



# Nature and Culture as False Dichotomy



Approaches to an integrated view of human life from biological  
and anthropological perspectives

Conveners:

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This seminar series is part of an interdisciplinary course for masters and PhD  
students in the departments of Biology and History and Sociology.

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Summer Term 2015

Wednesdays

17:00–18:30h

### **The Brain and the Mind: An Animal Perspective**

Prof. Dr. Giovanni Galizia (Biology/Konstanz)

As neurobiologists, in our group we study the workings of animal brains: how do networks of single neurons, collectively, create complex behaviours? As neuroethologists, we then ask: how does the behaviour of individuals create social behaviour? In most cases, we study insects, and among insects, honeybees form arguably the most social species: bees take collective decisions (e.g. find a suitable spot for a new hive), they cooperate (e.g. switch tasks from forager to nursing if taking care of the brood is endangered), and they communicate (using different channels, e.g. waggle dance, or chemical communication). Individual honeybees have amazing intellectual capacities: they can extrapolate rule learning (negative patterning, such as in being trained AB+, A-, B-) or learn abstract concepts (such as visual symmetry, or delayed-matching-to-non-sample). What do these properties tell us about the „mind“ of a bee? What would we have to show in order to dismiss „mind-ness“ in insects? And does social behaviour in bees form a culture, even though it is mostly innate?

### **Cognition and Culture**

Prof. Dr. Andrea Bender (Bergen)

Three (implicit) assumptions have guided much of the previous theory-building in the cognitive sciences: that cognition is internal, processing can be distinguished from content, and processing is independent of cultural background. To demonstrate how culture may affect cognitive processes in various ways, instances from different cognitive domains will be presented. In conclusion, it will be discussed how essential the consideration of cultural diversity is for a comprehensive understanding of cognition, and how the disciplines involved can benefit from an intensified collaboration across fields in exploring these issues.

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28.04.2015  
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Room R 511

### **Food Intake and Energy Expenditure:**

#### **How do we keep the Balance?**

Prof. Dr. Martin Klingenspor (TU München)

Energy balance is regulated with extraordinary fidelity ensuring precise control of the quantitative relationships between energy resorption, storage and expenditure. Daily energy resorption depends not only on quantity, energy density and digestibility of ingested foods but also on the palatability of available foods. Metabolized energy is either used for growth or stored as body fat in adipose tissues, or dissipated as heat, or used for external work, of which the latter is normally negligible. Heat is dissipated due to specific dynamic action of food, basal metabolic rate, thermoregulatory heat production, and activity. It is therefore not surprising that energy balance regulation involves intricate neuroendocrine and neuronal circuits integrating peripheral and central signals related to energy status, metabolism and motivation to eat. In the control of food intake central metabolic sensors for homeostatic control interact with the reward system of the brain, and metabolic rates of peripheral tissues are adjusted accordingly. Not only variations in food availability, qualities and choices but also other environmental and social influences, represent major challenges to this system. This lecture will cover the state-of-the-art of energy balance regulation and highlight the most important biological factors impinging on the system in the context of obesity biology.

#### **Biocultural Variation and Obesity**

Prof. Dr. Stanley Ulijaszek (Oxford)

While the evolutionary underpinnings of obesity, through thrifty genotypes and thrifty phenotypes has been examined in some detail, very little attention has been paid to the evolutionary ecology of present-day obesity production, through such biocultural processes as differential fertility rates, access to resources, and socio-economic position. Childhood and adolescence are theorised as being parts of

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extended life history that are both central to human evolutionary success and essential for learning much of what must be learned to function effectively in society. This presentation will examine the extent to which obesity production in these life stages can be framed in terms of differential investment by parents and grandparents, and in terms of differential acquisition of different forms of capital (social, economic, cultural and especially embodied). It draws on data and analyses from demography, epidemiology, sociology and anthropology to question whether obesity is an outcome of misplaced investment in some present-day societies.

