developed after birth, by synaptic-stabilisation, influenced by the environment : **Prune your neural connections through the discharge of the superfluous. To learn is to eliminate.**

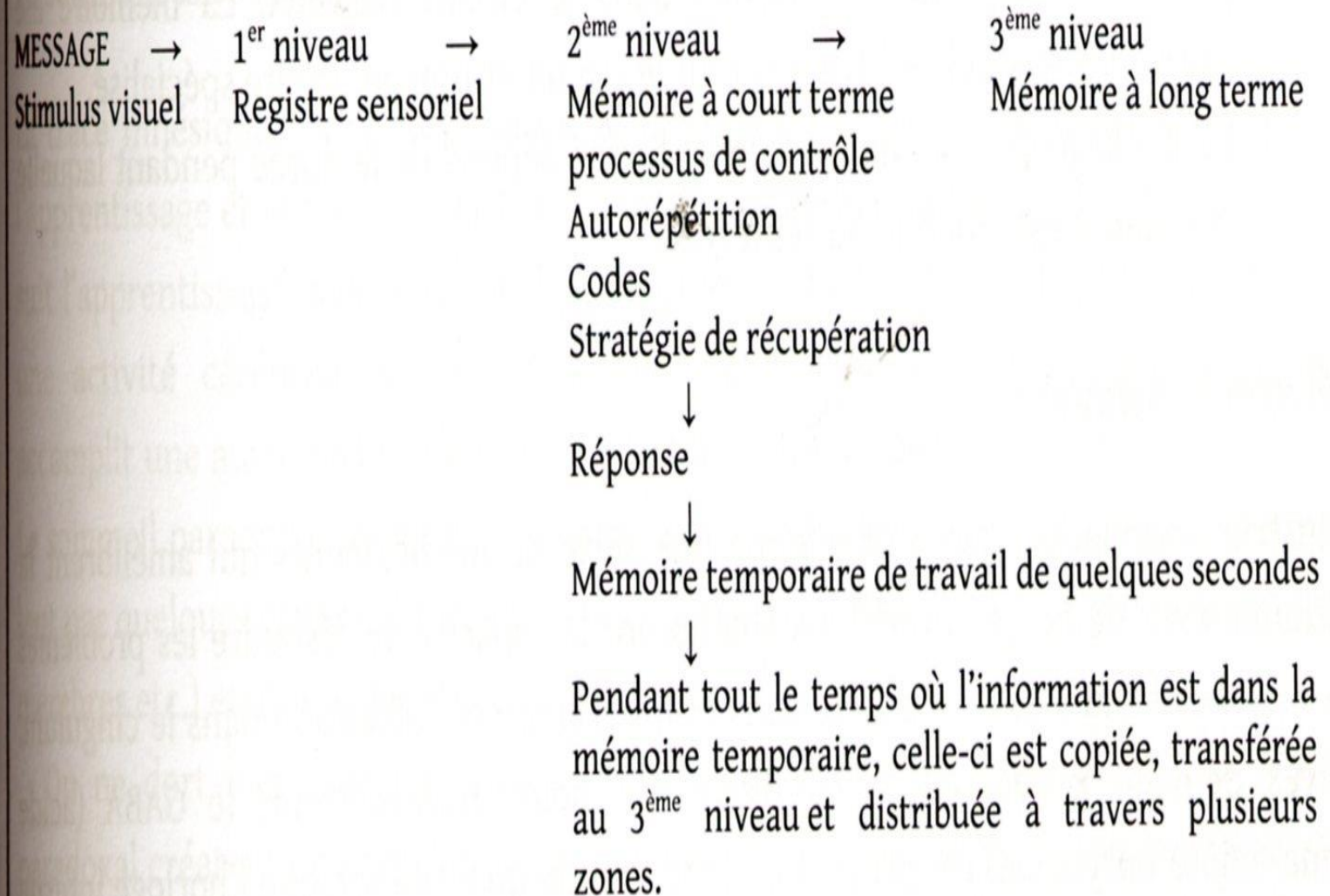
The 'Self', 'the Big Other' and the Strategy

