

UPPSALA
UNIVERSITET

INVESTIGATING HUMAN/ANIMAL RELATIONS

IN SCIENCE, CULTURE AND WORK

TORA HOLMBERG (ED.)

INVESTIGATING HUMAN/ ANIMAL RELATIONS

IN SCIENCE, CULTURE AND WORK

INVESTIGATING HUMAN/ANIMAL RELATIONS

IN SCIENCE, CULTURE AND WORK

TORA HOLMBERG (ED.)

Investigating Human/Animal Relations in Science, Culture and Work
Tora Holmberg (ed.)

Crossroads of knowledge
Skrifter från Centrum för genusvetenskap
Uppsala universitet
Uppsala 2009

ISBN 978-91-978186-0-5

© Tora Holmberg och Centrum för genusvetenskap

Denna skrift kan beställas från
Uppsala universitet
Centrum för genusvetenskap
Box 634, 751 26 Uppsala
Fax: 018-471 35 70, e-post: publications@gender.uu.se

Layout och sättning: Håkan Selin
Tryck: Universitetstryckeriet, Uppsala 2009

Preface

This is a report from the Nordic workshop *Investigating Human/Animal Relations in Science, Culture and Work*, held at the Centre for Gender Research, Uppsala University, in 9–10 June 2008. The report is the result of a shared effort by many people, but only a few are named in this volume. Therefore, I would like to thank the co-organizers of the workshop, Kristin Asdal, who is a researcher at TIK (Centre for Technology, Innovation and Culture), Oslo University, and Sakari Tamminen, researcher at the Department of Social Psychology, Helsinki University.

The co-organizer at the Centre for Gender Research, programme administrator Ester Lindsmyr made the whole venture possible, and the financial director Riitta Mertanen managed all the details in the budget. I am also in Tomas Johannesson's debt, who managed the technicalities of the workshop (that is, everything to do with computers).

Of course, I also want to express my gratitude to all the participants in the workshop for contributing to the discussions, all the people who gave interesting and stimulating papers, and those who have contributed to this volume with essays. Thank you all!

Moreover, I would like to thank NOS-HS for generously funding this project through its call for "explorative workshops". We immediately thought that the theme we proposed would suit the call, and obviously, it did.

However, this workshop would not have taken place were it not for the research programme *GenNa: Nature/Culture and Transgressive Encounters*, supported by the Swedish Research Council through its funding of Centers for Gender Excellence.

More information is available at our website: www.genna.gender.uu.se. The GenNa programme has also generously contributed to the workshop.

Uppsala, February 2009

Tora Holmberg (workshop organizer and editor). Researcher and programme coordinator at the Centre for Gender Research, Uppsala University

Table of Contents

Preface 5

1. Investigating Human/Animal Relations 9
1:1 Introduction. By Tora Holmberg 9
1:2 Interwoven Lives: Understanding Human/Animal Connections. By Lynda Birke 18

2. Thinking with Animals 33
2:1 Animals in the City at the Turn of the Enlightenment: Pictures from Louis Sébastien Mercier's Paris. By Ellen Krefting 33
2:2 What Are the Animals Needed for in Early Sociological Texts? By Salla Tuomivaara 44
2:3 Posthumanist Challenges to Education Theory and Practice. By Helena Pedersen 56
2:4 Understanding Animals' thoughts? On the Social Construction of Animals, Animal Interpretation and Human Alienation. By Pernilla Ouis 68
2:5 Can Nonhuman Animals Have Cultural Notions of Sex? By Pär Segerdahl 76

3. Animal/Human Culture 85
3:1 A Fatal Visit to Venice: The Transformation of an Indian Elephant. By Liv Emma Thorsen 85

3:2 Pedigree and Breeding:
Love, Status and Control.
By Rebekah Fox 97
3:3 Creating the Comfortable Cow
– Discourses on Animal Protection
and Production in Late 19th-century
Danish Agriculture.
By Anne Katrine Gjerløff 114
3:4 Narrating the Cow: The Construction
of Cultural Human/Animal Relationships
in Written Narratives.
By Taija Kaarlenkaski 122

4. Scientific Animals 133
4:1 The Econologics of Genetic Autonomy
– Ex-situ Genetic Resources and
Corporeal Articulations of Interests.
By Sakari Tamminen 133
4:2 Lifeworlds of the Pig: Towards a
Cartography of Porcine/Human Entanglements.
A Proposed Case Study of the Danish Pig
Between the Production of Meat and Medicine
By Marie Paldam Folker,
Mette Nordahl Svendsen and Lene Koch 142
4:3 Anthropologists in the World of Insects.
By Karin Dirke 154
4:4 Subjected to Parliament II.
By Kristin Asdal 164
4:5 Negotiating a Standard.
By Tone Druglitrø 172
4:6 Handling Transgenic Dilemmas in
Scientific Practice.
By Tora Holmberg 182

List of Contributors 189

1. INVESTIGATING HUMAN/ANIMAL RELATIONS

1: 1 Introduction | TORA HOLMBERG

The study of human/animal relations is a fascinating but still fairly unexplored area. One of the reasons why the social sciences and humanities in general have been reluctant to deal with this issue is the classical nature/culture divide. While "society" consists of humans and their interaction in institutions and culture, other animals become excluded and are conceptualized as "nature". On the one hand, the presence of animals can thereby "decivilize" human activities and urban places. But on the other hand, there is a strong Western tradition of linking the treatment of other animals with degrees of civilization: the more "humane", the higher the civilization. Potentially this points to an interesting openness of categories and flexibility in the understanding of humans and other animals. This potential openness creates a space for questioning discourses and truths that are usually taken for granted, and this is where the critical potential of human/animal studies lies. Internationally, human/animal studies (HAS) is a growing interdisciplinary field with specialized journals, conferences and networks (see Birke's contribution in this volume). Nevertheless, in the Nordic countries, it is still quite a small and divided community of researchers, and the explorative Nordic workshop was thus a means to support and consolidate the building of a human/animal studies research network. In doing so, we drew on the ex-

periences we had made and the contacts we had gained from the international conference *Society, Animals and Gender*, held at the Centre for Gender Research in Uppsala in August 2007.

With funding from NOS-HS and the Swedish Research Council via the research programme *GenNa: Nature/Culture and Transgressive Encounters*, we organized a two-day workshop 9–10 June 2008. The aim of the workshop was to continue the building of a sustainable interdisciplinary network of Nordic researchers within the area of human/animal studies, and to draw up plans for new research collaborations and project applications. The themes of the workshop included human/animal relations in science, culture and work and the workshop was consequently called *Investigating Human/Animal Relations in Science, Culture and Work*. The workshop was held at the Centre for Gender Research, Uppsala University, Sweden.

Our keynote speaker was Professor Lynda Birke from the UK, well known for her many years of research on both biology and feminist theory and human/animal relations. Lynda Birke, herself with an interdisciplinary background in biology and feminist studies, is the author of a countless number of publications, for example *Feminism, Animals and Science: The Naming of the Shrew* (1994) *Feminism and the Biological Body* (1999) and most recently *The Sacrifice* (together with Mike Michael and Arnold Arluke, 2007).

Since human-animal studies is a truly interdisciplinary field, we were keen on inviting participants from a variety of disciplines. Even so, most of our participants came from the humanities or the social sciences. Out of 25 participants, five had a background in the natural sciences. This bias was not intentional, but reflects the composition of competences in general in this field. The key

idea was to create a workshop atmosphere. To fulfil the aims of the workshop, we got the opportunity to listen to and discuss ongoing research in three thematically divided sessions; theorizing animals, animal/human cultures and scientific animals. The workshop was held in English.

Thinking with Animals

Sociologists Adrian Franklin and Robert White have written that "animals are good to think with in the understanding of contemporary *Weltanschauungen* and their sociological analysis." (2001, p. 236). While this is certainly true, the contributors to this collection do not stop at "using" other animals as means to understand contemporary and historical aspects of and relations in society, but also take a step further. They think *with* – that is, they think relationally (see Birke in this volume). Under this heading, papers are presented that take seriously the analytical and theoretical challenge that taking animals into account pose to our (humanist) understandings of modernity, industrialization and society.

In the first contribution, Ellen Marie Krefting discusses human/animal relations in prerevolutionary Paris, seen through the eyes of the author Louis Sébastien Mercier. In the paper, ideas about civilization processes that we normally take for granted are challenged, for example how slaughtering practices are moved from the urban setting as a result of concerns for human spectators rather than for the animals. The next paper, by Salla Tuomivaara, deals with classical texts in early sociology by Émile Durkheim and Edward Westermarck and contemplates the role of nonhuman animals in these texts. Tuomivaara shows that the texts of these two authors differ substantially when it comes to the use of nonhumans, and the conclusion, that different sociologi-

cal theories need animals for different reasons, is a powerful and thought provoking one. Education and human/animal relations is the topic of the next paper, written by Helena Pedersen. Here, the author reflects on the subversive potential of reconceptualisations of human/animal relations – represented by the posthumanist turn – on basic pedagogical and essentially humanist norms, such as democratic society, sustainable society and knowledge society, and how these reconceptualisations open critical questions in the intersection of education and human-animal studies. The next essay deals with a persuasive idea, or dream, in Western culture (here exemplified by fables and children's books), namely the possibility to talk to and communicate with other animals. Pernilla Ouis argues that since the idea builds so strongly on an anthropomorphic view of animals – that they think as humans but cannot communicate – it is a hopeless project and a colonial endeavour. Ouis' paper thus challenges taken-for-granted notions of identity, personhood, and subjectivity. The last paper in this section deals with the issue of sex and gender, thinking through captive Bonobos – pygmy chimpanzees. These apes appear to construct gender in a similar way as humans. Pär Segerdahl shows how the fine line between culture and nature, humans and other animals is challenged by these cultural nonhuman animals, living in a bi-species environment.

Animal/Human Cultures

Representations of animals is a common topic under this heading. In his classic paper on this issue John Berger states that other animals have flexible and ambiguous roles in human society; we both worship and sacrifice them, make them our friends and kill them, love to watch them and eat them (Berger, 1980). The papers in

this collection share a deep political and theoretical commitment to investigate these ambiguities. Several essays seek to investigate how an understanding of animal/human cultures can problematize norms for gender and sexuality, thereby widen the scale of diversity and complexity. They also set out to add individual, species specific stories, in order to subjectify nonhuman animals.

Liv Emma Thorsen does so by way of a genealogical unfolding of the life of a natural history specimen; a young male Indian elephant. The life, death and display of this elephant, from the early 19th century until today, give rise to numerous questions concerning the symbolic meaning and the role of animals in modern culture. Rebekah Fox discusses an example of close relations to other animals; pedigree pet breeding and shows in Sweden and England. Through the narratives of cat and dog pedigree breeders, the paper displays how pet practices, identity, class, gender and kinship become intertwined, thus challenging the human-animal divide.

The next two contributions deal with human/cow relations from different angles. In her paper, Anne Katrine Gjerløff sets out to pin down discourses on animal protection in dairy production in late 19th-century Denmark. The wellbeing of the animals – measured in terms of clean skin, fresh air and nourishing feedstuff – was said to go hand in hand with a profitable production, a rhetoric that can be recognized today. At the same time, a growing animal protection movement claimed the wellbeing of animals for the sake of the animals themselves. Interestingly, the early animal protection movement did not put much emphasize on farm animals, but rather experimental animals and pets. Taija Kaarlenkaski is interested in how people, in retrospect, narrate their (gendered) relationships with cows. Notions of labour, gender, cows and identity criss-cross in the written statements. Through these

narratives, the author can detect the changing dynamics of the gendered division of labour in agriculture in 20th-century Finland.

Scientific Animals

Michael Lynch, in his famous essay on animal experimentation, claims that laboratory animals become transformed from ontological, organic animals, into abstract, analytical ones, thereby enabling the procedures to take place (Lynch, 1988). Lynch found that animal researchers, by way of different rituals, transform the laboratory specimen from a "naturalistic" into an "analytic" animal. This is done in a highly profane environment – the laboratory – but at the same time in a sacred discourse surrounding the metaphor of "sacrifice". Lynch is not particularly interested in the animal in question – the rat – but focuses more on the process of knowledge production. Mice and rats, the key models for humans, are often highly invisible, not just in biomedical texts, where they are represented by statistics or other literary inscriptions, but also in the genre of science and technology studies. In the process of becoming a model for humans, the animal becomes de-naturalized and abstract (Birke, 2003, p. 218). This is one point of departure for several of the papers under this heading, and brings along a number of highly important topics. What is the ontological laboratory animal? What other shifts can be detected? How can power be understood in these contexts? What contexts come together in the genetics laboratory? A common denominator is also that all the papers deal with species specificities and relationalities, of ants, mice, pigs and sheep, and their culturally and historically constituted role and place in animal experimentation.

Sakari Tamminen deals with scientific animals as nationalistic means, as genetic resources and corporeal articulations of inter-

est. He shows how the Finnsheep gene banking practices are the results of entangled interests of different and seemingly separate fields; national biodiversity projects, cryopreservation for conservation and breeding. This entanglement problematizes the concept of the "animal", or rather the ontological status of "animal life", and the aims of nonhuman biopolitics. The second paper deals with a different farm animal but one that has similar hybrid roles: the Danish pig. Mette Nordahl Svendsen, Marie Paldam Folker and Lene Koch set out to map and problematize the interconnected lifeworlds of the pig – as a source of public human health problems and as a solution to these problems. Its dual role as meat product and bio-technological model is fascinating, and the essay sets out to understand the biologization, technologization, and instrumentalization of human and nonhuman bodies. Karin Dirke's paper concerns a completely different animal: the ant, or rather the entomologists of early twentieth century Sweden. These "insect people" published very popular accounts of the ant worlds, and Dirke's paper raises question concerning the relationship between science and society, through the problematization of gender and anthropomorphism in these texts.

The last three contributions all deal with experimental animals in one way or another. In Kristin Asdal's paper, the late-19th-century Norwegian parliament is the scene for negotiations that turned into an intense controversy. The controversy was about the role and status of experimental medicine versus democratic government control over the use of animals in experiments. The author shows how issues concerning citizenship and democracy became part of the debate. In her paper Tone Druglitrø shows how the Norwegian biomedical community negotiated, beginning in the 1960s, in order to set a standard for experimental animals;

both the conditions of the animals and the animal bodies themselves through purpose breeding. In the last paper, Tora Holmberg discusses how welfare and other concerns become articulated in contemporary practices surrounding the production and use of transgenic mice. Some dilemmas are constantly rehearsed – such as where to take biopsies – while others rarely become articulated, and one can even talk about transgenic silences. Together the three papers highlight similarities in the intersection of science and society in different historical and national settings.

Disposition

After this introduction a chapter by Lynda Birke follows, in which she maps the field of human/animal studies and its contemporary challenges. With examples taken from human relationships with horses, the author shows how these relationships, including interspecies communication and the horses' well-being, are embedded in cultural practices. But the author does not stop there; she moves on to address the issue of how human/animal studies have hitherto failed to take seriously the relationship – the bond – between humans and other animals, and considers how we might begin to do so more seriously. This includes paying more close attention to the nonhumans who are part of creating these bonds.

After this the sections presented above follow: Thinking with animals, Animal/human culture and Scientific animals. There are of course other possible categorizations than the ones presented in this volume – historical animals, urban animals, farm animals, etc. I would stress that the contributions can be read in dialogue across the themes. This is also a strength – the papers are multi-dimensional and stretch across many topics. All the papers included are work in progress – from ongoing or planned projects – in the shape

of short contributions. This volume thus constitute a "smörgåsbord" of the lively and vivid research in the area of human/animal relations that goes on all around the Nordic countries. Bon appétit!

References

Berger, J. 1980. "Why Look at Animals?" In J. Berger *About Looking*, London: Writers and Readers, pp. 1–26.

Birke, L. 1994. *Feminism, Animals and Science: The Naming of the Shrew*, Buckingham: Open University Press.

Birke, L. 1999. *Feminism and the Biological Body*, Edinburgh University Press.

Birke, L., Arluke, A., Michael, M. 2007. *The Sacrifice: How Scientific Experiments Transform Animals and People*. West Lafayette, West Virginia: Purdue University Press.

Birke, L. 2003. "Who (or what) is a laboratory rat (or Mouse)?" *Society and Animals*, vol. 11, no. 3: pp. 207–224.

Franklin, A., White, R. 2001. R. "Animals and Modernity: Changing Human–Animal relations" 1949–98, *Journal of Sociology*, vol. 37, no. 3: pp. 219–238.

Lynch, M. 1988. "Sacrifice and the Transformation of the Animal Body into a Scientific Object: Laboratory Culture and Ritual Practice in the Neurosciences." *Social Studies of Science*. vol. 18, no. 2: pp. 65–289.

1: 2 Interwoven Lives: Understanding Human/Animal Connections | LYNDA BIRKE

In memory of Penny, who shared my life for seventeen years

We are, whether we like it or not, deeply entwined with nonhuman lives. Some we really would rather not know about (the rat just underneath the house for instance). Some, we have profound and wonderful relationships with for many years. Penny was a mongrel who lit up my life until spring 2008 – the day after International Women's Day. If she was human she would have been a feminist, so her passing then seemed sadly appropriate.

Nonhumans like Penny have shared my life since I was a small child; they encouraged me to think about who they are, and what they want, so that now I find myself part of a growing number of scholars working in the emerging field of human/animal studies, and animal welfare. So, my aim in this paper is to do three things. First, to introduce human/animal studies very briefly, illustrating that, secondly, from some of my own work on horses and people. Finally, I ask, what does it mean to study human/animal relationships? What are the limitations – or, put another way, do we really study relationships?

Human/animal Studies (HAS): Bringing Nonhumans In

A few years ago, there were calls to "bring animals in" to the social sciences (e.g Noske, 1989); nonhumans are, after all, part of the fabric of culture – even in the post-industrial West. To look at social interactions between people without acknowledging other species is, Noske argued, to see only part of the story. Interest in

"the animal" has grown apace over the last two decades – in philosophy, history, geography, the social sciences: meanwhile, ethology – by definition concerned with animals – has woken up to the study of domestic animals, our companions. These various fields cover a multitude of approaches, looking at animals in various contexts – zoos, wilderness, as assistance animals, in farms, in animal shelters, in laboratories.[1] There may be focus on how we humans represent nonhumans in different ways, or studies of how people or animals affect each other (for good or ill). Associated with this burgeoning literature are new conferences, journals and new university courses.[2]

Nonhuman animals have, throughout human history, served as a foil for us to try to understand ourselves – animal images pepper mythology all over the world, and we project onto animals much that we dislike or like about ourselves. While that history has, in our culture, largely been one of domination over other species (drawing on the Biblical idea of dominion), there have also been threads of compassion – from St. Francis of Assisi, to the microscopist Hooke's questioning of 17th-century vivisection (Guerrini, 1989), to the creation of animal protection agencies and laws in more recent times.