#### **Ape Culture vs. Human Culture**

Dr. Claudio Tennie (Birmingham)

Some non-human great apes – in particular chimpanzees and orangutans – show social traditions in the wild (e.g. a preference in one group to crack nuts with wooden hammers instead of stone hammers like their neighbours might do). But does an individual A require to see an individual B perform the behaviour, before A can show the behaviour him/herself? Such „high fidelity copying“ is certainly required for the majority of (modern) human cultures: none of us could come up with Shakespeare's works if we cannot copy them. Equally, none of us could have come up with the combustion engine, unless we have access to centuries of accumulated relevant knowledge. Here I will argue that copying others fails to explain the occurrence of wild behaviours in naïve captive great apes – simply because these have never seen the wild „cultural“ behaviour. Occurrences of these behaviours in such settings show that the shape of the behaviour can and does occur through the (admittedly complex) interaction of non-cultural factors (such as genetic and environmental influences) instead. No high-fidelity copying is therefore necessary to explain these behavioural forms, and thus should not be automatically assumed as an explanation for the wild behaviour.

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### **The Correspondence of Lives**

Prof. Dr. Tim Ingold (Aberdeen)

Human lives are carried on alongside the lives of beings of manifold other kinds: we respond to them as they respond to us. Lives, in short, are bound in correspondence, and this is what makes them social. How come, then, that in the thinking of so many biologists, social life is understood to be confined to relations among conspecifics? And how come, conversely, that in the thinking of many social theorists, the non-human companions with which humans so often surround themselves are reduced to inanimate objects? I show that the answers to both questions lie in a lingering commitment to human exceptionalism that, despite strenuous denials, remains buried deep down in the arguments of both bioscience and social theory. To eradicate this exceptionalism does not mean confining all the world to objects, as the advocates of object-oriented ontology suggest. Instead, I propose an overarching theory of biosocial correspondence.

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### **Biodiversity Conservation in the Anthropocene**

PD Dr. Christoph Küffer (Zürich)

In the science of ecology and the practice of nature conservation the dichotomy between nature and culture plays traditionally a pivotal role. Ecology studies primarily wild ecosystems where humans are absent, and the prime instrument of nature conservation are protected areas that aim at isolating threatened species and high-quality ecosystems from human influences. However, increasingly humans are transforming the abiotic and biotic conditions on Earth so profoundly that many scientists claim our planet is entering a new geological epoch, dubbed the Anthropocene. The Anthropocene is characterised by a reciprocal transgression of the nature-culture boundary. On the one hand, all nature becomes anthropogenic because global change drivers such as climate change, pollution or invasive species do not

stop at any boundaries and reach even the remotest areas on the planet. On the other hand, nature as a reality cannot be ignored anymore even at the heart of the technosphere such as in big cities. Nature speaks back through climate change or its limits to provisioning resources and life-supporting services. I will discuss how environmental sciences at large through the growing environmental humanities movement and biodiversity conservation in very specific contexts deal with an emerging new embeddedness of humans in nature and nature in culture.

### **Collisions between Forms of Life in the Ecuadorian Amazon**

Prof. Dr. Laura Rival (Oxford)

Twenty „uncontacted“ Taramenani were slaughtered and two female children kidnapped in retaliation for the spearing of a couple of civilised' Huaorani in March 2013. After months of indecision, the government decided to abduct the two little captives and to send six warriors to jail for genocide. Each of these actions caused a moral outrage locally, nationally, and internationally. The paper explores the complex constructions through which these violent events have come to be understood, both by the Huaorani and by Ecuadorian nationals. I show how two broad concerns – „territoriality“ and „compensation“ – have structured both the violent conflicts discussed in the paper and subsequent attempts at peace restoration. I conclude with a brief anthropological discussion of the relationship between ontology and politics. Whereas recent theorisations of Amazonian cosmic economies of alterity sharpen our understanding of „the assimilation of the Other as a mode of reproduction“, they tend to obscure the whys and the hows of intra- and intercultural disagreements, as well as the nature of the resort to violence as a way of asserting one's will.

01.07.2015  
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