

## ANIMAL EXCHANGES

### Anthropologies Between and Beyond Species

University of Oxford, 24 May 2013  
 Maison Française  
 2-10 Norham Road, Oxford, OX2 6SE



09:00-09:30	Registration and Coffee/Tea	Location: Maison Française - breakout area
09:30-09:35	<b>Welcome</b>	Javier Lezaun, University of Oxford
09:35-09:45	<b>Opening Remarks</b>	Amy Hinterberger and Natalie Porter, University of Oxford
09:45-11:15	<b>Session 1</b>  <b>Stock and Strain: Experimental Commons and Gift Economies</b>	<i>Mobilising Experimental Life: Spaces of Becoming with Mutant Mice</i> Gail Davies, University of Exeter  <i>The Common Animal: Property and Immunity in a Malaria Mouse Model</i> Javier Lezaun, University of Oxford  <i>The Geopolitics of Zoo Animal Exchanges: Genome Banking and Exchanging Endangered Animals</i> Carrie Friese and Alain Pottage, LSE
11:15-11:45	Coffee/Tea	Location: Maison Française - breakout area
11:45-13:15	<b>Session 2</b>  <b>Multispecies Architectures and Achievement</b>	<i>Using Non-Human Organisms as Scientific Models</i> Sabina Leonelli, University of Exeter  <i>Microbiogeographies: Living Well with Parasitic Worms</i> Jamie Lorimer, University of Oxford  <i>Geographies of Folded Life: How Immunity Reframes Biosecurity</i> Steve Hinchliffe and Kim Ward, University of Exeter
13:15-14:15	Lunch	Location: Maison Française - breakout area
14:15-15:45	<b>Session 3</b>  <b>Agencies, Amplification and Affect</b>	<i>Affective Ecologies, Atmospheric Chemistries, and the Sciences of Plant/Insect Communication</i> Natasha Myers, York University  <i>Animals into Science: Of Chimps and Men</i> Gísli Pálsson, University of Iceland  <i>Breathers: Ecologies of Suspension</i> Tim Choy, UC Davis
15:45-16:15	Coffee/Tea	Location: Maison Française - breakout area
16:15-17:30	<b>Roundtable Discussion</b>	Carlo Caduff (King's College London), Caspar Henderson (Author of <i>The Book of Barely Imagined Beings</i> ), Alain Pottage (LSE) and Kaushik Sunder Rajan (University of Chicago)
17:30-18:00	Drinks Reception	Location: Maison Française - breakout area

## Session 1

### **Stock and Strain: Experimental Commons and Gift Economies**

*Mobilising Experimental Life: Spaces of Becoming with Mutant Mice*

Gail Davies, University of Exeter

This paper uses the figure of the inbred laboratory mouse to reflect upon the management and mobilisation of biological difference in the contemporary biosciences. Working through the concept of shifting experimental systems, the paper seeks to connect practices concerned with standardisation and control in contemporary research practices with the emergent and stochastic qualities of biological life. Specifically, it reviews the importance of historical narratives of standardisation in experimental systems based around model organisms, before identifying a tension in contemporary accounts of the reproduction and differentiation of inbred mouse strains within them. Firstly, narratives of new strain development, foregrounding personal biography and chance discovery, attest to the contingency and situatedness of apparently universal biotechnological production. Secondly, discoveries of unexpected animal litters challenge efforts to standardise mouse phenotypes and control the reproduction of murine strains over space. The co-existence of these two narratives draws attention to the importance of and interplay between both chance and control, determination and emergence, and the making and moving of experimental life in biomedical research. The reception or denial of such biological excess reflects the distribution of agencies and the emerging spatialities of the global infrastructures of biotechnological development, with implications for future relations between animal lives and human becomings in experimental practices.