The development of a specific interest in HAS, however, was linked to the rise of animal advocacy and activism. In part, this followed the various liberation politics of the 1970s – feminism, for example – and drew on similar frameworks, especially after

1 For an overview of the field up to that time (2002) see the special issue of *Society and Animals*, 10 (4).

2 Journals focusing specifically on the study of human/animal interactions are *Society and Animals*, *Anthrozoology*, and *Humanimalia*, although several mainstream journals have recently published special issues focusing on animals or animal politics. A large international conference, "Minding Animals" is planned in Australia for July 2009.

the publication in 1975 of Peter Singer's influential book *Animal Liberation*. HAS has also been influenced by postmodern questioning of the nature/culture divide – many nonhumans are, after all, profoundly embedded in a shared culture. Another important influence – which has undoubtedly helped to bring awareness of the importance of nonhumans in their relationships with us – is the development of cognitive ethology. Moving away from earlier work in largely behaviourist traditions, cognitive ethologists have emphasised the sentience, consciousness, emotions and intelligence of so many species of nonhumans (see Bekoff, 2002). And, of course, the recognition that a nonhuman is another self, with whom we can build communication and relationship has led to detailed studies of those relationships (see Irvine, 2004; Sanders, 1999).

There are also, inevitably, problems with newly emerging fields of inquiry. My own view of the development of women's studies out of activist politics was that it quickly became divorced from the activism, entrenched in the academy: there is always a danger of that in HAS. I think I would find it less interesting if I did not believe that working in HAS might have some impact on how animals are treated in the wider society, and on political actions that might be taken to protect animals' interests.

There is also the issue of which animals? I am as guilty as anyone of concentrating on birds and mammals – my particular interests, no doubt, coupled with a cultural history which has long separated "humans" from generic and undifferentiated "animals". Studies of, for instance, spiders and bedbugs are few (a point Donovan [2006] makes in her analysis of feminist ethics of care regarding animals). Relatedly, we need to be careful of how we talk about nonhuman animals. I was trained in ethology to avoid, at all

costs, "anthropomorphism". I think that is rubbish – we use our own concepts to talk about nonhumans all the time, and it is part of the wellspring of our compassion toward them – but I know why it was drummed into us. The point is that we humans need to be wary of merely projecting our own feelings and concepts without truly trying to understand the ways and experiences of that particular kind of animal. A good example is the widespread tendency to project gendered constructs onto animal societies – as others in this volume attest. I rather doubt that many insects would worry overmuch about the dictates of masculinity or femininity.

It is in part in response to that "genderisation" of nonhuman animals in popular culture that feminist writing has tended to avoid talking about nature/animals. Indeed, in early second wave feminism, there was considerable effort expended in separating ourselves off from nature. One form this took was denial of the biological – even of the biological body itself (Birke, 1999; Wilson, 2004). This always seemed silly to me – there are nerves, blood, guts and all sorts of other messy bits that are sitting here at the computer writing this. It is one thing to object to naive biological determinism, but quite another to deny biology (including animals) altogether. Of course we do not want to "be like animals" – who would want to be like the automata that animals are too often described as – the beasts? Thus, one of my responses to the endless diet of biologically determinist arguments about women (usually drawing from other animals) is to insist that nonhuman animal societies are also complex and cultured; they are not simply rooted in unchanging biology in ways we are not (see Birke, 1994). If we begin to see them as such, then it is harder to extrapolate using some yardstick of genetic imperatives.

One of the problems here is that many studies of animal societies themselves make assumptions about the fixity of animals' behaviour. There has been, historically, a tension between a genre of nature writing that centres on the lives of experiencing animals, as subjects of a life, and a more "scientific" genre which tries to be more "objective", to utilise the distancing stance and to describe animals as objects (see Crist, 1999). Science claims the authority to tell us what animals are (nonhumans, after all, fall within the disciplinary remit of biology); it uses them as "models" for human diseases and justifies that use by recourse to a "greater good"; that scientific framework then feeds into natural history programmes, with their construction of animals in the wild as driven by particular instincts (as other papers in this volume describe).

Yet we might also say that science is full of silences, not least because it plays down the complex interspecies context of many nonhuman lives. It denies or ignores subjectivity; it removes the animals from any other species context except perhaps predator/prey relationships. Most notably, human contexts are largely absent from scientific narratives about nonhumans – even though, for many nonhumans, human context is greatly significant, precisely because we have caged them or live with them as companions. Not only do humans provide the physical structures (cages, for example), but we also create the infrastructures (including lab practices determining how animals are moved about according to experimental protocols) – and we also provide some of the social context. Even a lab rat is affected by interspecies relations with humans – and not all of these are negative.

Interpretive problems aside, I welcome the surge of interest in thinking about nonhumans across academic boundaries. Animals are no longer confined to biology, but can scamper across disci-

plines. Before going on, however, to discuss the extent to which these studies are really getting at our relationships with other animals, I want to turn to my own recent work on horses and their people, to illustrate some of the themes of HAS.

Horsing Around: Horses, People and Embodiment

Horses have had a massive influence on my life and thought. I suspect they affected my choice of career: at eight years old, I knew by heart every bone of the vertebrate skeleton, every organ, every muscle – as long as it had the form of a horse around it. So perhaps it is not surprising that part of my research now focuses on horses and their people.

Horses carry a great deal of metaphoric baggage. "England's past has been borne on his back; we are his heirs, he our inheritance", asserts a poem read annually at Britain's Horse of the Year Show (Duncan, 1994) – a line summarising the multitude of ways in which horses have "served" humans, and how horses through those uses have come to symbolise empire, nationhood, pastoralism, heroism, masculinity – among other things. We have only to think of the myriad statues dominating public spaces in European cities, depicting some conquering hero or other mounted on a fiery steed. Almost without exception, both rider and horse are male.[3]

Still, the ways in which horses are used has changed dramatically since the Second World War. Most horses now in Western Europe are not used for war, but for leisure – in competitions, pleasure riding, or just for companionship. In this context, what has interested me is the rise of what I might call a counter-culture in modern horsey worlds, an opposition to the traditional Pony

3 Possibly depictions of Boudicca of the East Anglian Iceni people, in her challenge to Roman imperialism, are one of the few exceptions.

Club and competition milieu in which I grew up.[4] This counter-culture has been called "natural horsemanship". The sexist term is in widespread use, even if very inappropriate for a world in which women predominate. That aside, it has become widespread as "owners"/guardians of horses seek to find ways to improve their relationship with them. Advocates emphasise being "kinder" to horses than they perceive traditionalists to be; they insist that they learn to "speak horse".

This new world (employing various methods, but having in common an opposition to "traditional" approaches to horse-keeping) has drawn from the iconography of books and films like Evans' *The Horse Whisperer*.[5] It has created what Miller and Lamb (2007) have called a "revolution in horsemanship", a move toward gentler handling of horses. And it draws strongly on the image of the (kinder) cowboy; concomitantly, most of the leaders/trainers are men, dressed in cowboy attire[6], while most of the lay practitioners are women.

Perhaps inevitably, and consequent to deft marketing by natural horsemanship trainers, these methods are seen as different from "traditional" approaches, which become cast in their discourse as unthinkingly cruel. A clear opposition emerges, a policing of social boundaries to mark different cultural worlds; indeed, converts to natural horsemanship become quite zealous in their belief that it marks a sea change (see Birke, 2007; also see Latimer and Birke, in press). One of the criticisms they levy against traditional methods is what they see as an over-reliance on "gadgets", such as whips and

4 "Grew up" is perhaps debatable, since I still ride horses in competitions. My mother still remembers ruefully being told that I'd "grow out of it" one day.

5 And there are now, of course, parallel popular interests in, e.g., "dog whispering".

6 Even when these practitioners are working in Europe, they don cowboy attire. This clearly marks the NH trainer out from more traditional horse people.

spurs. Better by far to be "natural" – to eschew such things as rugs, metal shoes, bits and so on – they insist, in ways reminiscent of many enthusiasts for complementary medicine. But this creates a difficulty, for natural horsemanship trainers also market gadgets – special devices called "training arms" or "carrot sticks", for example, and which are marketed as "extending the arm", but are "not a whip in any way" (as one of my interviewees insisted: Birke, 2007). The technology, in other words, is reinscribed, defined as being other-than technology, within the discourses of "naturalness".

Franklin and White (2001) have written about how recent changes in how we think about animals are embedded in the sociocultural changes of late modernity. A decline in anthropocentrism, they suggest, is intertwined with concerns about risk and an ontological security, characteristic of postmodernising societies. These in turn contribute to a kind of sentimentalising of animals, and a turn away from more utilitarian relationships with them. It is just this shift toward sentiment that is expressed in the discourses of natural horsemanship (Birke, 2008).

What is striking about these discourses is the emphasis on creating a deep, long-lasting, relationship. This is not unique to natural horsemanship people, of course, but it is particularly clearly articulated by them. They acknowledge the responsibility of humans to learn to understand what the horse might be thinking, and that what humans do toward horses matters. In particular, they emphasise that the quality of the relationship between horse and person is central. These claims are not unproblematic; unsurprisingly, many traditional horse people feel that they too seek understanding and relationship, and the very fashionableness of the new methods renders them open to owners chopping and changing how they handle their horses. This is, as many of the more

critical respondents in my research noted, bad news for horses, who can easily become confused and frightened (Birke, 2007). Human context matters.

Contexts: From Chasms to Embodiment?

There are plenty of questions about animal welfare that can follow from sociological studies of humans and animals. And, relatedly, there is now more interest in studies of animal welfare to look at how human behaviour impacts on animals. For instance, we have been looking at how human body language affects the behaviour of feral ponies.[7] But however interesting this might be to me, I still find myself moving uncertainly between much-divided disciplines. Looking at feral ponies, I put on my ethologist hat; interviewing natural horsemanship enthusiasts, I become a sociologist (I went to one of the most interdisciplinary Universities in Britain, and was then heavily involved in the women's movement – both good grounds for developing cross-disciplinary skills!).

Yet the disciplinary chasm remains, and I am in constant danger of falling down into it. That precarious reflection reminds me that, however well our new field of HAS develops, there are silences remaining. In particular, we are not yet very good at thinking about/studying nonhuman animals *in/with their human contexts*. It is those contexts, however, that both we and they experience such relationships as we have – whether that be the more distant and fleeting relationship with, say, wild birds in the forest,

7 Birke, L., Creighton, E. and J.Hockenhull: "Pony responses to human approach speed and body language". Paper in preparation.

or the rich and nuanced interactions with our closest companions. To be sure, there are plenty of studies in HAS that look at how specific animals affect humans (those who work as assistance animals, for instance, bringing potential health benefits to people), or at how humans affect animals. Relatively few, however, focus on the intricacies of *the relationship*, as an ongoing dialogue between self-aware partners. Relationships are not simply A plus B: they are much more than that – they carry expectations and promises, and much else besides.

Part of the reason that – in my view – we have not yet developed really detailed studies of relationships is that we are stuck with antiquated disciplinary boundaries. When I am an ethologist, I study animals; when I am a sociologist, I study people, using methodologies derived from each of those backgrounds. Accordingly, we lack adequate methodologies that would allow us to study both participants at the same time (an exception here is the symbolic interactionist approach used by Sanders, 1999; and Irvine, 2004).

With that, perhaps provocative, claim, I want to note a couple of studies which might give us some pointers, something to fire the imagination. The first is Ann Game's analysis of riding (Game, 2001). As she emphasises, our relationship with horses is particularly *embodied*, especially in the act of riding. Writing about feminism's disavowal of biology, Wilson (2004) pointed out how feminist theorists need to pay much more attention to the intricate workings of the body – its nervous and immune systems, its musculature, its internal organs – and how they are implicated in everything we do and are. For Game, perhaps nowhere is that more clear than in the act of riding.

Riding is a skill honed over many years; you learn kinaesthe-

tically how to respond, how to anticipate, how to communicate. That learning becomes bodily memory: I do not have to think what to do if a horse shies sideways – my body responds before the "I" of my conscious mind could even begin the thought. And the horse's body, too, acquires new skills in the tactile communication entailed in riding. A while ago, I rode an old horse who had long been retired; as I rode I wondered – can he remember how to do half-pass (a sideways movement forming part of the repertoire of dressage competitions)? No sooner had the thought begun (and long before it was finished), he did precisely that manoeuvre. My nerves and muscles anticipated the end of my long-winded self-discourse, and his responded. Bodies remember.

The second example comes from Despret's (2004) analysis of animal/human relationships: her framework, too, is embodiment. She begins with a look at the Clever Hans phenomenon. Hans was a horse who, about a century ago, was heralded as being able to count and do simple arithmetic. But, my undergraduate textbooks insisted, this was only because his person gave an unconscious cue when Hans got the right answer. Not intelligent, then, we are supposed to infer. I have long thought that conclusion was misguided – surely the horse was really quite clever? Despret takes it further, however, pointing out that the horse's behaviour was implicated in effecting human response: that is, he could read human bodies and affect them. Thus, Hans could be interpreted as a horse who could "...make human bodies be moved and be affected, and move and affect other beings, and perform things without their owners' knowledge" (Despret, 2004:113). Thus it was not just that Hans responded but also that both horse and person were subtly eliciting responses from the other – which seems to me to be pretty clever.

Despret goes on to talk about psychology experiments with

rats that had been bred to be either good or bad at solving mazes. What was interesting about these experiments, she points out, is not the inherent capabilities of the rats, but how they were interpreted by the students who ran them: quite simply, if students *thought* that their rats were stupid – then lo and behold they reported results indicating poor maze performance. She concludes: "[students] beliefs brought into existence new identities for the students and for the rats....Both...transform the practice that articulates them into what we may call an 'anthropo-zoo-genetic' practice, a practice that constructs animal and human [and provides] a chance to disclose new forms of 'being together'" (Despret, ibid. 122).

These two studies underline an important omission in much work on animals and their people: our interrelationships are profoundly embodied, and carry expectations of that embodiment. They illustrate how profoundly interwoven are the two beings who make up a relationship. Just as I might finish my partner's sentences (much to her irritation), so too the dogs in our family can anticipate easily my intentions, however hard I try to disguise them. Together, we have created a set of interspecies practices which cannot be teased apart by looking at dog behaviour or at my responses to dog behaviour.

There is an infuriating tendency in natural sciences to dismiss everyday observations and much qualitative sociology as "anecdote". Marc Bekoff has a suitable response to that, noting that "the plural of anecdote is data" (Bekoff, 2002). If we are going to study interspecies relationships in meaningful ways then we will indeed have to plumb the anecdotes of people who live intimately with animals. We can bring qualitative aproaches to bear: Wemelsfelder (1997) for example has used assessment of qualities as a way

of measuring animal welfare and subjectivity (a topic that was anathema to ethologists until recently). Perhaps we might further develop ways of understanding the qualities of relationships, how they work, how they are embodied, what they accomplish for each partner in the relationship – indeed, I would contend that we must travel in this direction if we are fully to understand just how we are connected with others, of whatever species, and how we are constantly remaking those connections.

We are, after all, deeply and profoundly connected with at least some other species. Our closely entwined history with dogs, for instance, involves what Haraway (2003) called "mutual transfection" – we swap DNA, we share lives, we share histories. Human/animal studies has produced some fascinating work, serving to bring nonhuman animals more extensively into intellectual inquiry. Ethology, too, increasingly reminds us that many of our companion species are, indeed, intentional agents, not simply genetically inspired automata.

To me, the strength of HAS lies in bringing these two strands together. We need more work on how humans and nonhumans live together, on how our lives and experiences are mutually embodied, on how the nonhumans are constructors of relationships as much as (sometimes more than) we are. They are, in other words, co-constructors of our mutual worlds. Penny knew that well. My memories are of her, and her feistiness; they are also of the interwoven lives we led, along with other canine, equine, feline and human friends. A co-construction, indeed.

References

Bekoff, M. . *Minding Animals: Awareness, Emotions and Heart*. Oxford: Oxford University Press, 2002.

Birke, Lynda. *Feminism, Animals and Biology: The Naming of the Shrew*. Buckingham: Open University Press. 1994.

Birke, Lynda. *Feminism and the Biological Body*. Edinburgh: Edinburgh University Press. 1999.

Birke, Lynda.. "'Learning to speak horse': the culture of 'natural horsemanship'". *Society and Animals* 15, pp. 217–240. 2007

Birke, Lynda.. "Talking about horses: control and freedom in the world of 'natural horsemanship'". *Society and Animals*. 16, pp. 107–126. 2008,

Crist, Eileen. *Images of Animals: Anthropomorphism and Animal Mind*, Temple University Press, Philadelphia. 1999.

Despret, Vinciane. The Body We Care For: Figures of Anthropo-zoo-genesis *Body & Society*, Vol. 10(2–3): pp. 111–134. 2004.

Donovan, J. "Feminism and the treatment of animals: from care to dialogue". *Signs: Journal of Women in Culture and Society* 31: pp. 305–329. 2006.

Duncan, Ronald, The Horse. In: *The Poetry of Horses*, ed. Olwen Way, London, J.A.Allen. 1994.

Game, Ann. Riding: Embodying the Centaur. *Body and Society* 7, pp. 1–12. 2001.

Franklin, Adrian and White, Robert. Animals and modernity: changing human–animal relations, 1949–98 *Journal of Sociology* 37, pp. 219–238. 2001.

Guerrini, Anita. The ethics of animal experimentation in seventeenth-century England. *J. History of Ideas* 50, pp. 391–408. 1989.

Haraway, Donna. *The Companion Species Manifesto: Dogs, People and Significant Otherness*. Chicago: Prickly Paradigm Press. 2003.

Irvine, Leslie. *If You Tame Me: Animal Identity and the intrinsic value of their lives*. Philadelphia: Temple University Press. 2004.

Latimer, Joanna and Birke, Lynda (in press). Natural relations: horses, knowledge and technology, *Sociological Review*

Miller, Robert.M. and Lamb, Rick . *The Revolution in Horsemanship and what it means to Mankind*, Guildford, Connecticut, The Lyons Press. 2005.

Noske, Barbara . *Humans and Other Animals: Beyond the Boundaries of Anthropology* London: Pluto Press 1989..

Sanders, Clinton. *Understanding Dogs: Living and Working with Canine Companions*. Philadelphia, Temple University Press 1999.

Wemelsfelder, Francoise. . The scientific validity of subjective concepts in models of animal welfare *Applied Animal Behaviour Science* 53, pp. 75–88. 1997.

Wilson, Elizabeth. *Psychosomatic: Feminism and the Neurological Body*. Durham, N.C.: Duke University Press. 2004.

