The search for “biological foundations” of moral behavior has become a relevant topic in social cognitive neuroscience and behavior science. In particular, the role of moral emotions [1], neuronal mechanisms of decision making [2], dispositions and behaviors like empathy [3], trust [4] and cooperation [5], and finally “moral-like” behaviors in non-human primates [6] were analyzed. These studies focus – implicitly or explicitly – major components of moral agency and are thus part of a naturalization project (“neuroscience of ethics”) [7], which challenges philosophical ethics and raise the problem whether new ethical questions (“ethics of neuroscience”) emerge out of this research program. We present six research projects that address some of the question raised by naturalizing moral agency. The projects follow the intention, that the difficult methodological and conceptual questions that arise in the program of naturalizing moral agency require a close cooperation of philosophers and empirical scientists. Furthermore – as the motivation of this naturalization project has often a societal technological motivation – neuroethical question that emerge out of this type of research should not be diminished [8]. The projects are part of the new graduate program of the URPP Ethics of the University Zurich, established in March 2007. Below, we outline the general framework in which our projects are embedded in.

**An evolutionary approach of morality:**

**Social norms in a captive chimpanzee group**

**Goals:** The existence and enforcement of social norms are considered to be uniquely human features. This PhD-project picks up this assumption and investigates whether our closest living relatives, the chimpanzees, possess evolutionary precursors of morality (e.g. moral emotions and empathy) and thus may be capable to form and even enforce social norms in their groups.

**Methods:** A set of experiments will test for the existence of social norms in a captive chimpanzee group. These experiments include showing the animals short videos of possible norm violations and the monitoring of their reactions towards them. Behavioral observations will accompany and complete these experiments.

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**The Biology of Moral Behavior: Motivational and evolutionary bases of altruism and cooperation**

**Goals:** The aim of this project is to investigate why humans behave altruistically and cooperative on a motivational and evolutionary level. Furthermore, since cooperation and altruism have been suggested as the very basis of human morality, the implications for a naturalistic moral theory are discussed.

**Methods:** Field-shaping and cooperation experiments will be conducted with captive chimpanzees in a way that allows direct comparison with economic games played with humans. Similarities in the mechanisms underlying cooperation and altruism among humans and chimpanzees would suggest a biological foundation of human morality.

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**The neurobiology of moral agency:**

**Some specifications from the perspective of philosophy and cultural science**

**Goals:** Investigating the history of neuroscience in the 20th century along three narratives – the holistic brain (early 20th century with focus on Constantin von Monakow), cybernetic brain (after WWII), and the enhanced brain (late 20th, early 21st century). Focusing on continuities and discontinuities in notions about brain functions and correlation with dominant ideas in public discourse.

**Methods:** Fosuahit’s concept of governmental and technologies of the self. Fleck’s theory of thought styles.

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**Philosophy of “neuralized” moral agency**

**Goals:** Investigating the possibilities and problems of a neuroscientific investigation of moral agency. Reconstruction of the current empirical models of moral agents within neuropsychology and comparison to philosophical concepts of moral agency. Evaluating possible neurological consequences of the “neuroscience of ethics” in the context of the identification of moral pathologies.

**Methods:** Analysis of clinical records on moral pathologies related to frontal lesions. Focus on methodological problems of natural moral agency.

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**Socio-cultural Context**

**Agent-interaction generating morality**

**The application of neuroscience in economics:**

**A concept of Neuroethics for Neuroeconomics**

**Goals:** This PhD-project is focusing on the interrelation of economics and neuroscience. Within this new discipline called neuroeconomics, brain imaging technologies and knowledge about brain mechanisms are used to advance economics in theory and practice. We are interested in a critical reflection of neuroeconomics and concern about emerging ethical risks. The aim is to meet these risks with an appropriate ethical concept.

**Methods:** Normative concepts of economic theory; approaches of business ethics and neuroethics; evaluation of neuroeconomic research projects and practical examples.

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**Ethical problems raised by neuroenhancement:**

**A systematic review and validation**

**Goals:** The variety of neuroenhancing interventions and their practicability in everyday clinical practice are constantly growing. Research on wider options is far from having reached its limits. The goal of the project is to identify the ethical issues raised by “neuro-enhancement” with special regard to pharmacologically based interventions and to discuss the positions held in the debate, focusing on their underlying normative assumptions.

**Methods:** Literature-review, interviews with experts and potential “users” of neuroenhancing interventions.

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References: