INTRODUCTION

- This poster consists in a philosophical and technical analysis of experiments on decision-making.
- Decision-Making is an intricate subject in neuroscience. It is often argued that laboratorial research is not capable of dealing with the necessary complexity to study such issue.
- I advocate that a philosophical analysis of cutting-edge experiments on decision-making can offer us a framework to explain human behaviour in its relationship with self-control, inhibition, emotion and reasoning.


“Separable Neural Components in the processing of Black and White Faces”.

- Automatic and Controlled Social Evaluation.
- Black and White faces were shown to White participants while they were scanned in fMRI.
- When the faces were presented in subliminal mode (30 ms), activation in the amygdala was greater for Black than for White faces (fig 1).
- When the faces were presented in supraliminal mode (525 ms), this difference has been particularly diminished.
- Accordingly, frontal cortex areas associated with control and regulation (BA, 9, 32, 47) has shown greater activation for Black than White faces.
- Using IAT and MRWP, the authors show greater race bias correlated with greater difference in amygdala activation between Black and White faces, and frontal activity predicted a reduction in Black-White differences in amygdala activity from the 30 ms to the 525 ms condition.
- We can interpret the results as evidence for the idea of self-control and inhibition of more automatic processes.
- The final course of behaviour is an outcome of this interaction between more automatic and controlled processing.


“Dissociable Contributions of Amygdala and Orbitofrontal Cortex to Incentive Motivation and Goal Selection”.

- Subjects had more difficulty to make choices regarding high-incentive menu items than low-incentive items (Wilcoxon z 2.47, p 0.05).
- The amygdala activation was directly proportional to participants assignments of values. As people were satiated, we can infer that amygdala were strictly correlated with hedonistic attribution of values.
- The amygdala activation was directly proportional to participants assignments of values.
- A region of the left amygdala (x 16, y 4, z 14) showed increased rCBF in the high-incentive condition. A similar region of the left amygdala (x 16, y 6, z 18) showed a significant covariation of activity with subject-rated incentive value of the menu items (see Fig. 4 A). A region of the left medial OFC (x 8, y 44, z 20) also showed increased rCBF in the high-incentive condition.


“Unconscious Determinants Of Free Decision In The Human Brain”.

- Some of the same problems of Libet’s protocols. Some advances.
- The experiment does not deal with options or adaptive behavior.

CONCLUSION:

- The experiments does not address how the intention is formed.
- The experiments does to mimic cost and values of decision-making.
- Is this minimal decision valid as a decision-making process?