2. THINKING WITH ANIMALS

2: 1 Animals in the City at the Turn of the Enlightenment: Pictures from Louis Sébastien Mercier's Paris | ELLEN KREFTING

In 1780, Paris was, beside London, the largest city in Europe. It counted between 600,000 and 700,000 inhabitants; some demographers of the period even estimated the population to a million. To visitors and residents Paris was an urban monster, difficult to discern and to describe. "I am getting lost, I lose myself in this immense city" (I, 68), said Paris-born Louis Sébastien Mercier.[1] Nonetheless, he was ambitious and determined to portray his capital. Between 1781 and 1788 Mercier published, in Neuchâtel in Switzerland because of the strictness of the French censorship, twelve volumes that he called *Tableau de Paris*. The tableau consists of nearly two thousand small prose texts, each giving the reader a personal account of a facet of the city – not of its materiality, but of its life and "moral character" in what was soon to be called the pre-Revolutionary age.

Mercier's Paris had kings, queens, nobles, well-dressed ladies, capitalists, police lieutenants, theatre-goers, and of course enlightened *philosophes* like himself. But more importantly there were coachmen, mirror bearers, oyster sellers, fishwives, prostitutes, beggars, hospital patients, lunatics, and corpses (floating down the

1 All references are to Louis Sébastien Mercier, *Tableau de Paris* I–II, Paris, Mercure de France, 1994. All translations from French to English are mine.

river). And there were animals, loads of them. They inhabited the city like people, many of them honorary members of the human community. But urban conditions varied for every individual or group living in the city, human or animal. In an early text, where Mercier reflects on "The capital's population", he refers to the "little people" saying of Paris, that it is "women's paradise, men's purgatory, and horses' hell" (I, 66). The challenges of animalistic presence in the urban environment, of the particular conditions of the animals in the city streets, and of the complex physical and moral interrelations between humans and animals within a crowded modern capital, are recurring themes in Mercier's *Tableau de Paris*.

Mercier is fascinated by the rats, who live like a second population in the subterranean caverns and caves. But he writes a lot more about the animals serving and being managed by humans in different ways. He describes the merciless life of the Parisian horses, either forced to pull overloaded carts (I, 1012) or run in races for their owner's gain (I, 1163). In a chapter called "Fosses vétérinaires" he presents "les équarrisseurs", the horse killers who go around in the streets trying to hawk horsemeat, piece by piece, to poor, hungry people (I, 121). He discusses the "experimental barbarism" of vivisection of cats and dogs in the colleges (I, 209). He describes Swiss bears in chains brought into the city for public entertainment (I, 1295). And he reports the Parisians' versatile habits of domestication and pet keeping. "The poorer the Parisians are, the more they keep dogs, cats, birds etc, all mixed in a small room", he writes in a piece called "Incarcerated animals" (II, 486). "Tailors, cobblers, chiselers, embroiders, couturiers, all the sedentary professions always keep some kind of animal locked up in a cage, as if to make them share in the boredom of slavery". He

discusses another kind of pet keeping, fashionable among well-bred Parisian women, who never walk the streets or public gardens without their "small dogs" under the arms, kissing them more affectionately than any child or husband, and crying desperately when they are dead. "A woman will never be a Cartesian", comments Mercier, "she could never be persuaded to believe that her little dog is without sensation, nor without reason, when it caresses her" (612).

But Mercier's chief concern in the *Tableau* is the animals whose destiny it is to end up on someone's dinner table. More specifically, he is obsessed with the Parisian butcher shops. It is Mercier's reports on the butchers and the troubling presence of livestock animals within the city that provide the focus of this paper. The fact is that these texts are ideal sites from which to explore some of the important aspects of human relations with animals that were raised and questioned during the latter part of the Enlightenment, especially within an emerging modern, urban culture. But first, a small detour to the delicate question of meat in eighteenth-century Paris.

Butchers in Eighteenth-Century Paris[2]

Eighteenth-century Paris had a prodigious appetite for meat, and the political and the financial resources to satisfy that hunger. The city had a substantial elite of royal dignitaries and wealthy merchants, an expanding middle class as well as working poor. Fresh meat provided an important marker of class status. According to

2 This part of the paper is drawn from "Meat for the Multitudes: Market Culture in Paris, New York City and Mexico City over the Long Nineteenth Century" by Roger Horowitz, Jeffrey M. Pilcher, and Sydney Watts, in *The American Historical Review*, 109–4, October 2004 and "Boucherie et hygiène à Paris au XVIIIe siècle" by Sydney Watts, in *Revue d'Histoire moderne et contemporaine*, 53–1, juillet–septembre 2004.

historians, Paris in the 1780s consumed 150,000 to 200,000 head of livestock annually. For centuries, the religious calendar had organised the consumption of meat, following the periods of "maigre" and of "gras" – of which the latter occupied 199 days of the year at the most. During Lent, most of the butcher shops in Paris closed. Some were allowed to stay open, serving residents who for health reasons were prescribed meat (by their doctor or parish priest). During the eighteenth century, the growing number of butchers wanting to compete on this market resulted in the 1774 revocation of the restrictions placed on the sale of meat during Lent.

The rise in meat consumption was fanned by a new culinary system which placed heavy emphasis on quality cuts of red meat. The medieval ragouts were abandoned. Instead, diners sat before a single-joint roast served with a simple sauce made from the drippings (*jus*) that accentuated the meat's quality. Although consumption of choice cuts was skewed to the upper ends of the social ladder, this "nouvelle cuisine" was not limited to the elite; it formed part of a larger shift in food habits whereby beef became a bourgeois staple. The various leftovers, like the tongue, eyes, tail, kidneys, brain, etc., became ingredients in the popular kitchen. A common worker could possibly afford to eat some kind of meat to supplement his diet, if not necessarily every day at least occasionally. Between 1750 and 1800, every Parisian consumed an average of 50–60 kilos of meat annually, twice as much as inhabitants of a smaller French city like Caen in Normandy.

Livestock supply naturally informed regulations under the old regime, as no meat trade was possible without an adequate supply of animals. The royal statutes entrusted meat markets to the guild of master and merchant butchers, giving them exclusive purview over the purchase of cattle in the two provisioning markets in

the nearby towns of Sceau and Poissy (which were carefully monitored by the police), as well as the sale of fresh meat within licensed Parisian shops and stalls. These individual shops were spread throughout the city, and the guild – built around a handful powerful family firms – guaranteed that the meat sold there was "good, trustworthy, and marketable". The individual butchers in Paris brought the animals live into the city from the two cattle markets as public demand dictated. In order to secure fresh meat, following the medieval standards of "warm flesh" (*viande chaude*), the animals were not slaughtered in dedicated slaughterhouses but at the back of the shops. The number of stalls and shops, licensed and unlicensed, grew rapidly towards the 1780s, most of them situated along the Seine and around Châtelet in the city centre.

Anyone can imagine the pestilent stench of blood and animal cadavers in the narrow streets where the butchering took place. And as the number of butchers in the city centre of Paris rose, so did concerns over pollution – both of the air and of the water in the Seine. Enlightened scientists and doctors became increasingly aware of the dangers connected to the slaughtering of animals for the urban environment and for public health. Many of them wanted to see animals slaughtered at public abattoirs on the outskirts of the town. But for the authorities and the butchers alike, the main concern was the local provision of fresh meat to hungry Parisians. So the practice of slaughtering in public along the city streets continued as before.[3]

3 In fact, in the course of the French Revolution, all guilds were abolished to grant freedom of commerce, with the effect that meat could be sold anywhere, and animals were slaughtered right in the streets without supervision or any kind of inspection. When Napoleon arrived, he ordered five municipal abattoirs to be built in a ring around the city. When they finally opened in 1818, these abattoirs were the first of their kind in Europe, located away from populated districts, removing slaughter from public view and placing it under state surveillance.

Mercier on Butchery

But was pollution the only problem associated to public slaughter within the town? Mercier, himself an enlightened philosopher, was concerned too with the danger of pollution from decentralised slaughtering, as he was with the *intra muros* cemeteries and their assumed infectious effects on the air. But what is more interesting about his vivid and horrifying pictures of the Parisian butcher shops, is the kind of complex moral concern they inspired. Mercier was not against human beings, whom Enlightenment science had recently instated as members of the animal kingdom, eating other animals. Although the advantages of vegetarianism were debated around the middle of the eighteenth century, both medically and morally, Mercier did not disapprove of the rise in the consumption of meat. Neither was he particularly interested in whether the animals felt any pain when they were slaughtered. (He was more concerned with the painful vivisection, another of the period's hot topics.) His main concern was the morally brutalising and dehumanising effects on the spectators, and on the butcher himself, of the practice of public slaughtering in the Parisian streets. This is how Mercier presents Parisian "Butcher shops":

> They are not outside the city, not even at the outskirts; they are in the middle. The blood runs in the streets, it clots under your feet and your shoes get all red. On passing by, you are suddenly struck by the plaintive mourning. A young bull is overturned, his head tied to the ground with a rope; a sharp blow breaks his skull, a large knife carves a deep gash in its throat; steaming blood ejects in spurts along with the life. But its groans of pain, quivering muscles and terrible convulsions, its final struggle as it attempts to avoid inevitable death; all this attests to the violence of its fear, and its pain and suffering. Look at the terrible pounding of its naked heart,

its eyes darkening and languishing. Oh, who can contemplate them, who can listen to the bitter sighs of this creature sacrificed to man!

Bloody arms plunge into its steaming innards, a blowpipe inflates the expired animal and gives it a hideous shape, its legs are chopped off with a cleaver and cut up into pieces and at once the animal is stamped and marketed.

Sometimes the bull, tied by the neck but not yet overturned, breaks loose, furiously determined to escape the place of execution. Eluding its executioners, it levels all in its way, like the ministers and the accomplices to his death. It spreads fear; the animal that only the day before arrived at the butchers shop, its pace measured and docile. Now you have to run to avoid it. Women and children in its path are injured, but the butchers giving chase to their intended victim are as dangerous and brutal way as the animal that's causing distress and rage.

These butchers with the ferocious and bloodthirsty looks; the naked arms, inflated neck, blood-shot eye, dirty legs, bloody apron; a knobby and massive baton arms their heavy hands and always ready for the fights they thirst for. They are more severely punished than other professions, in order to suppress their ferocity; and experience proves that it is the right thing to do.

The blood they shed seems to light up their faces and lighten their mood. A bestial, furious lust marks them and the streets emit the cadaverous odour near by where despicable prostitutes, reclining against the walls in the middle of the day, publicly expose their debauchery. She is not attractive! That spotted female, painted, monstrous and disgusting object that she is, always massive and fat, with the gaze of a bull; but they are beauties in

the eyes of these men of blood, who are looking for voluptuousness in the arms of bull lovers.

Of course, there is nothing new in seeing butchering as a demoralizing practice that brutalized those who were exposed to it. In Thomas More's *Utopia*, "the slaughtering of livestock and cleaning of carcasses is done by the slaves [criminals sentenced to hard labour]. They don't let ordinary people get used to cutting up animals because they think it tends to destroy one's natural feelings of humanity."[4] But the level of public unease and repugnance, at least the expressions of such unease and repugnance towards slaughtering, as towards the scientific practice of vivisection, rose during the eighteenth century. In many ways, Mercier epitomises the new kind of bourgeois and genuinely urban "sensibilité" that flourished by the middle of the century, a sensibility that made central moral tenets of compassion and pity. He was deeply inspired by Rousseau, who, as Jean-Luc Guichet recently pointed out,[5] saw identification with animal feelings as crucial to the birth of pity in humans. Rousseau writes,

Emile, having thought little about sentient creatures, will be slow to discover what it means to suffer and die. Groans and cries will begin to stir his compassion, he will turn away his eyes at the sight of blood; the convulsions of a dying animal will cause him I know not what anguish before he knows the source of these impulses…So pity is born, the first relative sentiment which touches to human according to the order of nature. To become sen-

4 Thomas More, *Utopia*, New York, 1989 [1516], p. 57.

5 Jean-Luc Guichet, Rousseau, l'*animal et l'homme. L'animalité dans l'horizon anthropologique des Lumières,* Paris, Le Cerf, 2006. See also "Animality and Anthropology in Jean-Jacques Rousseau" in Matthew Senior (ed.), *A cultural history of animals in the age of Enlightenment,* Oxford, Berg, 2007.

> sitive and compassionate, the child must know that he has fellow-creatures who suffer as he has suffered, who feel the pains he has felt, and he must imagine that there are others who are capable of having these sensations as well. Indeed, how can we let ourselves be stirred by pity unless we go beyond ourselves and identify ourselves with the suffering animal, by leaving, so to speak, our own nature and taking on that of the animal.[6]

Indeed, in pre-Revolutionary Paris the life (and death) of animals could appear more pitiful than the life and death of most humans. The animals of the city, whether bulls and sheep waiting to become meat or small pets providing company and comfort, seemed to be ideal targets of a modern, urban moral sensibility.

It is with reference to the public's sensibility that Mercier argues for a more "secure and at the same time more prompt way of killing the animals" in Paris. And he adds;

> It is neither good nor wise to cut butcher a lamb within the sight of children, to allow the animal's blood to run into the streets. These bloody streams affect the morality of man as much as his body: emitting a double corruption of them both. Who knows if some man has not become a murderer from crossing these streets and bringing home shoes red with blood? He has heard the wailing animals being slaughtered alive; and perhaps by consequence made him less sensible to the smothered cries of someone he has struck. (II, 718)

But in his piece on the butcher shops, he paradoxically presents the terrifying spectacle of butchery in the streets as something almost necessary to the creation of a genuinely human sentiment

6 Jean Jacques Rousseau, *Émile,* trans. Barbara Foxley, London 1963, p. 257. In *Œuvres complètes* IV, Paris 1969, p. 505.

of pity. By describing the spectacle so vividly, Mercier prompts the reader's own moral scruples, which in this case are also aesthetic. To Mercier, it is the artist's duty to represent scenes of this nature. In one of several texts called "Killings" he describes a sheep dying in the street, blood running from its eyes; "suddenly a young girl in tears rushes towards it, holds its head while wiping it with her apron… Isn't this something that should be painted? When will I see this little picture at the salon in Louvre?" (I, 1022) Now, I suspect we all know what kind of picture Mercier is referring to. Confusing moral and aesthetic sensibilities, they would soon be stamped sentimental.

But what appears to me as even more interesting in Mercier's butcher shop piece quoted above is his description of the butcher himself. Mercier had spent time in Switzerland where he got to know the contemporary Swiss physiognomist Lavater who classified people according to their physical resemblance with animals. In Mercier's text, the butcher not only resembles the bull. He is the beast. By the end, man and beast have swapped roles. It is the bull that, in spite of all the danger it represents running in the streets, possesses the human features; conscious of what is going to happen, the animal escapes its executioner, the butcher, who takes on bestial, brutish characteristics: bloodthirsty violence, crude and furious lust etc. What happens in the urban butcher shop then, is not only the hideous "sacrifice" of an animal for man. It is also a blurring of what or who is human and what or who is not.

References

Guichet, Jean-Luc, Rousseau, *l'animal et l'homme. L'animalité dans l'horizon anthropologique des Lumières*, Paris, Le Cerf, 2006.

Guichet, Jean-Luc, "Animality and Anthropology in Jean-Jacques Rousseau" in Matthew Senior (ed.), *A cultural history of animals in the age of Enlightenment*, Oxford, Berg 2007.

Horowitz, Roger, "Boucherie et hygiène à Paris au XVIIIe siècle" by Sydney Watts, in *Revue d'Histoire moderne et contemporaine*, 53-1, juillet-septembre 2004.

Horowitz, Roger, Jeffrey M. Pilcher, and Sydney Watts, "Meat for the Multitudes: Market Culture in Paris, New York City and Mexico City over the Long Nineteenth Century" in *The American Historical Review*, 109-4, October 2004.

Mercier, Louis Sébastien, *Tableau de Paris* I–II, Paris, Mercure de France, 1994.

Thomas More, *Utopia*, New York, Cambridge, Cambridge University Press 1989.

Rousseau, Jean-Jacques, *Emile*, trans. Barbara Foxley, London 1963.

Rousseau, Jean-Jacques, *Emile*, in *Œuvres complètes* IV, Paris, Gallimard 1969.

Watts, Sydney, Butchers, *Politics, and Market Culture in Eighteenth-Century Paris*, Rochester, University of Rochester Press 2006.

2:2 What Are the Animals Needed for in Early Sociological Texts? | SALLA TUOMIVAARA

The fast growing field of human/animal studies has shown to us that animals have been almost invisible in social science texts for decades (e.g. Tovey 2003, Noske 1997, Arluke 1993, Alger & Alger 2003). Already in 1979 the sociologist Clifton D. Bryant wrote in his classical text "The zoological connection: animal-related human behavior" that sociology and sociologists have ignored the importance of animals for human societies (Social Forces 58 (2): 399–421). Since then the amount of sociological analyses on animals has exploded, but we still do not properly understand why and how sociology became so indifferent towards other living forms.

As many researchers have demonstrated, the social sciences and also gender studies have been particularly keen on maintaining a firm human/animal boundary. This usually also means that different methods and different theoretical approaches are seen as necessary for studying humans and studying "animals" (see e.g. Birke 1994, Corbey 2005, Horigan 1988, Noske 1997). Biological and even reductionist approaches are seen as the proper way to study "animals", whereas understanding human beings appears as a purely "cultural business". Human reality has been understood as socially constructed and uniquely social in a different way from (any other part of) the animal world.

A tight human/animal boundary has also had political significance – it has been connected to the question of reductionism versus free will and possibility for social change. But other researchers have suggested that we would benefit from not-so-dichotomist

an approach to "natural" and "cultural" world – it might help us to gain fuller understanding of both humans and other animals and their lives and life worlds. (e.g. Birke 1994, 11–12, Haraway 1989; 2003, Latour 1993, Irvine 2007, Konecki 2005 etc. See also Segerstråle 2000, 391–408.) However, lowering the human/animal boundary is still something widely opposed by many people (see e.g. Corbey 2005, 191–201). Discussing humans and animals, nature and culture, body and mind, social and "gregarious" behaviour in the same terms and using the same discourse and the same methods for humans and other animals are seen as a threat by many. The main risk appears to be the "devaluation" of humans, fear of losing the unique respect for human species and human individuals. Human superiority over other life forms is seen as necessary for maintaining a unique respect for humanity.

As sociology has had an important role in the construction of our idea of humans and human social life and as it has been found to be a keen supporter of strong human/animal divide, it appears to me both important and interesting to try to discover how this sociological view on animals, and humans as distinct from animals, has been constructed – and if there are any early divergences in this sociological view on animals. This task requires us to take a look at the early years of sociology and the first steps of sociological theory construction.