1. We perceive 'the self' as stable, but it is a mental construct in **permanent evolution**.
2. We distillate the narrative of our life story in function of how we want to be seen by the others. We take decisions according to **the approval of 'the Big Other' (Lacan)**.
3. Consumption is determined by the product's functions, the moment, context, but first of all **by the client's profile and personality**.
4. The access to the consciousness happens (J.P. Changeux) **through a simulation of future acts by analogy & metaphor. Judgement is practised hypothetically**.
5. Responsibility is **the capacity of anticipation**. It is mediated by a network of axons, creating a complex and globalised interaction (from V1 to the prefrontal cortex). **Neuronal stabilized ambiguity between conscious and non-conscious influx are essential for strategic decision making**.
6. Meta- cognition: **Think about how you think!**

Memory and Experience

1. Intelligence is feed by memory (distinct from intellectual aptitude). **Great domain knowledge selects better inferences (bias).**
2. **Attention, interest , novelty and emotion** determine the memory's storage. Neurones release irregularly once their activity reaches one level. The synchronic neuronal system (theta- rythm) helps creating long term memories by changing the strenght of synapses, produce memory.
3. Memory is inexhaustible, but **non used information is discarded.**
4. **The semantic memory** retains facts and their meanings, without the context.
5. **The work memory** is mostly innate and only little influenced by practice.
6. The given data are stored according to their hierarchical categories those go from the particular to the general, forming their '**cognitive economy**'. Only the specific qualities are categorised with their associated concepts.
7. The hippocampus and the amygdale are the emotional centres of the brain, implicated **in selection of intensity of memories**
8. Our memories are not stable, but continuously **(re)enacted, (re)actualised and transformed.**
9. **Memory moves constantly one step forward, supported by ratio & imagination, making associations to allow hypothesis for action.**

*Modèle de la mémoire humaine



Intelligence and Learning

Culture is a form of shared learning and knowledge:

There are six cerebral qualities that are essential for learning:

1. the capacity of representation and imagination
2. The capacity of flexibility and critical awareness
3. the capacity of planning in a given time
4. The capacity of taking initiatives
5. The capacity having a selective and relevant type of attention
6. The capacity of emotional control (limitation of impulsivity)

Jean Piaget: one has to **destabilise the pre-existent representation** in order to adjust to new concepts for a *winning strategy*

