

Morality and immorality: a neuroscientific perspective

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In the last few years many works on the issues of neuroethics have been published, both in the philosophic and in the psychological fields, proving that the subject has interested and is still interesting the scientific community also thanks to the considerable development of the new *neuroimaging* techniques which have highlighted the deep change in the conception of the relation between mind and brain. The idea of two separate entities has been replaced by a more realistic view according to which neuronal mechanisms are the biological basis of any mind activity, included the moral dimension of the individual. Neurosciences have investigated the ethical questions through different procedures going from the use of the classic methodology of moral dilemmas integrated with the registration of neuroimages via functional magnetic resonance (fMRI), up to the study of psychic pathologies or cerebral injuries which may alter a man's judgment and moral behaviour.

In his book *Moral Minds*, Marc Hauser maintains that a moral instinct have evolved in the individuals, an ability which grows naturally in every child, projected to engender rapid judgements on what is morally right or wrong, and such a capacity is based on a «moral grammar» which is unconscious but which provides us with a series of instrument to build specific moral systems. Thus, it is like we were *projected* to distinguish Good from Evil. But things are not always that way. Many studies emphasised that cerebral injuries to the ventromedial prefrontal cortex (VMPC), a specific area of brain which is very important for emotional processes and decisional skills, or that some pathologies such as psychopathy (which is probably tied to cerebral deficits with a genetic component) or the antisocial personality disorder drives some individuals to engage morally despicable behaviours without apparent sense of guilt, shame or remorse.

But what does committing an immoral act means and what happens in our brain when we judge a conduct or an act as immoral or morally wrong? The purpose of this talk is to draw an outline of researches on moral judgement which, through the instruments of neurosciences, investigated the distinction between moral and immoral behaviours. We will consider the recent studies of *neuroimaging* that tried to analyse the role that rationality and emotions play in those particular contexts where decisions between several alternatives may be a source of moral conflict. We will see how patients with ventromedial prefrontal cortex injuries and individuals affected with a psychopathy represent an intriguing "challenge" for the comprehension of the *mechanisms* underlying the formulation of moral judgement. Most of all, we will try to highlight the intrinsic and extrinsic characters of moral decisions, in particular in those dilemma situations where the moral agent shall not decide between Good and Evil, but between two or more moral Goods, each of which the moral agent would be inclined to respect inasmuch as morally binding and obligating. Because, like Simone Weil says, "there is a Good which is contrary of Evil and one which is not".