Westermarck and Durkheim and the Early Years of Sociology

Edward Westermarck (1862–1939) and Émile Durkheim (1858–1917) were both key figures of the early years of European sociology. Both were appointed as the first professors of sociology in the countries where they worked, Durkheim in France, at Sorbonne

in 1902, and Westermarck in Great Britain, at London School of Economics and Political Science in 1907. Westermarck held also academic appointments in Finland, his native country, during his whole career.

To better understand the importance of the human/animal boundary and the habit of ignoring the meaning of animals in sociology, I have examined contexts and forms in which animals appear in the texts of these two early sociologists. My aim has been to understand what are the animals needed for in sociological texts and how animals are connected to different types of sociological theorization – what has been the meaning of animals for sociology as an academic discipline and science of human beings.

Westermarck and Durkheim were engaged in the same sociological debates as they shared many common interests, like the study of morals and religion. Durkheim's and Westermarck's diverging views on the nature of sociology are reflected in the significance given to animals in their texts. Animals appear fairly often in the texts of both, but in quite different ways, as we will see. The comparison between these two figures appears particularly interesting as they were both prominent figures in their own time, but in contemporary sociology their positions are very different from each other: Durkheim is the most undisputed classic in the sociological canon. Westermarck has been largely forgotten but has experienced a mild revival in the last few years mainly because of the new interest in evolutionary biology and critique of nature-culture dualism.

Contexts That Bring Animals into Sociological Attention

The main focus of sociological texts is human social behaviour. This is true also with Westermarck and Durkheim, despite the fact that animals appear more in their texts than in much of later sociology. Westermarck's wide discussion on animals is quite a rare phenomenon in the field of sociology, and also Durkheim discusses animals far more often than many modern sociologists, despite his strong view on the unique nature of human beings. The main difference between their texts and most later sociological literature is Westermarck's and Durkheim's need to explain, in very general terms, the nature of sociology and social behaviour. They had to discuss widely how they see the origins of human sociality and what kind of science is needed to approach human societies in the best possible way. Both of these questions also require some reflection on the animal/human continuity. Later on there was less need for this discussion than in the early years, since sociology had already managed to institutionalize itself as an academic discipline. As human uniqueness and the need for specialized social sciences are more or less taken for granted they can be stated with no need for further explanations.

At the turn of the 19th and 20th century, when both of these authors wrote their central works, the institutionalization process of sociology was just beginning and the independence of sociology as a discipline was still uncertain for both of them. Thus the context that brings "animal" most often to the attention of Durkheim and Westermarck is reflection on the relationship between human (society) and animal (kingdom), the special type of human nature and its continuity or discontinuity with the other, animal world. Westermarck and Durkheim do not have a shared view on hu-

man evolutionary past, but both pay attention to animals when discussing the origins of human social behaviour. For Westermarck the theory of evolution is the starting point of his scientific work, while Durkheim is really critical of evolutionary theories and sees them as pure hypotheses (e.g. Durkheim 2004, 100–114). Durkheim focuses on the qualitative difference between humans and other life forms, which is based on uniqueness of human sociality. But because Durkheim does not mention evolutionary theories very often and actually does not discuss the idea of humans as a species that has developed from other animals, it is difficult to get a complete picture of his views on the human evolution.

In addition to the general question of human "nature" and the human/animal continuity, moral behaviour and moral rules constitute a topic that brings animals to the attention of both authors. This topic can be connected to the origins of human moral behaviour, but also to the limits of ethical considerations. Themes closely related to moral issues are religious and totemic practices and taboos that are difficult to talk about without mentioning human relationships with animals. Almost all of these practices include some kind of rules about the use of animals, especially about the proper food and its preparation – in many cases also about beliefs and mythology relating to the common history or common ancestors of humans and other animals. In addition, in his works Westermarck discusses extensively the attitudes in the world religions' towards animals: from the practices of Jainism to different attitudes to animal in Christianity, and also "secular" traditions, such as animals in folklore (e.g. Westermarck 1908, 490–514; 1939).

Unlike Durkheim, Westermarck also pays attention to the relationships with animals of his own time and culture. He writes about the most conflicting animal issues of the era (especially in

English culture): fox hunting, vivisection, as well as vegetarianism. Durkheim does not deal with this kind of questions, although his object of interest is the particular nature of modern society. However, it must be noted that animal rights and the protection of animals were far more prominent movements in England than in France at the time.

Forms of Animal Appearance in Early Sociological Texts

Animals do not only appear in different contexts, but also in different forms in these early sociological texts. On the most general level, animals in sociological texts may be seen as having either a "concrete" or an "ontological" nature. It is not always possible to identify certain quotes about animals in sociology to represent only "concrete" or "ontological" animality, but these categories still seem to be useful. Usually animals in sociological texts either state what different beings really are (ontological animals) or they state what concrete things animals do, how they behave or act or what is done to or with them (concrete animals).

"Ontological" animals are much more common, especially in the texts of Durkheim. This has to do with the most central function of animals in early sociology: humans are explained by being compared to animals – either with an emphasis on a continuity or a difference between humans and (other) animals. Through this comparison it is also stated what is the origin or background of human characteristics, what human beings really are, how unique we are and also what kind of science is needed to study us. (cf. Birke 1994, 11–14, 17.)

"Ontological" animals are usually present as the general category of "animals" to which one species, humans, is compared. This

discourse is also connected to the debate about an inner human dualism – a possible human "animalness" and its scope. Common to these "ontological" discourses on "animals" and "animalities" is that they are primarily used to define what is human and what humans are, even though animals often become defined as "anti-human" in the same process. This type of discourse is not used to understand human relations with animals or the meaning of animals themselves (as concrete living beings) to humans. It is used to construct our idea of humans and humanity and its boundaries.

For Durkheim animals are primarily the opposite of humans. They appear as the "general other", a different kind of living beings from humans. This animal opposite of humans can be present either visibly or invisibly. Animals may be "present" and "invisible" at the same time, as when the uniqueness of humans is discussed and animals are not mentioned, but they are present as the group to which humans are inevitably compared – the reader knows that we are different from (other) animals. On other occasions this animal otherness is clearly stated:

> [T]he individual gets from society the best part of himself, all that gives him a distinct character and a special place among other beings, his intellectual and moral culture. If we should withdraw from men their language, sciences, arts and moral beliefs, they would drop to the rank of animals. So the characteristic attributes of human nature come from the society. (Durkheim 1976/1912: 347.)

Instead Westermarck regards humans as essentially animals – other animals are either closer or more distant relatives of humans. Westermarck refers to the Durkheimian school in his re-written edition of *The History of Human Marriage* (Westermarck 1921, published originally 1891: 17–18) when he writes:

> They have not sufficiently considered an extremely important fact, namely, that all the different ethnic groups belong to the same animal species and therefore must present resemblances which have a deeper foundation than all differences which are the effects of social environment. How could we disclose these resemblances in any other way than by comparison? How could we otherwise distinguish which is local from which is general? Nay, how could we fully explain the social environment itself without taking into account the mental characteristics of the human species.

Thus human animality not only connects humans to other animal species but also connects all human cultures to one another. In Westermarck's texts the fundamental dividing boundary is situated between living beings and inanimate things, not between humans and other animals.

So, both uses of the human/animal comparison were present in the early years of sociology: animals explaining human behaviour by similitude and animals explaining human behaviour by contrast. One fascinating difference between the two is the following: when the human/animal similarity is emphasized, examples from scientific research on animals are abundant, but when, for example, Durkheim concentrates on human/animal differences he cites ethological research much more rarely. This phenomenon is still present in contemporary sociology (see Alger & Alger 2003, 72–74).

An interesting question that arises from these observations

is whether the different views on the human/animal continuity affect the way "concrete" animals in our surroundings are paid attention to in research. As we have seen, at least in the case of Westermarck and Durkheim, there are also differences in how much attention is given to human relations with animals in general. Westermarck sees strong a human/animal continuity and he is also scientifically interested in the meaning of animals in human societies and animals as objects of our ethical considerations, whereas "concrete" animals are less abundant in Durkheim's theorization, but still exist, especially in the contexts of religious and totemistic practices.

Westermarck's interest in animals is reflected in the vast variety of forms and concepts in which animals are present in his texts. In addition to the general class of "animal", "animals" or "animality" and "higher and lower animals", which are characteristic of both Westermarck's and Durkheim's writings, in Westermarck's texts there are also mammals, wild and domesticated animals, gregarious animals, dogs, man-like apes and other groups and species of animals, and even animal individuals. In many instances Westermarck quotes anecdotes of behaviour of a certain animal individual. These examples are normally picked from biological literature, sometimes also from his own experience.

> A reproachful word or look from any of his friends made a Skye terrier miserable for a whole day; and another terrier, who when in good humour used to perform various tricks, was never so pleased as when his joke was duly appreciated, whereas "nothing displeased him so much as being laughed at when he did not intend to be ridiculous". (Westermarck 1908: 137–138, quoted from Romanes: *Animal Intelligence* 1895.)

It is not just the general animal other, but also more and less different animal others that appear in Westermarck's texts.

Conclusion

In early sociology the most essential meaning of animals has been to explain the human – either the unique nature of humans and need for a totally independent field of science – or understand human beings through the similarities with other animals. The latter approach leaves partly open what the real differences and similarities between us and other animals are – they need to be further investigated. This means that the relations between different fields of science need to be close enough for an understanding across the borders of academic disciplines.

In the early phase of sociology, which I have discussed in this article, the idea of a human/animal difference had not yet gained such a hegemonic position as it has today in sociological theory construction. Further research is still needed to gain a better grasp of the process in which the human/animal divide reached its present status. One interesting thing to analyze would be the possible link between different traditions of biological research in France and Britain and their connection to the difference in status of the protection of animals and the idea of animal rights between these countries. They may in turn have a link to the respective sociological approaches towards animals.

It seems probable that the idea of a qualitative difference between humans and other animals has also had an effect on a more general sociological view on animals – if animals appear as essential to human social life. Social scientific views on the human/animal difference have also affected animals themselves: as social sciences have given up animals and animals have been seen as the

property of the natural sciences, animals have been researched almost uniquely from a biological viewpoint. Thus the biological truth about animals has also become the sociological truth about animals, despite the fact that these disciplines treat "truths" of the natural sciences extremely critically when regarding humans themselves. This strong human/animal dichotomy has also had an effect on sociological assumptions about nature, our bodies and the role of the evolution and biology in human behaviour. Our idea of animals is always connected to our image of ourselves, as humans. Something is missing from our own image of ourselves, if all that is "animal" has been blocked away from it.

References

Alger, Janet M. & Alger, Steven F. (2003) "Drawing the Line between Humans and Animals: An Examination of Introductory Sociology Textbooks." *International Journal of Sociology and Social Policy* 23: 69–93.

Arluke, Arnold (1993) "Associate Editor's Introduction: Bringing Animals into Social Scientific Research." *Society & Animals* 1:1.

Birke, Lynda (1994) *Feminism, Animals and Science: The Naming of the Shrew*. Open University Press, Buckingham.

Bryant, Clifton D. (1979) "The Zoological Connection: Animal-Related Human Behavior." *Social Forces*, 58: 399–421.

Corbey, Raymond (2005) *The Metaphysics of Apes: Negotiating the Animal-Human Boundary*. Cambridge University Press, Cambridge.

Durkheim, Émile (1976) *The Elementary Forms of the Religious Life*. (With new introduction by Robert Nisbet.) George Allen & Unwin Ltd, London. Originally published in French 1912.

Durkheim, Émile (2004) *Durkheim's Philosophy Lectures: Notes from the Lycée de Sens Course, 1883–1884*. Edited and translated by Neil Gross and Robert Alun Jones. Cambridge University Press, Cambridge.

Haraway, Donna (1989) *Primate Visions: Gender, Race, and Nature in the World of Modern Science*. Routledge, New York.

Haraway, Donna (2003) *The Companion Species Manifesto: Dogs, People and Significant Otherness*. Prickly Paradigm Press, Chicago.

Horigan, Stephen (1988) *Nature and Culture in Western Discourses*. Routledge, London.

Irvine, Leslie (2007) "The question of animal selves: Implications for sociological knowledge and practice." *Qualitative Sociology Review*, III:1.

Retrieved 5/2008. (http://www.qualitativesociologyreview.org/ENG/archive_eng.php)
Konecki, Krzysztof T. (2005) "The Problem of Symbolic Interaction and of Constructing Self." *Qualitative Sociology Review*, I:1. Retrieved 3/2007. (http://www.qualitativesociologyreview.org /ENG/archive_eng.php)
Latour, Bruno (1993) *We Have Never Been Modern*. Harvard University Press, Cambridge, Massachusetts. Originally published in French 1991.
Noske, Barbara (1997) *Beyond Boundaries: Human and Animals*. Black Rose Books, Montreal.
Segerstråle, Ullica (2000) *Defenders of the Truth: The Sociobiology Debate*. Oxford University Press, Oxford.
Tovey, Hilary (2003) *Theorising Nature and Society in Sociology: The Invisibility of Animals*. Sociologia Ruralis. 43:3, 196–215.
Westermarck, Edward (1908) *The Origin and Development of the Moral Ideas*. Vol. 2. Macmillan and co., London.
Westermarck, Edward (1921) *The History of Human Marriage*. Vol. 1. 5th ed. Rewritten. Macmillan and Co, London. (1st edition 1891.)
Westermarck, Edward (1939). *Christianity and Morals*. Kegan Paul, Trench, Trubner & Co., London.

2:3 Posthumanist Challenges to Education Theory and Practice | HELENA PEDERSEN

Animal Studies and Education Research: An Unholy Alliance?

Despite the "animal turn" that has taken place in the humanities and social sciences in the last two decades (Armstrong & Simmons, 2007), education science seems largely absent from these developments. With a few exceptions, such as the practice-based tradition of *humane education*[1] in the Anglo-Saxon world, and the practices of animal-assisted therapy that are dealt with in some areas of education, education science has, in my experience, not been very visible in the dynamic theory development of animal studies. There are several possible reasons for the "silence" of education research in the study of human/animal relationships. Firstly, Western pedagogy is firmly rooted in a "humanist" tradition, where the human subject is considered both the instrument and the end product of education. Secondly, the church and the Judeo-Christian tradition, whose conventional interpretations include a distinct human/animal boundary, have historically had a strong grip on the school and the formal education system in many Western societies.[2] Thirdly, from a perspective of critical educa-

1 Humane education, an approach to teach children care and compassion toward animals through formal and non-formal education, originated around 145 years ago as part of the organised animal protection movement (Unti & DeRosa, 2003).

2 For instance, the Swedish National Curriculum (Lpo 94/Lpf 94) defines values that the school should "represent and impart" in accordance with "the ethics borne by Christian tradition and Western humanism" (the National Agency for Education, 2006 p. 3).

tion theory, the school can be viewed as an arena where conflicting interests and ideologies are involved in continuous battles over the power to shape "our common future" that the school has come to symbolise. Clearly, in-depth critical inquiry into human/animal relations is unlikely to be given high priority in the education and socialisation of the next generation of citizens in a consumer society, characterised by economic expansion and competition.

This paper seeks to identify some potential instabilities of the "humanist" traditions and ideals of formal education in Western society in light of recent critical analyses by posthumanist scholars. Some of this critique depicts humanism as essentialist, exclusive, and unable to meet its own criteria of value pluralism, tolerance, and equity for all (e.g. Wolfe, 2008). In this vein, the paper formulates some challenges that may be posed to the formal education system by posthumanist theory. It focuses on five pervasive ideas about the relationship between education and social change that frequently appear in contemporary rhetoric of education policymaking: "the knowledge society"; "the democratic society"; "the multicultural society"; "the globalised society" and "the sustainable society". Inspired by critical pedagogy[3] and critical discourse

3 Critical pedagogy sees society as fundamentally divided by unequal power relations (Burbules & Berk, 1999; Kanpol, 1999) and views schooling as a preparation and justification of particular forms of social life (McLaren, 1998; Kanpol, 1999). One aim of critical pedagogy is to challenge value structures that lead to oppressive, alienating and subordinative social practices, and raise questions about how these are reproduced in school (Kanpol, 1999). In Giroux's (1997) words, this means to highlight how schools function in the shaping of particular identities, values and histories by producing and justifying specific narratives.

analysis,[4] the paper identifies a number of research questions that have a potential to deconstruct conventional assumptions about the institutionalised production, mediation, and development of knowledge as a catalyst for social progress. In so doing, it maps directions for a research project in the interface between critical education science and animal studies, and explores their mutual concerns.

Posthumanist Theory as a Conceptual Framework

Some of the early tenets of posthumanism start with Nietzsche, Heidegger and Marx (e.g. Badmington, 2000; Rossini, 2006), but have been given new interpretations by scholars such as Katherine Hayles, Donna Haraway and Cary Wolfe. The concept of posthumanism does not only refer to a form of chronological progression (i.e. what comes "after humanism"), but addresses fundamental ontological and epistemological questions relating to the problematic project of defining an essential "human nature" (Wolfe, 2008). Posthumanism accommodates several different trajectories of thought. One example is the technological, or "cybernetic" orientation toward relationality, focusing on human/machine interaction and hybridity (e.g. Hayles, 1999). There is also a critical posthumanism inspired by Judith Butler's theory of performativity, according to which not only categories such as gender and ethnicity, but also animality, are continuously reiterated in various situations and consolidated over time (Birke, Bryld & Lykke, 2004). In

4 My approach to critical discourse analysis does not follow a rigid "model", but is guided by questions such as what system of meaning the discourse represents and what it seeks to achieve; who or what benefits (or not) from the discourse; what voices or information have been silenced or marginalised; how power relations are constituted or reinforced; identification of discursive strategies and techniques as well as of resistances and counter-discourses (cf. Carabine, 2001; Zeeman et al., 2002).

processes of species performativity (Pedersen, 2007), human/animal boundaries and identities as well as power relations are constructed and maintained. Thus, posthumanist theory highlights the dynamics through which human and animal subjectivities and corporealities are produced within a nature/culture dichotomy/collapse/symbiosis. These dynamics can be viewed as a form of systems theory where both humans and animals constitute each other through constant interaction with each other and with their environment (e.g. Rossini, 2006). In contemporary Western society, however, relationships are frequently mediated by, and incorporated in, various technologies, institutions and structures within a realm of global economic expansion and commodification processes. These complexities provide a framework for my subsequent discussion of posthumanist challenges to education policy and practice.