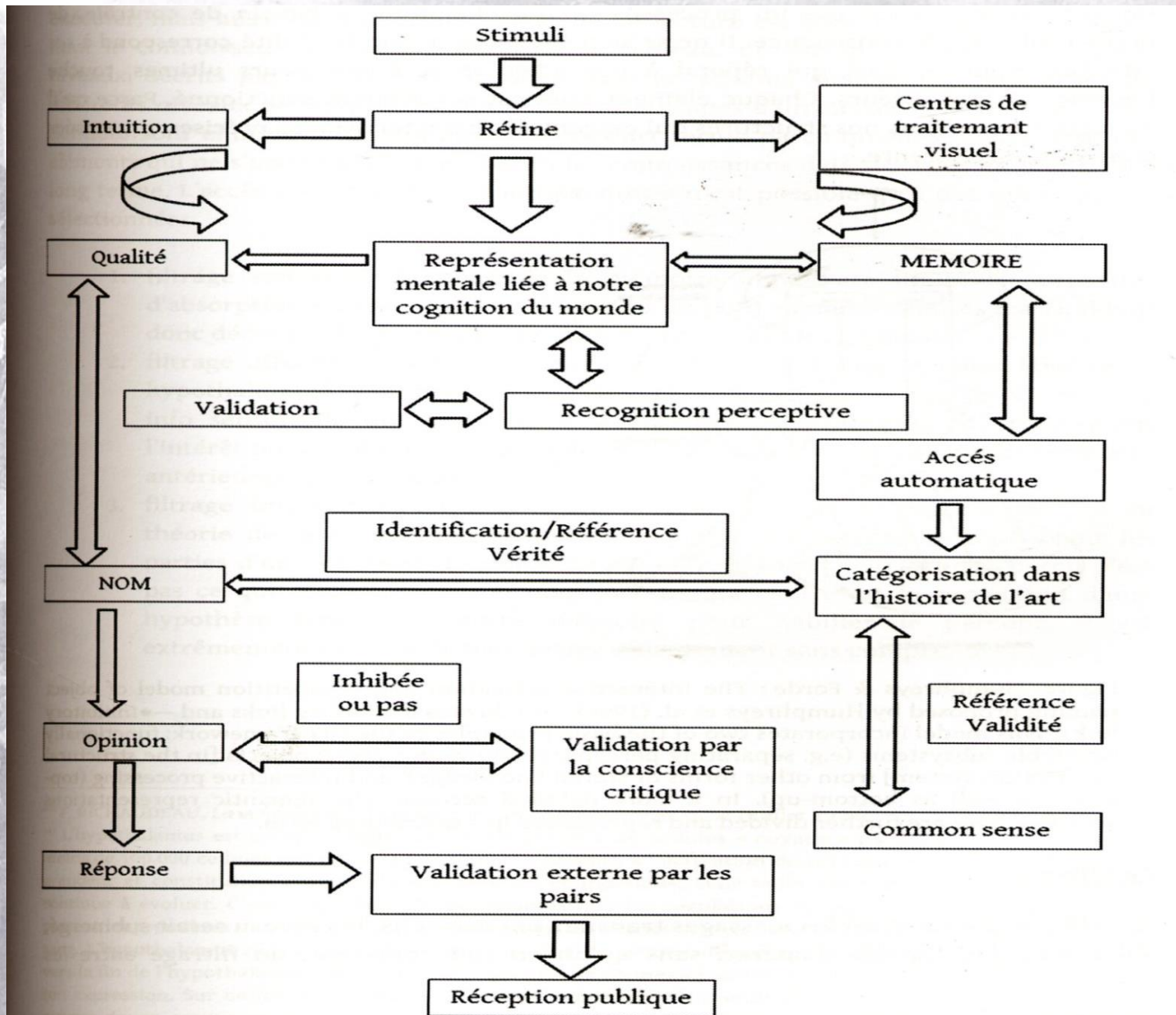
From childhood to adult life, there is a practice of cognitive games by means of selection of representations which are relevant to the external world. The brain looks **for epigenetic relevance**, that brings **social, cultural and physical factors into discussion. (the cultural mark).**

By interconnection & multi- parallel computing, the brain learns through **stabilised selection** (or discharge) **by thin slicing**, influenced by genetic activity and energy saving. (Karlogodt, e. a. DEVL & PSYCHOL.2008)

The Expertise and Network

- Nowadays **expertise** is more and more disengaged from the private context and is driven towards the specialisation of professional practices and standard procedures, allowing a bigger control on its validity.
- **Institutionalisation** determines who has the access to positions or expertise and legitimises its scientific part.
- **Peer-reviewed journals** also decide what is published; leading towards an inevitable professionalization, **marginalizing the atypical researcher in spite of its excellence.**

De la réception des stimuli visuels à la validation



Fashion & Gender

- Fashion allows us to fit in or to stand out; it influences our social interactions. Following the latest trend allows being part of a 'fashionable group'. This is an ontological dilemma, when your desire to look different expressed in your personal style, becomes fashionable, it's not anymore select, since it's anymore different.
- Social comparison, self-perception and how we promote ourselves to others, are part the narrative of our identity. We judge others based on their appearance within a second. This cultural phenomenon conveys meaning, analogies and symbols, which provide instant visual communication. Therefore, the psychology of fashion involves intuition, reasoning and critical evaluation.
- From an evolutionary perspective we are sill in our shopping attitudes towards fashion: hunters (male), going out to kill a prey as fast as possible, quietly alone; or Gatherers (women), spending time in company of others selecting berries and vegetables, enjoying browsing as much as purchasing. Fashionable women receive more attention because men are subconsciously sexually aroused. This triggers dopamine in the brain, as does shopping for ladies who enjoy it.
- From a young age, females are judged on their appearance, man on their skills and authority. This influences their education and epigenetic evolution in a different way

Hard Power vs Soft Power; that's the question

END