*The Common Animal: Property and Immunity in a Malaria Mouse Model*

Javier Lezaun, University of Oxford

This paper describes the development and circulation of a new mouse model for malaria drug discovery. The strain in question, developed by researchers at a large pharmaceutical company, is a variation of non-obese diabetic immunodeficient mice engrafted with human red blood cells to allow infection by the malaria parasite *Plasmodium falciparum*. Over the last two years, this model has become a critical (but still controversial) tool for testing the antimalarial potential of chemical compounds *in vivo*. The paper explores the work involved in placing this mice strain at the centre of the malaria research community. The phrase 'common animal' refers to two aspects of this work. First, to the system of partial exchange and restricted circulation by which a community of researchers comes to share in the use of this resource. Second, to the process of immunomodulation that turns the mouse into a willing receptor of foreign tissues and bodies, a generic and non-discriminating animal. These two dimensions – the proprietary and the immunitary – intersect at critical points in the evolution of this shared scientific object, and together shed light on the process by which living bodies are transformed into 'public' materials.

*The Geopolitics of Zoo Animal Exchanges: Genome Banking and Exchanging Endangered Animals*

Carrie Friese and Alain Pottage (LSE)

Contemporary zoological parks rely upon a gift economy in 'wild' animal bodies and bodily parts. With the shift from collecting to reproducing captive populations, zoos today share their animals as part of regional and global species management regimes rooted in selective breeding. However, recently technological developments in both cryopreservation as well as assisted reproduction have raised questions and concerns regarding ownership, which some fear puts this gift economy risk. These fears are further exacerbated when exchanges in zoo animal bodies and bodily parts map onto and reproduce the colonial history of zoological parks. This paper explores these debates by looking at how ownership is delineated in the international animal exchanges that contemporary zoos rely upon.

**Session 2**

**Multispecies Architectures and Achievements**

*Using Non-Human Organisms as Scientific Models*

Sabina Leonelli, University of Exeter

This talk will examine the history and epistemology of model organisms such as *Arabidopsis thaliana* (thale-cress), *Drosophila melanogaster* (fruit-fly) and *C. elegans* (nematode) and the ways in which scientists interact with these organisms in order to produce biological and biomedical knowledge. Drawing on joint research with Rachel Ankeny, I will outline the specific features of these organisms in comparison to other organisms used for experimental research in biology and biomedicine, and stress how the material differences between organisms used for scientific research are tied to ways in which these organisms' relationship to scientists are socialised, institutionalised, and regulated. Two examples in particular serve as good illustrations of this complex set of human-nonhuman interactions: the establishment and maintenance of stock centres for model organisms; and current efforts to organise, disseminate and analyse data obtained from these organisms through digital databases. In closing, I will emphasise how a multi-species analysis is essential to capture the relations between biologists and the organisms that they study; and that such relations, which are sometimes deeply personal and affective, are arguably as important in the case of animals as they are in the case of other forms of life, such as plants.

*Microbiogeographies: Living Well with Parasitic Worms*  
Jamie Lorimer, University of Oxford

Ongoing research associated with the Human Microbiome Project has mapped the microbial composition of diverse human bodies. The results are striking. Microbial cells and genes in 'our' bodies significantly outnumber 'human' equivalents. A diverse array of microbial entities and ecologies, previously ignored or vilified as germs/parasites, are emerging as key constituents for an (un)healthy human body. Vital processes like immunity and metabolism are now understood as multispecies achievements. While changes in the human microbiome – especially the demise of certain 'old friends' as a consequence of the (ab)use of antibiotics – have been linked to the dramatic and geographically uneven increase in non-communicative diseases, including obesity, allergy and even depression. This microbial turn challenges familiar conceptions of the Human. It has a range of important ontological, biopolitical and economic implications. Amongst advocates it is presented as a new way of conceiving, governing and profiting from human health.

To date there has been limited social science engagement with the microbial. This paper sketches the parameters of a new research agenda examining the microbiogeographies of the more-than-human body. For illustration it focuses on helminths: parasitic worms that have largely eradicated in the West, whose immunological properties have recently been discovered and promoted. Examining the multi-species relations entangled in helminthic therapy, the paper pushes animal geographies beyond a familiar focus on beings that are big like us. It considers spaces of co-habitation within our own bodies and reflects on the wider implications of a super-organismic ontology and the emergence of new forms of microbiopolitics.