Posthumanist Theory and Education

I have argued elsewhere that the school may be viewed as an institution which, through a complex web of social processes and interactions, not only continually reinscribes and "closes" categories of "human" and "animal",[5] but also tends to sustain and reinforce the incorporation of animals into capitalist modes of production and consumption. The formal education system is embedded in, and is also a co-creator of, particular forms of species performativity that are the basis of posthumanist critique (Pedersen, 2007). This situation shapes conditions and delimitations for the differ-

5 Some educational situations manifest approaches to blur this human/animal divide. However, the expression of human/animal continuities in the classroom (and elsewhere) may, paradoxically, appear as an even more authoritative emphasis of the reinscription of species boundaries (Pedersen, 2007).

ent notions of social change; the "societies" that education is frequently viewed as an instrument to achieve on local, national and transnational levels (e.g. through the so-called Bologna process). This paper explores how posthumanist theory can be used as a critical analytical tool to rework different roles ascribed to formal education in a wider societal context, and to examine preconceived ideas about the relation between education and social development. In the remaining sections five such roles will be briefly discussed. Each account will conclude with the identification of a research question delineating directions for further exploration in the interface of posthumanist theory and education science.

"The Knowledge Society"

"The knowledge society" is a concept that is commonly used to describe the growing importance of knowledge, research, innovation and the training of experts that are currently changing the role of education (European Science Foundation, 2008). There is a widely spread idea that the production, circulation and cross-fertilisation of different forms of knowledge is increasing in both intensity and complexity and that educational institutions need to be equipped to meet such challenges. Knowledge is also acknowledged as a major determining factor for global competitiveness on the levels of the nation state, the corporation, as well as the individual; turning knowledge into more or less a commodity that can be traded on the world market (much like labour and other forms of resources). These conditions put constraints on what forms of knowledge are considered valid, effective and legitimate to disseminate in any given context.

The rationales of "the knowledge society" indicate a need to integrate different areas of knowledge and science (UNESCO, 2005).

Nevertheless, the education curricula and organisations are still to a large extent structured by conventional epistemological paradigms, separating knowledge into realms of "natural science" and "social science", and, hence, between "nature" and "society". This demarcation is interrogated by posthumanist analysis. By viewing nature as a "topic of public discourse" rather than as a physical place, resource or essence, Haraway (2004) points to an understanding of "nature" as a co-construction among human and nonhuman actors and as a site on which to consider common themes. This understanding largely invalidates the society/nature boundary underpinning conventional organisations and presentations of knowledge in formal education. However, the human–nonhuman interaction processes that Haraway discusses are often taking place within spheres of institutionalised power relations, governed by the production and accumulation of economic surplus value that relies on the continuous exploitation of animal bodies, their labour, and their reproductive capacities.

This has significant implications for the idea of "the knowledge society". What forms of knowledge emerge from the forces that shape the life conditions shared by humans and animals? In what ways do posthumanism destabilise the epistemological paradigm separating the knowledge areas of "natural science" and "social science", and the way these areas are applied in educational practice?

"The Democratic Society"

In Sweden, formal education is viewed as an important arena for the dissemination of democratic values and the nurturing of competence to contribute to a democratic society. In Swedish education research the democratic "mission" of the education system is rarely questioned or problematised (Arnot et al, 2007). Education

for democracy generally includes ideas such as tolerance and equality, especially with regard to dimensions of gender and ethnicity as well as to certain disadvantaged social groups. Another central issue in democracy education, as well as in critical pedagogy is the notion of "voice". In critical education theory, "voice" refers to the cultural grammar and background knowledge that individuals use to interpret and articulate experience, and denotes the means that students have at their disposal to make themselves "heard" and to define themselves as active participants in the world (McLaren, 1998).

Posthumanist theory complicates many assumptions surrounding the relations between education and democracy and provides new perspectives on the notion of "voice" in a context where individual and collective voices of disadvantaged or subordinate groups (human or animal) are marginalised or silenced. What would it mean for education to respond to the "voices" and lived experiences of nonhuman animals that can only be interpreted by means of imagination and representation? Furthermore, how can education respond to the intersectional character of gender, postcolonial, and posthumanist concerns? If education is to be seen as a means to achieve democracy, how can interdependencies between sexism, racism, speciesism, and other forms of oppressive boundary work be productively dealt with in education?

"The Multicultural Society"

From an educational viewpoint, the ideas of a democratic society and a multicultural society are closely interlinked. Both concepts imply non-repressive modes of interaction, where, ideally, everybody possesses equal value and opportunities. A multicultural society is, in addition, expected to be open to a diversity of identi-

ties, expressions, and lifestyles. Cultural hegemony is, from this perspective, problematic. Furthermore, a multicultural society requires a variety of communication forms, where the concept of "literacy" is not restricted to rule-bound knowledge in the canonical, standardised national language (Cope & Kalantzis, 2000).

A posthumanist perspective on "the multicultural society" (and its accompanying multimodal literacy definitions) would argue that such a society needs to consider and accommodate not only a variety of life styles, but a variety of life *forms*. As Armstrong and Simmons (2007) remark, the perceived authority of human modes of self-expression relies on our ignoring "the many languages, crafts, cultures, intelligences, intentions and agencies of nonhuman animals" (p. 20). How can animal alterity be addressed, and human/animal communication and meaning-making become part of education for a multicultural society? How can the diversity of animal cultures inform, and be informed by, developments in multiliteracy education?

"The Globalised Society"

The relationship of education to processes of globalisation includes dimensions such as migration patterns, the impact of new technologies, and the changing role of the nation state (European Science Foundation, 2008). While transnational alliances and networks between educational actors are created, education as such is increasingly seen as a global concern and its products as possible to import and export in a "global knowledge economy". Thus, education and the way it is organised contribute to the formation of "the globalised society", but also relies on its material basis. A significant part of this basis is constituted by the "animal economy", where animals, their bodies, labour, and reproductive capaci-

ties are incorporated into globalised commodity chains and in our politico-economic stories of progress and development (Emel & Wolch, 1998). Emel and Wolch (1998) have identified the "animal economy" as comprising globalised animal agribusiness; ecological cleansing in the intensification of land-use; hunting and fishing; the capturing, trading and breeding of wild animals for circuses, laboratories, pets, trophies, sport and other purposes; and biotechnology. Many of these practices are the focus of heavy investments from private and public actors:

> Over the past two decades, the animal economy has become simultaneously both more intensive and more extensive. More profits are squeezed out of each animal life, more quickly, while the reach of animal-based industries has grown to include most of the developing world. (Emel & Wolch, 1998 p. 2)

The ways by which education systems take part in the global web of the animal economy are reflected (and actively reproduced) in everyday school activities, which sometimes even get intertwined with corporate branding and identity strategies of big-name companies (Pedersen, 2007). What would it mean for education to examine its own position in the animal (and human) economy? What would be the pedagogical implications of engaging with notions of human/animal corporeality and physicality, structured and interlinked by globalised commodification processes?

"The Sustainable Society"

Education for sustainable development (ESD) is emerging as a field of research and practice in Swedish education discourse with new doctoral programmes, dissertations, networks and research

centres. ESD has evolved to include not only the development of economically responsible management of natural resources, but social, ethical and political aspects as well. Although sustainable development to a large extent has focused on the life conditions of present and future generations of humans, recent ESD research has also argued for a stronger recognition of animals beyond their instrumental ecological function as species representatives (e.g. Selby, 1995, 2000; Kahn, 2003; Andrzejewski, Pedersen & Wicklund, in press). However, Kahn (2003) and others have raised a critique against sustainability education in many of its present forms for being anthropocentric, technocratic, too tied to governmental and corporate agendas, and failing to adequately address issues of social justice. Given its potential to look beyond the idea of "humanity" and "animality" as fixed and stable categories, how can posthumanism further problematise the role of education in creating a "sustainable society"? To paraphrase Donna Haraway (2009): What does it mean to educate in a time of extinction, extermination, and mass-industrial death?

Concluding Remarks

This paper has outlined some directions for a research project in the intersection of posthumanist theory and education research. It has explored how some "grand narratives" about the presumed relationship between education and social change may be revisited in light of a posthumanist analysis. In doing so, the paper also suggests how questions available for critical inquiry in animal studies and education science can be interrelated, synthesised, and opened up for new questions.

References

Andrzejewski, Julie, Pedersen, Helena & Wicklund, Freeman (in press). "Interspecies Education for Humans, Animals, and the Earth." In J. Andrzejewski, M. Baltodano & L. Symcox (Eds.), *Social Justice, Peace, Eco-Justice and Interspecies Education Standards: A Transformative Framework for Educators*. Routledge.

Armstrong, Philip & Simmons, Laurence (2007). "Bestiary: An Introduction." In L. Simmons & P. Armstrong (Eds.), *Knowing Animals*, 1–24. Leiden and Boston: Brill.

Arnot, Madeleine, Hopmann, Stefan T. & Molander, Bengt (2007). *International Evaluation in Educational Sciences: Democratic Values, Gender and Citizenship*. Vetenskapsrådets rapportserie 4: 2007. Stockholm: Vetenskapsrådet.

Badmington, Neil. (2000). *Posthumanism*. Basingstoke and New York: Palgrave.

Birke, Lynda, Bryld, Mette & Lykke, Nina (2004). "Animal Performances. An Exploration of Intersections Between Feminist Science and Studies of Human/Animal Relationships." *Feminist Theory* 5(2), 167–183.

Burbules, Nicholas C. & Berk, Rupert (1999). "Critical Thinking and Critical Pedagogy: Relations, Differences, and Limits." In T.S. Popkewitz & L. Fendler (Eds.), *Critical Theories in Education: Changing Terrains of Knowledge and Politics*, 45–66. New York and London: Routledge.

Carabine, Jean (2001). "Unmarried Motherhood, 1830–1990: A Genealogical Analysis." In M. Wetherell, S. Taylor & S.J. Yates (Eds.), *Discourse as Data: A Guide for Analysis*, 267–307. London: Sage.

Cope, Bill & Kalantzis, Mary (2000). "Introduction. Multiliteracies: The Beginnings of an Idea." In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy Learning and the Design of Social Futures*. London and New York: Routledge.

Emel, Jody & Wolch, Jennifer (1998). "Witnessing the Animal Moment." In J. Wolch & J. Emel (Eds.), *Animal Geographies: Place, Politics, and Identity in the Nature-Culture Borderlands*, 1–24. London and New York: Verso.

European Science Foundation (2008). *Call for outline proposals: Funding initiative in the field of Higher Education and Social Change* (EUROHESC). http://www.esf.org/activities/eurocores/calls.html#c23735

Giroux, Henry A. (1997). "Crossing the Boundaries of Educational Discourse: Modernism, Postmodernism, and Feminism." In A.H. Halsey, H. Lauder, P. Brown & A.S. Wells (Eds.), *Education: Culture, Economy, and Society*, 113–130. Oxford and New York: Oxford University Press.

Haraway, Donna J. (2004). "The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others." In D. Haraway, *The Haraway Reader*, 63–124. New York and London: Routledge.

Haraway, Donna J. (2009). *When Species Meet: Ethical Attachment Sites for Out-of-Place Companions*. Presentation at the British Animal Studies Network meeting, University College London, 21 February 2009.

Hayles, Katherine N. (1999). *How We Became Posthuman. Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: The University of Chicago Press.

Kahn, Richard (2003). "Towards Ecopedagogy: Weaving a Broad-based Pedagogy of Liberation for Animals, Nature, and the Oppressed People of the Earth." *Animal Liberation Philosophy and Policy Journal* 1, http://www.criticalanimal-studies.org/JCAS/Journal_Articles_download/Issue_1/kahn.pdf

Kanpol, Barry (1999). *Critical Pedagogy: An Introduction*. Westport and London: Bergin & Garvey.

McLaren, Peter (1998). *Life in Schools: An Introduction to Critical Pedagogy in the Foundations of Education*. New York: Longman.

The National Agency for Education (2006). *Curriculum for the Compulsory School System, the Pre-school Class and the Leisure-time centre Lpo 94 and Curriculum for the non-compulsory school system Lpf 94*. http://www.skolverket.se/sb/d/493

Pedersen, Helena (2007). "The School and the Animal Other: An Ethnography of Human-Animal Relations in Education." *Göteborg Studies in Educational Sciences* 254. Göteborg: Acta Universitatis Gothoburgensis.

Rossini, Manuela (2006). "To the Dogs: Companion Speciesism and the New Feminist Materialism." *Kritikos: An International and Interdisciplinary Journal of Postmodern Cultural Sound, Text and Image*, vol. 3, September 2006. http://intertheory.org/rossini

Selby, David (1995). *Earthkind: A Teachers' Handbook on Humane Education*. Stoke-on-Trent: Trentham Books Limited.

Selby, David (2000). "Humane Education: Widening the Circle of Compassion and Justice." In D. Selby & T. Goldstein (Eds.), *Weaving Connections. Educating for Peace, Social and Environmental Justice*, 268–296. Toronto: Sumach Press.

UNESCO (2005). *Towards Knowledge Societies*. Paris: UNESCO Publishing. http://unesdoc.unesco.org/images/0014/001418/141843e.pdf

Unti, Bernard & DeRosa, Bill (2003). "Humane Education: Past, Present, and Future." In D.J. Salem & A.N. Rowan (Eds.), *State of the Animals II*, 27–50. Washington, DC: Humane Society Press.

Wolfe, Cary (2008). *Posthumanities*. http://www.carywolfe.com/post_about.html

Zeeman, Laetitia, Poggenpoel, Marie, Myburgh, CPH & Van Der Linde, N (2002). "An Introduction to a Postmodern Approach to Educational Research: Discourse Analysis." *Education* 123(1), 96–102.

2:4 Understanding Animals' thoughts? On the Social Construction of Animals, Animal Interpretation and Human Alienation

| PERNILLA OUIS

When I was 14 years old I came across a book that had a tremendous influence on my life. It was called *Kinship with All Life*, by J. Allen Boone (originally published in 1954). The book explored the "silent, universal language" between human beings and animals and gave several examples of this kind of communication. The author learnt to communicate with mammals, such as dogs and cattle, but also with animals such as snakes, ants, worms, flies, micro-organisms. He felt at one with all animals in nature through this communication, based on intuition and telepathy, a communication that modern man had forgotten but could re-discover. I was so impressed and some questions that it raised have never left me since:

Can we talk to animals? Can we understand what they "say"? Can they understand our words and stories? Is there any chance of communication between human beings and animals? Can we grasp the Other's point of view?

Later on, as a human ecologist, I have had reason to return to these questions. In this presentation I will discuss some of my ideas on human/animal communication in general under the frame of "social constructivism" and the ecosemiotic *umwelt* theory.

Religion and myths give several examples of how humans can "speak" to animals. Shamanism is perhaps the most ancient form

of human/animal communication between different spheres – the spiritual and the physical world. In Islam, the prophet/king Salomon (Sulayman) is attributed the ability to speak to animals. In the modern world, there are Dr Dolittle and Robert Redford as a horse whisperer and various other animal interpreters/communications. All these examples have in common that the ability to speak to animals is associated with *power* and a *connection to the Divine or the spiritual sphere*.

In science, animal communication has been discussed. The anthropologist Tim Ingold believes that animals communicate with humans without being able to think human thoughts, in contrast to the common understanding that animals are able to think "human thoughts" but lack the ability to communicate their thoughts to humans. Ingold's view is a position I agree with. Although he does not explicitly elaborate on the issues of the kind of language animals would communicate in, I draw the conclusion that he means that they do not have the kind of thoughts and language that humans have. The risk when communicating with animals is that we ascribe to them human views, characteristics and behaviours, a so-called *anthropomorphism*. The extreme case is perhaps found in fables, in which animals *are* humans.

The subjectivity of animals is recognized in postmodern science, and the Cartesian idea of animals as dead machines is generally dismissed today. I support the idea that animals are subjects in their own right, with their own will, plans, opinions, agendas, feelings and wishes. The problem is how to interpret their subjectivity? Ethologists study animal behaviour such as their sounds and body language, and perhaps take the opposite position to anthropomorphism, as they interpret animal behaviour in terms of instincts and biology.

I believe that whatever approach we choose, animals are socially constructed and interpreted by us human beings. I think it is ontologically impossible for humans to escape social constructivism. Three examples of social constructions of animals and communication with them will be briefly explored in this paper:

1. Novels on animals in the mid 20th century for children and young people.
2. The human understanding of race animals, with the examples of camels and horses.
3. The popular animal interpreters' claim that they telepathically can speak to animals and understand their thoughts and wishes.

Many stories for children and young people were written in the early 20th century about various animals, mainly mammals and birds. There one can find traces of both anthropomorphism and ethological/zoological observations. They are often based on "natural" animal behaviour, but the intentions and thoughts of the animals are somehow "guessed" at by humans. The animals' behaviour is dramatized to create interesting books for children. The characteristics of the animals are reflections of how other people are viewed in some kind of racial essentialism. One book, on a giraffe called Pori, recount "adventures among the wild animals of Africa". Another one, about a magpie called Klas, describes how Klas likes to drink alcohol. He does not like cognac, but he loves beer. He calculates carefully how he can steal beer at a party. He gets drunk, which is a bad experience for him, and later his "desire for strong drinks leaves him". It is easy to discover the moral lessons for young people in the book; it is very similar to classic fa-

bles actually. In books, animals do not communicate directly with humans, thought the latter always understand exactly what the animals want. They are in power. These books are often inspired by the father of ethology: Konrad Lorentz, and even his books bear witness to the human power of interpretation. It would not be wrong to say that despite the "scientific" observations, animal behaviour is socially constructed, rather than understood by direct language communication.

Another example of intimate human/animal relations is found in human interactions with race animals. For my PhD I have had the opportunity to study camels in Arabia and the development of camel races in the last few decades. In traditional Arab culture, camels have a central position. Poems are often written to celebrate the beauty of these animals. The Quran mentions these animals several times. The Bedouins had close relations to animals and could interpret the "signs" of the animals. One important sign was the size of the hump – if it was large it was a sign of the well-being of the animal (and its owner), but if it was small it signalled sickness and weakness. The survival of the Bedouins in the desert depended on the state of the camels. In classic Arabic poetry and culture, however, there are no accounts of language communication between the animals and the Bedouins. Instead, the camels' signs as "read" by humans can be understood in terms of *ecosemiotics*, which can be defined as the sign-mediated relationships between nature and culture. This includes the study of the semiotic aspects of the place and role of nature for humans, i.e. what is and what has been the meaning of nature for us, humans, how and in what extent do we communicate with nature? Thus, ecosemiotics can deal with the semiosis between a human being and an animal. Human language is one sub-group of ecosemiot-

ics. With the introduction of camel racing, the purpose of having camels changed from a question of survival to winning races. The signs had to be interpreted in terms of what makes a camel run faster, and in this context a small hump and a slimmer animal is preferable. Hence, the signs preferred are different. Although the trainer of the camels still has a close relationship with the animal, the subjectivity of the camel revealed in the traditional lifestyle is somehow dismissed and a kind of objectification of the animals can be observed. Camels become objects for winning a race, not a fellow-creature vital for human survival.

Horses have somehow developed along the same lines. However, the context and purpose of the different horse races change the interpretation of the horse. In gallop races, which traditionally have been a sport for the upper class, the horses are perceived as noble and intelligent. In trotting races on the other hand, mainly a sport for betting working class men, the horses are often perceived as stupid, brainwashed, only able to trot and with a low quality of descent. Again, the animals become the mirrors of ourselves. Thus, the race animals reveal how human constructions are always present in interpretation and understanding of animals.

My last example of human/animal communication is from the growing number of people who actually openly claim that they can talk to animals, so-called animal communicators or whisperers. They say that animals can communicate with humans through sounds, body language and telepathy. Their speciality is supposed to be this third parapsychological communication with animals, which they do not even have to meet. They would discern the wishes and worries of an animal by using a photograph of the animal through this universal language, similar to medium talking to a deceased person. Allegedly, the animal gives the communicator

an intuitive sense of knowing by words, sounds, mental picture or physical or emotional feelings. Is this possible? Animal communication is certainly a growing market and many pet owners consult them in order to understand their animals. Their activity somehow belong to the field of new age and other spiritual articulations, so the connection between human power, animal interpretation and the Divine is still valid today, though I doubt that humans have this power.

As I said earlier, the individuality, subjectivity and "personhood" of animals are recognized. Animals share certain emotions and characteristics similar to us, there is no doubt about that. But do they possess language similar to ours? I believe they can communicate with us through our understanding and interpretation of signs, but I doubt they have a language that we can understand. A parallel case would be that I do not speak a word Chinese, but I would understand certain signs and emotions expressed by a Chinese person. However, I would not understand a word if that person was telling me what he did on his last holiday. We cannot understand "stories" in other languages, while certain ecosemiotic messages can be perceived. I believe we have a similar situation with animals. We cannot understand their language, just as I do not understand Chinese.

I thus suggest that animal "thoughts" cannot be expressed in human languages. We cannot translate our semiotic modes of expressions into human languages. Humans and animals can have a semiotic communication with each other, but humans must accept that the complete understanding of the Other – the animal – is not possible. We can communicate with each other through ecosemiotic relationships of signs, but cannot understand each other's "stories". Relying on Jacob von Uexküll's *Umwelt* theory

I argue that nature is not mute and that we have a semiotic relationship to animals, but that the animals' own "languages" and "thoughts" are not understood by humans. This alienation is fundamental to the human condition.

But the *Umwelt* theory explains why this has to be so: According to this theory, the *Umwelt* is the semiotic world of the organism, including all the meaningful aspects of the world for any particular organism, i.e. it can be water, food, shelter, potential threats, or points of reference for navigation. An organism creates its own Umwelt when it interacts with the world, and at the same time the organism reshapes it, a so-called "functional circle". The *Umwelt* theory states that the mind and the world are inseparable, because it is the mind that interprets the world for the organism. Consequently, the *Umwelts* of different organisms differ, which follows from the individuality and uniqueness of the history of every single organism. When two *Umwelts* interact, this creates a so-called semiosphere.

The *Umwelt* of the human being is the social constructions – that is the way we understand our life-world. However, in a semiosphere, both organisms perceive the world in two different ways, and there is no chance that one (read: the human) language can dominate the other. In this respect, it is actually more likely that a medium can communicate with a dead person than with an animal – it is a question of possible languages. Our interactions and our semiotic communications with animals will always end up in a human/social construction of them and their "stories". The social constructions are part of our *Umwelt* – we cannot understand the world differently.

The human inability to speak in animal languages is a loss of power in the human perspective. While it should be acknowl-

edged that certain characteristics, emotions and behaviours are not exclusively human but are shared with animals, the human belief in a complete understanding of animals' "thoughts" is yet another expression of the colonization and repression of animals. The Other is not always accessible. An analogy would be to compare this to how the colonizer always tried to learn the natives' languages in order to infiltrate and dominate them. Perhaps understanding the limitations in our *Umwelt* and the impossibility to escape social constructivism can make humans a little more humble in relation to their fellow-creatures. Still, there is a need for a zoo-sociology and a serious further discussion of social interactions between animals and human beings.

References

Boone, J. Allen 1954. *Kinship with all life*. New York: Harper & Row.

Hornborg, Alf 1996. "Ecology as semiotics: Outlines of a contextualist paradigm for human ecology". In P. Descola & G. Pálsson (eds.), *Nature and Society: Anthropological Perspectives*, pp 45–62. London: Routledge.

Ingold, Tim 1994. "The Animal in the Study of Humanity", In Tim Ingold (ed.), *What is an Animal?*, pp 84–99. London: Routledge

Ingold, Tim 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.

Ouis Pernilla 2002. *Power, Person, and Place: Tradition, Modernity, and Environment in the United Arab Emirates*. Lund: Human Ecology Division (PhD dissertation).

von Uexküll, Jakob 1982 (1940). "The Theory of Meaning". *Semiotica* 42, pp 25–82.

von Uexküll, Jakob 1957. "A Stroll Through the Worlds of Animals and Men: A Picture Book of Invisible Worlds". In Claire H. Schiller (ed.), *Instinctive Behavior: The Development of a Modern Concept*. New York: International Universities Press.

2:5 Can Nonhuman Animals Have Cultural Notions of Sex? | PÄR SEGERDAHL

If some nonhuman animals turned out to have culturally shaped ideas about how we humans should act depending on our sex, and if it turned out that these ideas were communicated daily to humans who had to negotiate their ways of being male and female in the vicinity of these animals – then common attitudes to animals as opposed to humans would be upset, I believe, and so would the traditional sex/gender dualism.

I want to introduce a group of nonhuman animals who might upset our assumptions in this way. The animals are pygmy chimpanzees, who nowadays are called bonobos since they are considered a species of its own, next to the common chimpanzee. The Latin name of the bonobo is *Pan paniscus*.

A Fashionable Objection

There is a fashionable objection to my choice of animal. Challenging human uniqueness by noting similarities between humans and great apes is viewed as neo-cartesianism, where the privileged category of the human is expanded to include a few other intelligent primate species, but where the basic dualism of "human versus animal" remains intact. And since the bonobos I will talk about were raised by humans and learned our language in a bi-species ape/human culture, the objection might seem even more pertinent. The primatologist Frans de Waal, for example, belittles research with human-enculturated bonobos by referring to what he calls "the dictum of ethology" – that animals should be studied for

their own sake (de Waal, 2008). This is the view that I think needs to be challenged, because of its assumptions about what it means to study animals for "their own" sake, and about what it means for humans to affect animals. One assumption is that researchers *impose* human traits on apes; and since these traits have no firm basis in nonhuman animals, the traits do not properly belong to them. We make them less bonobo without making them more human. We force them into a no man's land, or into a no species' land.

A few years ago, I got an e-mail from a molecular biologist. He had heard a rumour about the most famous enculturated bonobo, Kanzi (see Savage-Rumbaugh and Lewin, 1994).

The rumour said that Kanzi had been put to death, because he became aggressive. He became aggressive, the rumour said, because he found himself at home neither in the human world nor in the bonobo world. Kanzi had been driven into a no species' land, where he felt alone and frustrated. I could inform the molecular biologist that the rumour was false: Kanzi was alive and happy with the humans and bonobos that inhabit and shape *his* life. Kanzi was not forced into a *no*-species' land. He is living in a *bi*-species culture.

The idea that research with enculturated apes is a form of neo-cartesianism where human traits are imposed on nonhuman primates who cannot properly carry them, builds on the dualism of human-versus-animal that it is believed one is objecting to. For the fact is that the traits are not imposed on the animals. Linguistic skills emerge spontaneously in them, in a partly human environment, and they carry these traits with ease as *their* own language. What is really interesting, then, is that research with enculturated apes gives rise to the same rumours and assumptions that it contradicts, empirically and practically, when you get

a first-hand experience of the research (see Segerdahl, Fields and Savage-Rumbaugh, 2005).

Rebuked by an Ape

In line with what I just said, I'll describe to you how I met the bonobos and how I was affected by them. Here is what happened on Sunday the 12th of August 2001:

I was assigned to sit outside the apes' enclosed play yard. In front of the apes, a researcher tells me to just sit and observe, so that the apes know that this stranger is under the control of a trusted member of the ape/human group, and will not disturb them. However, after a while a previously employed caretaker comes to visit the apes, and she is looking for a keyboard to talk with Kanzi's half-sister, Panbanisha. I find it awkward not to help her, so I stand up and begin to gesture and explain where she can find a keyboard. Panbanisha does not seem pleased with the situation. Disapprovingly she points to a lexigram on the keyboard she has inside the enclosure. I ask the caretaker what Panbanisha is saying. Somewhat embarrassed, she explains to me that Panbanisha is saying QUIET on the keyboard.

I am surprised by the feelings of shame that Panbanisha's communication managed to create in me. I sit down and observe quietly. After a while, however, Panbanisha's youngest son, Nathan, stretches out his hand towards me, and I cannot resist the temptation to touch it. Nathan withdraws his hand and runs to his mother, Panbanisha. After just a few seconds, Panbanisha comes running towards me, carrying the keyboard in her left hand, almost as a weapon. She hits the barrier between us with her right fist, and places herself on the ground in front of me. She then puts her index finger on one of the lexigrams. Bill, a researcher who is in

the kitchen area, asks Panbanisha, "Do you want to communicate with Pär?" to which she responds with a high-pitched affirmative vocalization. I then search for a keyboard to find out what Panbanisha is saying: I must read the English translation printed below the lexigram. This takes time, but Panbanisha patiently keeps her finger on the symbol. The moment I shout to Bill that Panbanisha is calling me a MONSTER, she removes her finger from the keyboard. I am again surprised by how directly she managed to make clear to me how I misbehaved in her eyes.

Panbanisha knows that I am not a monster, but in this situation she portrayed me as a monster, or expressed that I *behaved* like a monster. How does an ape learn what a monster is? Well, Sue Savage-Rumbaugh, who raised the apes as their human parent, wanted to scare the apes from climbing up onto a roof where there was a dangerous power-line. So she had a caretaker put on a gorilla suit and move about on the roof. This scary figure was described as "the monster" and got a lexigram on the keyboard. However, seeing the monster also became an exciting game for the apes, which they often requested. Nowadays, caretakers improvise monster films on video, where one of them dresses up as a monster, and the others, who act as themselves, discover the monster and drive it away. The apes then request to watch these videos by pointing to the lexigram TV-TAPE. Panbanisha in particular enjoys becoming scared, but Kanzi, who looks so big and almost intimidating, like a body builder, does not want to become scared and instead chooses rabbit movies, where a staff member dresses up as a harmless figure named BUNNY.

Apes Telling Humans How to Behave as Males and Females

What I have described are some nonhuman animals in whom we can expect cultural understanding of sex. The bonobos have a culturally shaped monster concept. The question is: do they also have culturally shaped notions of male and female, young and old, parent and baby? Do they communicate cultural ideas about how male and female caretakers should behave? These questions have never been researched, but in 2007, Måns Andersson (Centre for Gender Research) and I visited the Great Ape Trust of Iowa – the bonobos' home – and the rest of my paper describes some of our preliminary observations.

All caretakers tell the same story: The bonobos treat humans differently depending on whether the human is male, female or child. Their social rules range from giving children unlimited behavioural space, over allowing women less freedom to leaving men in a considerably restricted social space. If caretakers who are parents bring their baby, however, both male and female caretakers are afforded more freedom. The caretaker Takashi became a father in 2007, and like many others he tells us that his work became much easier after he showed the bonobos that he had a child.

The keyboard has no lexigrams for gender, but there are other ways of telling humans how to behave. Here is an example of how the bonobos can discipline a male caretaker: Daniel spent the morning with Panbanisha and her boys, Nyota and Nathan. At one moment, Panbanisha presses her stomach against the wire so that Daniel can tickle her. Kanzi sees this from an adjacent room, and he doesn't think Daniel has the right to tickle her. A closed door prevents Kanzi from entering, but he vocalizes his protest loudly, which mobilizes the young apes. Daniel notices that Nyota is col-

lecting bark from the ground and approaches him from behind Panbanisha, ready to throw it at him. Daniel is able to withdraw in time, but he got the message.

These protests to caretaker behaviour are distributed in a gendered fashion. But are the apes' aware of humans as male and female, child and adult, parent and baby – or do they act on "blind instinct", as we often imagine animals doing? Gender, age and kinship are central notions in studies of apes' behaviour. We want to study if the bonobos are *linguistically aware* of these biologically important notions. Since they develop language beyond human control, they understand many more English words than are represented on the keyboard. We have begun to collect photo material to study their receptive vocabulary. In linguistic tests, the apes hear a gendered word, see photos on a touchscreen, and are then to point to the photo matching the word.

But even if the bonobos have linguistic notions of gender, age and parenthood, aren't these notions just labels for their biologically inherited sensitivity towards male and female, old and young, parent and child? Can we expect their ideas in this domain to be negotiable and imaginative? Do they respond to how humans evaluate cultural forms of being male and female? We will inquire into this, but I can exemplify a form of sexual behaviour which indicates the bonobos' imagination in this domain. Bonobos often use sexual behaviours for non-reproductive purposes, to communicate friendship and reduce social tensions. A famous example is GG-rubbing between females, or genito-genital rubbing (see de Waal and Lanting, 1997). In order not to over-sexualise bonobos, we describe such behaviour as "genital gestures". New such gestures are invented by the bonobos, sometimes involving artefacts. Kanzi, for instance, sits on his basket ball and slaps it. This slapping

procedure is performed facing another individual who thereby is *greeted as a friend*. Panbanisha "apes" Kanzi, but she sits on and slaps her similar-sized ball-like genital swellings. Kanzi and Panbanisha do not greet each other using this gesture. The gesture has emerged in the ape/human culture as a novel way for the bonobos to greet humans and demonstrate friendship across the species.

New Ape/Human Genders

The examples I have described indicate that there is an imaginative gendered interface between humans and enculturated bonobos. The bonobos have views on how humans should behave depending on their sex, which they communicate to the humans. Caretakers are always aware of the bonobos' ideas of them as male or female, parent or non-parent, and their self-understanding when they work with the bonobos is shaped by the bonobos' ideas and responses to them. But the bonobos also adapt to the humans; for instance, they develop novel genital greeting gestures towards our species, such as the slapping ceremony. An important question that will need special attention, though, is whether the bonobos respond to evaluative and imaginative discourse about cultural ways of being male and female, the way they respond to discourses about monsters. It is interesting, for instance, that basically only men can be described by Panbanisha as monsters that invade her social world and disrespect it.

References

Savage-Rumbaugh, S. and Lewin, R. (1994). *Kanzi: The Ape at the Brink of the Human Mind*. John Wiley & Sons Inc.

Segerdahl, P., Fields, W. and Savage-Rumbaugh, S. (2005). *Kanzi's Primal Language: The Cultural Initiation of Primates into Language*. Houndmills: Palgrave.

de Waal, F. B. M. (2008). *Storming the Language Barrier*. Nature 452: 154.

de Waal, F. B. M. and Lanting, F. (1997). *Bonobo: The Forgotten Ape*. Berkeley, Los Angeles and London: University of California Press.

3. ANIMAL/HUMAN CULTURE

3:1 A Fatal Visit to Venice: The Transformation of an Indian Elephant

|LIV EMMA THORSEN

Museo di Zoologia in Padova, Italy has a skeleton of a male Indian elephant on display. The skeleton is referred to as "Elefante indiano di Venezia" or "the Indian elephant of Venice" on the museum's web site and in written sources.[1] The caption under the photograph of the skeleton says "scheletro dell'elefantino" or "the skeleton of the small elephant". The fact that this natural history specimen is presented to the public as something more than an example of *Elephas maximus indicus* is quite special. The elephant is, needless to say, not a common animal in Venice, and the skeleton is not of an infant or very young elephant but of a young adult. Naming and describing something makes it stand out. Through its epithets the skeleton is individualised, and its place in a natural science framework is challenged, opening for questions and narratives that are normally not asked or told in natural history museums. In this case the fortunate fact is that the museum staff find the museum objects interesting both as natural history and as

1 http://www.musei.unipd.it/zoologia/news_archivio.html. See also Turchetto 2004 and Michelon 2004.

historical remnants, i.e. as the remains of animals whose biographies have natural history as well as cultural history significance. To me the skeleton and its tragic history were coined as "Elefantino". I think the diminutive not only expresses that these are the remains of a young animal, but also underscores the elephant's inferior position compared to humans. I will therefore sometimes call it Elefantino.

As in many other Italian university museums, the university collections in Padova have great historical depth.[2] The oldest part can be traced back to Antonio Vallisneri (1661–1730), a scientist and medical doctor, whose son of the same name donated his father's collections to the university in 1733.[3] The little elephant was, nevertheless, only included in the collection in 1819 due to a sudden and dramatic event. In 2004 the museum opened two rooms dedicated to old and particularly important specimens, *Sala Storica* and *Sala dell'Elefante*. Here objects are exhibited whose importance only appears clearly after a "double reading", i.e. zoologically and historically.[4] A leaflet about the elephant has also been published, and my presentation of the historical and zoological elements in the biography of the Indian elephant of Venice is based on this (Turchetto 2004).

2 See for example Giacobini 2003:131, Meletti 2002:97, Thorsen 2004 (2006).

3 http://www.musei.unipd.it/zoologia/storia.html.

4 "(…) abbiamo deciso di allestire la sala storica con gli oggetti più antichi e significativi e di restaurare alcuni preparati particolarmente importanti dal punto di vista zoologico e storico." (Turchetto 2004:6).

The narratives connected to the Indian elephant of Venice include events, actions and utterances that all transform the elephant into something, and they are connected to important spatial transfers. The major transformation is connected to the process that the elephant went through when passing from being a live flesh and blood animal and into a clean natural history specimen, from being an individual elephant to becoming *Elephas maximus indicus*. The elephant, however, is also part of other mutually related narratives and messages, as I will show. The elephant's life and the collection history of the skeleton show how one and the same animal may be given a number of symbolic contents depending on where it is, who sees it and when. To understand this it is necessary to outline the biography of the elephant, both as a live animal and as a skeleton.

What is presented in this skeleton? One claim is that an elephant skeleton leaves a completely different impression than a stuffed elephant. Stuffed animals have gone through a process that is often referred to as "naturalization", as they are to create the illusion of life. Skeletons, on the other hand, are very much associated with death in the iconography of the West. At the same time there is something clean about the skeletons we see in natural history museums. Emptied of marrow and scoured of cartilage, intestines and blood, called the life-giving principle by French ethnologist Noelie Vialles, they present a clean almost hygienic impression (Vialles 1994). Skeletons present nature through cool and neutral beauty. "Excellently crafted" is my immediate thought. Elefantino's dramatic biography nevertheless nullifies the neutral status animals on display in natural history museums normally have. Through its biography the clean skeleton presents blood and pain, keywords in the vitae of saints. Contemporaries made the

elephant a martyr not of religion, but rather of a political conflict, i.e. the resistance of the Venetians, first against the conquest by Napoleon and then by Austria and the subsequent occupation of Venice after the fall of *La Serenissima* in 1797. The elephant's death was also interpreted as an example that mankind is ignorant of the true nature of animals, which is innocence.

An Elephant's Death and Transformation

Originally the elephant came from the Royal Zoological garden in Würtemberg, having been sold to a travelling menagerie in 1817. In 1819 the menagerie visited Venice. This was at the time of the carnival, and the elephant became the darling of the public: It was kind, obedient and loved people. Elephants always became the centre of attention when displayed in public. When writing of elephants in *Histoire naturelle* (1749–1778), Buffon places this animal as the highest of the mammals, above dogs, beavers and apes, because "the elephant unites 'the intelligence of the beaver, the dexterity of the ape and the sensitivity of the dog' with its own particular qualities" (Robbins 2002:193). The great French natural scientist described the elephant as a friendly, obedient and loyal animal which displayed love of its master and enmity toward those who treated it unjustly, an animal that allowed itself to be tamed but which had been born free (Robbins 2004:193 pp.). Buffon's characteristic of the nature of the elephant strongly influenced its popularity in the 1700s.[5] As Nigel Rothfels has pointed out, Buffon draws a picture of a sensitive animal which replaces the earlier representation of elephants as aggressive and fierce, ma-

5 On Buffon's understanding of the elephant see Robbins 2002 and Rothfels 2008.

jestic and impressive (Rothfels 2008). It must therefore have been more frightening when the little elephant transformed itself from an entertaining circus animal into a raging, threatening wild beast.

When the animals were to be carried on a ship from the city, however, the elephant suddenly became difficult to handle, and it proved impossible to coax him on board the ship. Presumably it became terrified by the salutes fired in honour of the princes visiting Venice and the noisy crowds flocking in gondolas and boats, on balconies and benches to see the spectacular transport. A third cause of the violent flare of temper has also been suggested – love sickness triggered by the mild spring weather.[6] As punishment, and to calm it down, the keeper decided to stop feeding the elephant and locked it inside an empty storage building. After a day or two a new attempt was made to make the elephant board the ship. Instead the animal that earlier had been so peaceful went amok. On 15 March the elephant used its trunk to lift its keeper, blond, strapping 23-year-old Camillo Rosa from the town of Rovigo, shake him violently and fling him lethally on to the cobblestones.

It then demolished two small shacks, one a vegetable stall, and crushed the door of a café. The army was called in, and they fired upon the elephant, something that fuelled its rage even more. Finally, the elephant ran into *Chiesa di S. Antonino*. The soldiers decided that heavier armaments were required, and on 16 March 1819 the elephant was shot by two cannon blasts, one of them fatal. Mortally wounded, the two-ton animal sank and died in a sea of blood.

The next phase in the biography of Elefantino is introduced at the Lido. This phase is the great transformation of the dead

6 "(…) tepori primaverili, risveglianti in lui l'istinto amoroso." (Turchetto 2004:10)

elephant, described by Margherita Turchetto as "the rebirth of the elephant, if one can call it that, in the name of science", from a public magnet to a natural history specimen.[7] Out here the elephant was to be buried where they dumped rotten fish and vegetables. Before this could come about, however, orders were received to transport the animal to the secularized (*sconsacrata*) church St. Biagio on Giudecca to await further instructions. The elephant was again brought into a religious space, admittedly no longer used for religious services. This time the military did not intervene, but rather science, in the person of Stefano Andrea Renier, Professor of Zoology at the university, who now eyed an opportunity to acquire an elephant for the museum's collections. Renier was accompanied by Girolamo Molin, professor and veterinary surgeon. The two professors skinned and dissected the by now stinking elephant, finding that the skin evidenced hits by more than 500 bullets, but that only eight or ten of these had penetrated the skin (admittedly one bullet fired at a range of two meters had entered the right eye causing the animal terrible suffering). The lethal shot from the cannon had entered from behind and entered the abdominal cavity, leaving the skin in excellent condition.

The autopsy may also be read as a review of the suffering, perhaps even martyrdom, that the elephant endured. This suffering is found in all the sources. A short poem by Pietro Bonmartini, a nobleman from Padova, called *L'Elefanticidio in Venezia dell'anno 1819 (The Elephant Murder in Venice in 1819)*, points precisely to the elephant's martyrdom and thus innocence. Animals must by nature protect themselves. Killing the elephant was tantamount

7 "(…) la rinascita, se così si può dire, dell'elefante in nome della Scienza" (Turchetto 2004:7).

to torturing innocence.[8] Bonmartini focused on the elephant's innocence. Another Venetian poet, Pietro Buratti, used the occasion to write a polemic verse, *Elefanteide*, ridiculing the authorities and the Austrian soldiers who believed one could shoot elephants with hand-held guns. The elephant had now been drawn into the Venetians' resistance against the Austrian regime. Buratti paid for this with a month in prison. An attempt to erect a memorial stone with a Latin inscription telling the story of the dramatic events outside the church where the elephant had been killed was halted by the authorities. Instead the text was circulated clandestinely on leaflets (Turchetto 2004:78). Through its dramatic death and the reactions triggered by this event, the elephant was made a symbol of Austrian oppression of the old republic of Venice and its inhabitants.

The execution of the elephant in Venice reminds us of another equally tragic execution of an elephant, which came about in London at almost the same time – the bloody execution of an Indian male elephant called Chunee in the Exeter Change menagerie in 1826. In both cases apparently tame elephants run amok, and in both cases the execution is introduced with handguns. Chunee was hit by 152 bullets, in addition to being pierced in his genitals by a keeper wielding a harpoon, but neither of these elephants died before cannons were used. The death of both these animals caused strong reactions from the general public in the form of poems, plays and letters to the editor and drawings. Both were preserved as skeletons, Chunee in the Hunterian Museum of the Royal College of Surgeons, where it was destroyed during the World War II bombings of London (Altick 1978:310–316).

8 "Destino: tormenti l'innocenza!" (Bonmartini in Turchetto 2004:79).

Restoration and Identification

The final transformation in space occurs in connection with the restoration of the elephant skeleton in 1999-2004. The skeleton is now described as a "pile of bones".[9] The restoration work was introduced with *"un'attenta ricognizione dell'esemplare al fine di prendere visione dell'effettiva presenza di tutte le componenti scheletriche e del loro stato di conservazione"* (Turchetto 2004:63). Thus: A painstaking examination was made of all the bones to determine whether the skeleton was complete and to ascertain the condition of the bones – a "ricognizione", an Italian term which in this context means identifying a deceased person. Thereafter all the bones were cleansed of dust and dirt and tissue, which means cleansed far more thoroughly than had been managed in 1819. Finally, the skeleton was mounted using the same technique Renier had used. The bones were connected with metal wire, instead of the wires being drawn through the cavities in the bones. It is remarkable that some of the horrid stench contemporary sources tell about continued to linger around the skeleton, particularly the fattest bones such as the feet.[10] After more than 180 years the skeleton still bore witness to suffering and death. A ballistic reconstruction was also undertaken based on what could be found of lead and traces of powder on the skeleton. An important feature of the exhibition of the elephant is the reconstructed cannonballs piled in a little pyramid in front of the skeleton.

An analysis of the bones shows that this male elephant cannot have been more than 12–15 years old when it died. It suffered an extremely painful death, and the group that restored the skel-

9 "…un cumulo di ossa" (Turchetto 2004:7).

10 "La testimonianza che noi possiamo portare è che, anche se sono passati più di 180 anni, l'elefante ancora emana un cattivo odore sopratutto dalle parti ossee più grasse come i piedi." (Turchetto 2004:66).

eton decided to preserve all signs of violence that could be documented by contemporary sources (Turchetto 2004:66). Thus the skeleton supports the written evidence and vice versa, and serves as a strong example of the ignorance and cruelty so many exotic animals have suffered because of their rarity. In the words of Margherita Turchetto: "My hope is that the abuse this healthy young elephant was subjected to in 1819, (…) was a sign of indifference being left behind, and that today the common attitude is a deeper sensitivity to the suffering of animals."[11] If the elephant was made into a symbol of freedom in 1819, it is today a manifestation of humanity.

Animals' Unnatural History

The analysis of this particular specimen of *Elephas maximus indicus* exemplifies how I work with natural history specimens in the project "Animal Biographies: On the Unnatural History of Animals", which is part of the project "Animals as Objects and Animals as Signs – The Standardisation and Visual Presentations of Animals".[12] The aim of the project is to study ties between nature, culture, aesthetics and appreciation of the animals that are included in these contexts. In my work I analyse a selection of primarily stuffed animals, including wild and tame specimens, taken

11 "La mia speranza è che i maltrattamenti subiti da questo sano e giovane elefante nel 1919(sic!), (…), siano segno di una superata indifferenza e che oggi l'atteggiamento diffuso sia di un' accresciuta sensibilità per le sofferenze degli animali." (Turchetto 2004:7).

12 http://www.hf.uio.no/ikos/forskning/forskningsprosjekter/liv_emma/animals/index.html. The project is funded by the Research Council of Norway under the programme "Kulturell verdsetting" (Cultural appreciation), 2009–2011.

from western European natural history collections, as respectively natural history illustrations, cultural representations and as actors with a biography.

One question that draws attention to the relation between transformation, aesthetics and conflict concerns the animal's migration history and the connection between the once living animals and the specimen: When and how did the animal live and how did it come to end in a museum? Common to the selected specimens is that these are animals with a biography that connects the once live animal with the museum specimen. These biographies reveal the large, and in Scandinavia largely ignored cultural research field, which may be called "the animals' unnatural history", in contrast to their "natural history", which deals with animals as they have been presented in natural history and in natural history museums. I have borrowed the designation "animals' unnatural history" from American historian Nigel Rothfels (Rothfels 2002:4 ff.). Wild animals have normally been placed in natural history, in narratives dealing with what is outside the human domain. Animals' travel history pulls cultural history into natural history museums, and natural history into cultural history. Extending this idea, the animals in the display cases become more than natural history illustrations and representations. As sources of animals' unnatural history they lead us to the collection practices of natural history museums, to circuses, menageries and zoos. Animals' unnatural history deals with the entrance of exotic and wild animals and their performance in social and cultural arenas, and it uncovers the pre-histories that have vanished in the museums' endeavour to present natural history as correctly and detailed as possible.

Common to the animals in the sample is that they are "objects that speak", or even more correctly, they make us speak, because,

in the words of science historian Lorraine Daston, they "knit together matter and meaning" (Daston 2004:10). She adds that the speech of things is deduced from the particular characteristics the things have, characteristics that fit with the cultural purposes they are part of. There is a difference between skeletons and naturalised animals. The skeleton does not lie about the animal. The stuffed animals can be redesigned according to the intended purpose and resist standard classification in relation to the categories natural objects and cultural artefacts. They raise the question of what kind of things these are: Are they cultural things, natural things or rather hybrids that mediate between nature and non-nature, where non-nature points to the conditions of natural science, as well as to art and ideas about the relationship between animals and mankind. The elephant's skin has disappeared. The skeleton in *Sala dell'Elefante* has not been manipulated and can be read by those with ostheological as well as humanistic knowledge. Thus the skeleton conducts a true speech about the unhappy fate of one of the "elephant slaves" of the West (Robbins 2002).

* I am grateful to Professor Margherita Turchetto and Dr. Paola Nicolosi, Museo di Zoologia, Università di Padova. Without their knowledge and help, this article could not have been written.

References

Altick, Richard D. 1978: *The Shows of London*. The Belknap Press of Harvard University Press: Cambridge, Massachusetts and London, England.

Buratti, Pietro 1988: *Elefanteide ovvero Storia verissima dell'elefante*. Filippo editore: Venezia.

Daston, Lorraine 2004: *Things That Talk. Object Lessons from Art and Science*. Zone Books: New York.

Giacobini, Giacomo 2003: *La memoria della scienza. Musei e collezioni dell'Università di Torino*. Fondazione CTR: Torino

Meletti, Paolo 2002: *Arte e Scienza nei musei dell'Università di Pisa*. Edizioni plus: Pisa

Michelon, Alberto 2004: *Restauro, studio osteometrico e studio storico dello scheletro di elefante conservato al Museo di Zoologia dell'Università di Padova*. Tesi di laurea. Unpublished.
Robbins, Louise 2002: *Elephant Slaves & Pampered Parrots. Exotic Animals in Eighteenth-Century Paris*. The John Hopkins University Press: Baltimore and London.
Rothfels, Nigel 2002: *Savages and Beasts. The Birth of the Modern Zoo*. The John Hopkins University Press: Baltimore and London.
Rothfels, Nigel 2008: The Eyes of the Elephants: Changing Perceptions. *Tidsskrift for kulturforskning*. Under publication.
Thorsen, Liv Emma 2004 (2006): The Hippoptamus in Florentine Zoological Museum "La Specola". A Discussion of Stuffed Animals as Sources of Cultural History. *Museologia Scientifica* 21(2): 269–281.
Turchetto, Margherita 2004: *Morte di un elefante a Venezia. Dalla curiosità alla scienza*. Canova Edizioni: Padova.
Vialles, Noelie 1994 (1987): *Animal to Edible*. Cambridge University Press: Paris.

3:2 Pedigree and Breeding: Love, Status and Control | REBEKAH FOX

This paper examines the language and practices of pedigree pet breeding/showing in Britain. Pedigree breeding is inherently linked to scientific discourses of genetics and lineage, as well as particular human cultures of class, inheritance, competition and display. Such practices draw upon essentialist discourses of animality, breed, and "natural" behaviours, as well as human powers to control the "natural world". Pedigree ownership is also strongly linked to specific human social, cultural and gender identities which are negotiated through relationships with individual animals and breed organisations.

The conventional meaning of breed describes it as "a group of organisms having common ancestors and certain distinguishing characteristics and especially a group within a species developed by artificial selection and maintained by controlled propagation" (Franklin, Lury & Stacey, 2000, 86). In other words, a breed is an exemplary example of artificial or domesticated nature, cultivated and shaped by human interference and providing one of the definitive feats of human civilisation. These features are extremely evident in the practices of pedigree pet breeding, with its history of breeders seeking to manipulate and classify the natural world, transforming animals into symbols of social status and examples of their powers to shape nature to desired ends.

The production of "breed standards", which began in the late nineteenth century, stipulates the exact ways in which animals should look and behave, with prize-winning pedigree animals seen

as a reflection of their owner's skill in reproducing these. Within the pet-keeping world, as in the human world, breeding in terms of pedigree and distinguished ancestry can be seen as a sign of a refinement (see Cassidy, 2005 for a discussion of such class distinctions in relation to "thoroughbred" racehorses in Newmarket and Kentucky). In many cases snobbery still exists within showing circles towards non-pedigree animals and between different types of breed with varying social connotations.

Of the 6.1 million pet dogs living in Britain today (PFMA, 2002) it is estimated that 59 percent of these are classed as pedigree (breeds officially recognised by the Kennel Club with several documented generations of parentage to prove their "purity" of breed) compared to only 8 percent of the 7.5 million cats. Dog breeds represent much greater genetic and physical diversity than cats (who mainly vary only in colour, fur length and facial features) with an enormous range of sizes, shapes, colours and characteristics from the tiny Chihuahua to the Great Dane. These disparities between the varieties of cats and dogs can partially be accounted for by the fact that cats are much more independent than dogs, making their reproduction harder to control. In addition, the long history of domestication of dogs for various human purposes such as hunting, herding and guarding has meant that dogs were selectively bred for particular useful traits long before official ideas of "breed" and "pedigree" developed.

The idea of pedigree pet breeding as we know it today did not emerge in Britain until the second half of the nineteenth century, based upon earlier practices of breeding of thoroughbred horses and livestock amongst aristocrats and gentlemen farmers (Ritvo, 1986). Such policies reflected the Victorian impulses towards classification and manipulation of the natural world and "figuratively

expressed the desire of predominantly middle-class fanciers for a prestigious and readily identifiable position within a stable hierarchical society" (Ritvo, 1987, 66). Particular breeds developed connotations with a certain social status, with collies and pugs being immensely popular due to their royal associations and other dogs such as whippets and lurchers being considered working class and unsuitable for ownership by middle-class fanciers. Purity of blood was an important criterion, and owners were warned against allowing their dogs to mate or socialise with unsuitable mongrels that were thought to be "responsible for ninety per cent of canine crimes" (Kete, 1994, 67). The development of cat showing and breeding came later in the nineteenth century; with the first cat show held at Crystal Palace in 1871 (Pond &Dunhill, 1985, 16). Foreign breeds were especially popular due to their romantic origins, reflecting the "impulse to introduce the safely exotic into everyday life" (Kete, 1994, 127) and invented histories of exotic times and places became fixed in certain breeds of cat. Selective breeding in subsequent years has served to accentuate genetic differences between different types of cat and new breeds are still being invented.

Control of breeds and the management of breed categories still lies in the hands of the governing bodies set up in the nineteenth century, the Kennel Club and the Governing Council of the Cat Fancy. In association with individual breed clubs, such as the Pyrenean Mountain Dog Club of Great Britain and the Progressive Ragdoll Breed Cat Club, these bodies are responsible for defining the breed standards for each type of animal and ensuring the continued health and well-being of the breed as a whole. However, breed categories are not necessarily stable and can become contested as new varieties develop. Often breeds develop

along different "lines" using animals from particular kennels and this can lead to disagreement over the "ideal" characteristics and arguments where animals are out-crossed with other varieties to produce new colour types or features.

According to Tuan (1984), selective breeding of pets is in itself inherently unethical as it is little more than human attempts to control the nonhuman world. Tuan argues that notions of power go beyond the obvious economic and political arena to the aesthetic and cultural realm, as "superior" beings seek to control and manipulate "lesser" ones for their own advantage or pleasure. This power may often be masked as affection, such as that of a gardener for his plants, or a pet owner for their dog, which is bred to conform to a coveted (yet physically dysfunctional) "breed standard". Whilst such abuses of power may be less evident than obvious cruelty such as physical pain or death, they similarly reveal the desire of humans to manipulate and control and animals may still suffer great indignities and humiliations as playthings and pets.