*Geographies of Folded Life: How Immunity Reframes Biosecurity*  
Steve Hinchliffe and Kim Ward, University of Exeter

Protecting life involves, in practice, an engagement with biological difference. Even the starkest forms of biosecure agriculture, where for example pig lives are immaculately conceived and circulated through purified spaces of production, require biological difference. In this paper, we draw on UK-based fieldwork with vets, farmers and pigs to demonstrate how a programme of action (in this case disease-free or biosecure farming) reveals its dependency on a suite of practical re-translations into specific pathogen-free farming, pathogen balancing and immunity management. The latter opens up, through field accounts and socio-spatial theory, geographies of folded life. These geographies involve attending to the communications, or co-muning, of organisms, microbiological and otherwise, as necessary for safe life. They draw attention to how the fragility of global health and life is not only a result of fated pandemic communicative disease pathogens, but also a result of the making vulnerable of practices that are immunitary. In short, the move to disease-free farming can, we argue, inadvertently threaten the very communities that make good life possible.

### **Session 3**

#### **Agencies, Amplification and Affect**

*Affective Ecologies, Atmospheric Chemistries, and the Sciences of Plant/Insect Communication*

Natasha Myers, York University

This paper extends conversations on lively materialities in STS and anthropology in order to grapple with the peculiarities of plant lives and worlds. Most often rendered as the static, aesthetic objects of still-life paintings, plants are frequently left at the bottom of those persistent hierarchies that identify outward movement and action as signs of agency and aliveness. Yet, today researchers in the field of chemical ecology are producing accounts that render plants as pivotal actors, catalyzing ecological relations. Researchers in this field home in on the ways that plants communicate with one another and with members of the animal kingdom by synthesizing and releasing volatile compounds that act as atmospheric chemical propositions. This paper examines current research, exploring accounts that work athwart the neo-Darwinian evolutionary narratives that tend to dominate discourses in chemical ecology. If neo-Darwinian accounts model ecologies on militarized economies in which plants, driven by selfish-genes, appear to adapt to interspecies worlds by calculating cost/benefit ratios, minimizing their energy expenditures, and rationalizing resource use, alternative accounts are situating plants at the centre of ecologies contoured by affective entanglements (Myers, 2006) that get plants and insects involved in one another's lives (Hustak and Myers 2012). This paper amplifies accounts that render plants as active, articulate, interested participants instigating interspecies conversations. In this view, plants are not only loquacious, but also "articulate" (Latour, 2004); that is, they can discern subtle differences in their worlds and respond to these changes by inventing new kinds of chemical propositions.

*Animals into Science: Of Chimps and Men*

Gísli Pálsson, University of Iceland

Relations between humans and other animals, almost by definition, represent a central theme in anthropology, inviting fundamental questions about us and them, sociality, nature and culture. In this paper I suggest that in order to capture the biosocialities of modern science it may be useful to speak of biosocial relations of production to facilitate sensitivity to differences and similarities in hierarchies involving exchanges across the species divide and the co-constitution of humans and other animals. I shall illustrate this through a discussion of chimpanzees, partly drawing upon the life and work of Nim Chimpsky (1973-2000) who was raised in experimental and familial settings in the US in order to test hypotheses about innate and acquired mental capacities, especially language. I argue that academic debates about language and mind generated by Chimpsky, other chimpanzees, and their human and non-human collaborators reflect different understandings of the nature-

society divide and what used to be called the “animal kingdom”. While experiments with the language and sociality of chimpanzees and other species are often non-conclusive and sometimes misguided, they usually bring home important points about ourselves and our relations to other species.

*Breathers: Ecologies of Suspension*

Tim Choy, UC Davis

What emerges if one cuts world with breath and atmospherics? What substances and relations become felt and to what effect? I offer an experiment in drawing "breathers" together as a method for figuring differential ecopolitical relations in atmospheric economies --- relations that in the context of this workshop might be considered atmospheric exchanges. Atmospherics oblige attunement to processes and movements of suspension, volatilization, incorporation, breathing. Prompts to such attention include murine models in asthma research, mushroom smell, and speculative fiction.