Pedigree breeding involves profound ethical issues, in particular the development of inherited genetic defects due to inbreeding and human rights to control animal's sexuality, reproduction and choice of partners. Extremities of breeding to artificially created "breed standards" have produced animals with painful genetic defects, such as flattened faces which cause respiratory problems, lack of fur leading to skin cancer and inability to deal with cold, bent ears causing deafness and short legs that make it difficult for them to walk (Franklin, 1999). Close inbreeding between related animals can lead to an increase in occurrence of inherited genetic conditions such as heart problems, which affect between 40–50 percent of Cavalier King Charles Spaniels by the age of six (www.cavalierclub.co.uk). Pedigrees have also been shown to have much

shorter life spans than their "mongrel" counterparts. The average life expectancy of pet dogs in the UK is 11 years (bbc.co.uk, 29 Nov 1999), but only 6.7 years for bulldogs, whose large heads and short bodies cause acute breathing problems that shorten lives.

However, Haraway (2003) argues that whilst strict breed standards are certainly unnecessary and arbitrary, there is much more to breeding than simple human pleasure in domination over another species. The motivations found amongst breed enthusiasts are much more complex than this and breeding needs to be analysed in more than critical terms. Most significantly, she argues that whilst points based breed standards are a figment of nineteenth century human control, specific humans and dogs have evolved together diversely in different areas over many centuries. In order to prevent us from losing these histories "in current nature cultures, breeds might be a necessary, if deeply flawed, means to continue the useful kinds of dogs from which they came" (Haraway, 2003, 97).

For Haraway a breed club is partly analogous to a managing association for endangered species, for which population bottlenecks and disruptions of past genetic natural and artificial selection systems require sustained, organized action. This regulation is often brought about through the efforts and care of breed enthusiasts who devote much time and attention to the mentoring and development of their particular breed. This "love of a breed" leads many ordinary people to "modest middle class self-education, public action, mentoring and major commitments of time and resources" (Haraway, 2003, 36) in caring for a particular type of animal rather than simply their own individual pet. Such care often goes beyond simply the avoidance of genetic problems to the care about animals as individuals and their welfare and happiness.

This idea of "love of a breed" was something that I encountered time and time again in my interactions and interviews with breeders and pedigree owners during the course of my research. This challenged my own preconceptions of breeding and questioned many of the arguments put forward in historical analyses and traditional readings of breed in terms of pedigree and status. However, traditional arguments do still hold considerable power in pedigree worlds, as became evident from speaking with breeders at shows and the reading of breed internet sites, which still place great emphasis on ideas of ancestry and purity. Breeding of animals requires them to be seen in different ways than simply that of a companion or friend, with attention to particular physical characteristics, genetic suitability and merit in conforming to idealisations of breed standards. Successful pedigree breeding requires a degree of expertise and technical knowledge and inescapably ties even ethical and caring breeders to those who do it more exploitatively, and also to complex and contested issues of inbreeding, "purity" and social control.

However much a breeder may love a breed or individual, breeding of animals for commercial or pedigree purposes necessitates a different way of thinking about them from that of simply a pet and often entails different practices of care and interaction. Caroline runs her own small scale breeding programme for British Shorthair cats, a breed which she specifically chose due to their lack of genetic problems, being what she refers to as "a glorified English moggy". Caroline has two breeding females Poppy and Daisy, who must be kept separately from her males (one of whom is un-neutered) and away from the attention of local tomcats, so therefore live in a specially designed hutch in the garden, outside

of the everyday social interaction of the home. She talked to me of her feelings about this:

> I hate having to keep them in a pen, but there's not much else I can do if I want to use them for breeding and I make it as comfortable for them as possible, it's heated to 60 degrees in winter and they have plenty of things to climb on. I bring them into the house when its time for the kittens to be born so that they can be comfortable and I can keep and eye on them. I love the experience of having kittens, it's a wonderful feeling and I never want to give them away. I wasn't meant to keep Eeyore but I couldn't let him go and he wouldn't be much good as a show cat anyway, because he's got white flecks in his fur (Caroline, Interview, May 2003).

Control of sexuality and reproduction is a major issue within pedigree breeding, where owners make decisions concerning their animal's sexual partners, timing and rights to reproduction, with many differences in opinion and conflicts surrounding such issues. One of Jane and Mark's cats, Rosie, has won a lot of prizes and became Grand Champion at the Supreme Cat Show last year (the highest honour in the cat showing world). Because of her championship status, Jane's breeder, Michelle, was keen for her to have more kittens because they would be worth a lot of money. But according to Jane last time Rosie had a litter it made her very ill and she suffered from severe post-natal depression, which meant she had to be put on steroids and all her fur started falling out. Because of this Jane does not want to put Rosie through another pregnancy, whatever the benefits to herself or the breed.

> I just can't put her through all that again. She's a pet first and show specimen second. She's family and I'd never do anything if I thought it would make the cats unhappy. I only show the ones who enjoy it and the others like Lucy who's a bit shy stay at home. Me and Michelle don't always see eye to eye on everything. As far as I'm concerned her happiness is the most important thing. (Jane, Interview, April 2003)
>
> She's a pet not a breeding machine. (Mark, Interview, July 2003)

This example clearly demonstrates the tensions between a pet as an individual and possession and the dilemmas to be negotiated in understanding their best interests, with not everyone necessarily as sympathetic as Jane. It demonstrates the boundaries in pedigree pet-breeding between those who still view their animals as an individual friend and companion and those who see them more as a prestige and profit making machine, more similar to human treatment of other less fortunate animals such as livestock. Love of a breed is not just about enjoying the special characteristics of a particular species, but also dealing with the problems and stigmatisations attached to it and challenging those who put their own interests before those of the animal.

Perhaps the one thing which struck me most was the dedication, seriousness and competitiveness with which people seemed to take such hobbies and how much it mattered to them that their animals would be successful. Although most people that I spoke to claimed that they showed their animals because they enjoyed it, it was obvious that they were still keen to win and disappointed if they did not do so.

> I enjoy the social side of it, meeting people with similar dogs and interests, but of course everyone is really there to win, it nice seeing the rewards for your efforts in breeding and care. (Elva, Interview, May 2003)

However motives for competing were much more complicated than a simple desire to produce valuable specimens, but more about seeing their animals as an extension of themselves, in a similar way to proud parents of a child prodigy. For many people involved in the showing circuit their pets are central to their lives and any criticism of their animals is also taken as a direct criticism of themselves and their nonhuman family. Most owners believed that their animals really enjoyed the process of showing and liked the attention and showing off in front of a big crowd. In some cases this certainly seemed to be true with animals playing up to visitors and judges and trotting enthusiastically into the ring. However, I saw other animals cowering in the corner of cages, hiding under blankets, staring blankly into space, refusing to obey commands or even attempting to bite or scratch the judges, displaying their displeasure at being confined in a show for many hours and leading me to wonder whether this really was for their own or the owner's gratification.

> We only show cats if they enjoy it and wouldn't take anyone showing signs of stress. Toby especially loves all the attention he gets and shows off and plays to his audience! He treadles his paws to show his pleasure and head butts everyone. He probably does so well at shows because of his cheeky ways and sweet nature. He didn't do quite as well as usual today, but we don't mind as it's only a hobby after all, it's just an added bonus when we win. Everyone always takes the best cats home! (Jane, Interview, December 2002)

The competitiveness of the hobby lends itself to a great deal of back-stabbing, with a lot of clique-iness both within and between breed clubs. Many interviewees told me that particularly at small scale shows where everybody knew one another, much of the judging takes place on who is at the end of the lead rather than on the quality of the animals involved. Those owners who are successful often attract a lot of jealousy from others, which can lead to people feeling victimised and threatened by negative attention. One pair of interviewees actually had their cats whiskers cut off whilst waiting to be judged and told me other tales of poison being put in competitors water bowls, as well as breeders engaging on cruel practices such as feeding of kitten food in adulthood to make cats grow bigger or keeping them outside in winter so that their coats grew thicker. Judges can also be very harsh and owners must learn not to take criticism personally, something that can be very hard when faced with comments such as "an insult to the breed" or "Did your wife forget to brush her today, she looks a mess" (Mark, Interview, 2003).

Showing also seems to be a fairly socially exclusive practice, from my observation mainly engaged in by white, middle class people, those who can afford the time and money to participate in what can be a fairly costly hobby (transport, entrance fees etc). Participation also seemed to constitute something of an identification with a particular cultural group, with enthusiasts defining part of their identities by participation in such "serious leisure" activities (Gillespie, Leffner & Lerner, 2000, Mowl, 2001). Such identification with ones animals extends beyond the immediate space of the show ring into the enormous paraphernalia of material culture surrounding it, with owners such as Jane and Mark having several professional photographs made of their cats, posing next to

their trophies and rosettes which hang above their fireplace, in the place where many other people may display embarrassing school photos of their children or family portraits.

Notions of identity in relation to pedigree breeding extended beyond pride in ones individual animals to particular social, cultural or national connotations of particular breeds. One case in point is the recent opposition to the European Convention for the Protection of Pet Animals. Despite being the major pet-owning state in Europe, Britain has not signed the convention, largely due to pressure from breeding groups who are opposed to its restrictions on extremities of breeding and surgical operations such as tail docking, which have been traditionally carried out on British working and gun dogs and form part of the breed standard for many varieties.

Whilst the convention obviously seeks to address ethical issues within pedigree breeding and showing circles and improve the welfare of animals across Europe, it is not universally popular and has caused considerable disquiet amongst members of the British dog breeding/owning community. Groups have been formed specifically to oppose its recommendations and ensure that it will not be adopted in the UK. Organisations such as "Save our Breeds" (www.saveourbreeds.org.uk) and the "Council of the Docked Breed" (www.cdb.org) oppose the convention both on ethical and also nationalistic grounds, seeing themselves as defending traditional British values and customs from European intervention and preserving the identity and security of some of our "ancient" breeds. The quotes displayed below are taken from the saveourbreeds.org.uk website (2nd July 2004) and reveal the indignance at both what is seen as attacks on "traditional" British breeding practices and unwanted European interference.

THE EUROPEAN CONVENTION FOR THE PROTECTION OF PET ANIMALS WANTS TO DRASTICALLY ***CHANGE*** OR ***BAN*** MANY BREEDS

IT WANTS US TO BREED ONLY ONE EURO STYLE DOG!

YOUR FAVOURITE BREED COULD BE DRASTICALLY CHANGED, OR EVEN BANNED, IF THE UK GOVERNMENT SIGNS THE EUROPEAN CONVENTION FOR THE PROTECTION OF PET ANIMALS.

SAVE OUR BREEDS! FROM THE EUROCRATS

These objections can be understood in terms of Franklin, Lury and Stacey's (2000) notion of the "seed". In this article they discuss the "seeds of change" heritage project, which seeks to preserve and regenerate ancient and rare seed varieties and the indigenous knowledge of communities who produced them. Such ideas are based in traditional Darwinian notions of inheritance, selective breeding, genealogical restriction and lineage preservation. The seeds are seen as at once natural and cultural, they are naturalised in their ancientness as native, indigenous and now endangered "heirloom" species, but also represent a cultural heritage as it is recognised they were once artificially selected, bred, preserved, classified and tended by early agriculturalists (Franklin, Lury & Stacey, 2000, 85).

Such ideas of inheritance and genetic lineage are current in the contemporary world of pet breeding, where enthusiasts of different breeds place great importance on preserving the purity of the breed and recording the histories and lineages of particular animals by the careful keeping of pedigree records. The tending of distinct breeds with pure pedigrees is seen as an important way of preserving the diversity and natural variety of the canine and feline populations and protecting indigenous animal breeds from dilution by "foreign blood". Whilst the majority of specific "breeds" were only invented or recognised in the nineteenth century, breeders are keen to trace the lineages of their animals back far beyond this, creating histories and myths about the original origins of their animals. Animal clubs have been set up specifically to revive breeds seen to be in danger of dying out and in some cases have even re-invented their history and lineage to provide new myths of inheritance and genealogy.

This was the case with the Bulldog in the late nineteenth century, an animal traditionally associated with the lower class sport of bull-baiting that began to die out as a breed after bull-baiting was banned in 1835. In 1864 a Bulldog Club was formed by a group of fanciers in order to revive the breed. This was not an easy task due to the poor reputation of bulldogs and the fact that they did not have any one particular physical type or little basis for a reliable family history and could not easily be differentiated from other general-purpose working dogs such as mastiffs (Ritvo, 1986, 247). The club set about reinventing the dog's image and defining a particular classification of physical characteristics that came to be seen as the ideal bulldog type and were naturalised as its ancestral traits, although they bore little resemblance to the fighting bulldogs of the early nineteenth century. Previous negative images

of the bulldog were dispensed with as the fault of vulgar owners and the bulldog's major virtue – its courage – was held to make it peculiarly English, and the dog soon came to symbolise the British character and indeed Britishness itself. This claim to ancient and intrinsic Englishness gave bulldog owners the chance to defend the racial purity of their animals from the threat of "foreign blood" and invented a tradition that substituted for pedigree as a mark of status in the dog showing world.

Today the bulldog is seen as one of those breeds under threat from regulations of the European convention and something to be fiercely protected for both its value as a breed and symbolisation of British identity. According to the saveourbreeds website, the opinions of the Labour party towards the convention were remarkably changed when it realised that its implementation would mean that their own mascot, Fitz the bulldog, would have to be banned (www.saveourbreeds.org.uk, 2003). The issues are not simple ones and those opposed to the convention obviously care deeply about their particular breeds and do not wish to see them disappear. However, the convention does not openly declare the banning of these varieties but simply recommends limits be set on extremities of breeding which can endanger animal's health and wellbeing. Opponents of the ban on tail docking argue that this is necessary to prevent dogs from damaging their tails whilst moving through undergrowth when working or hunting, which may be far more painful than the removal of tails as pups (www.cdb.org, 2001).

This not only raises questions about the ethicality of certain breeding practices but also about differing notions of appropriate "care" for particular breeds, with both sides feeling that they are in the right. The argument is not one-sided and one cannot dis-

miss outright those breeders opposing the convention, who are in their own ways demonstrating their "love of a breed", despite the fact that the principles which they are defending may seem fundamentally flawed. Many see the convention as too wide ranging and restrictive in its proposals, unnecessarily limiting the breeding and keeping of a wide variety of popular pedigree cats and dogs. It therefore seems unlikely that it will be ratified in the UK in the immediate future, although many of its proposals are currently being implemented in other European countries.

Conclusion

The issue of pedigree breeding is a highly complex and contested one. Its origins in the need to control and manipulate nature and instill class divisions amongst animals reflecting the human social world are out of keeping with contemporary notions of companion animals as valued friends. Invented histories and notions of purity and inheritance still continue to dominate pedigree-breeding worlds and the decision to own a pedigree animal (particularly amongst those involved in breeding and showing) may reflect a desire for social distinction. Particular types of animals can be seen as a consumer or fashion statement, indicating a particular desired image or style. This suggests an understanding of pets as a commodity (albeit one with their own agencies), used in the construction of a particular human identity. Yet, particularly in the case of dogs (where pedigree animals are much more common), many ordinary people may simply choose a specific breed for their supposed "breed characteristics" which reflect the size, purpose and temperament of pet which they require, rather than for a specific interest in notions of pedigree and purity per se.

For those breed enthusiasts who devote a great deal of their

time to a particular animal, breeding is also about more than just domination and genetic control. The attitudes that I encountered amongst such people reflected their genuine concern with health problems, animal welfare and their pets as individuals. However notions of "purity", "bloodlines" and genetic snobbery do persist in the pedigree worlds, particularly in the rhetoric of pedigree clubs. Animals continue to be judged against an arbitrary standard of points, which ignores their individual personalities and histories and sees them simply as an example of particular breed or type. This world of minutely defined difference and obsession with ancestry and origins remains something of a mystery to many pet owners, including previously myself, who define their relationships in terms of personal interaction with their animals.

This is not to belittle the great love and care for their own breed and individual animals that I found amongst pet owners, and the ways in which they think through and negotiate the more tricky associations and issues relating to pet breeding in their everyday practices. It would be reductive to dismiss pedigree breeding in purely critical terms, as suggested by Tuan (1984), and is more appropriate to see it as about a particular type of intervention and control. Despite the contested ethical issues that it raises, many of those involved in pedigree worlds exhibit enormous personal care and knowledge of their animals, which often extends to other animal related matters (e.g. membership of welfare associations). Such care goes beyond simple love of a breed and rejection of unethical practices, to a genuine and deep felt care for individual animals, and breeding of animals for prestige or profit should not be seen as incompatible with individual loving human-pet relationships.

References

Cassidy, R / "Falling in Love with Horses: The International Thoroughbred Auction" / *Society and Animals /13 (1)* 51-69: 2005

Franklin, A. / *Animals and Modern Cultures: A Sociology of Human-Animal Relations in Modernity/* Sage Publications, London: 1999

Franklin, S, Lury, C. & Stacey, J. / *Global Nature, Global Culture/* Sage, London: 2000

Gillespie, D.L, Leffner, A & Lerner, E. / "Safe in Unsafe places: Leisure, Passionate Avocations and the problematising of everyday life"/ *Society and Animals* / 4(1) 169–188: 1996

Haraway, D. / *The Companion Species Manifesto: Dogs, People and Significant Otherness* / Chicago: Prickly Paradigm Press: 2003

Kete, K / *The Beast in the Boudoir: Pet Keeping in Nineteenth Century Paris* / University of California Press, Berkeley: 1994

Mowl, G / "The Place of Leisure" / in Pain, R, Fuller, D, Gough, J, McFarlane, R & Mowl, G / *Introducing Social Geographies* / Arnold, London: 2001

Pond, G & Dunhill, M. / *Cat shows and Successful Showing* / Blandford Press, Poole, Dorset: 1985

Ritvo, H / "Pride and Pedigree: The Evolution of Victorian Dog Fancy"/ *Victorian Studies* / 29 (3) 225–253: 1986

Ritvo, H / *The Animal Estate: The English and Other Creatures in the Victorian Age* / Harvard University Press, Cambridge, Massachusetts: 1987

Tuan, Y-F / *Dominance and Affection – The Making of Pets* / Yale University Press, New Haven: 1984

Websites:

Cavalier King Charles Spaniel Club (viewed 15th November 2001) www.cavalierclub.co.uk

Council of the Docked Breed (viewed 26th August 2004) www.cbd.org

Council of Europe (1987) *The Convention for the Protection of Pet Animals* http://www.animallaw.info/treaties/itceceets125.htm (viewed 20th July 2004)

Pet Food Manufacturer's Association (last updated April 2005) www.pfma.com

Save our Breeds (viewed 14th august 2004) *The European Convention for the Protection of Pet Animals* www.saveourbreeds.org.uk/convention.htm#breed

3:3 Creating the Comfortable Cow – Discourses on Animal Protection and Production in Late 19th-century Danish Agriculture. | ANNE KATRINE GJERLØFF

Historical investigations on the wellbeing of animals normally focus on the animal protection movements in the 19th century. Even though these movements had a complicated social composition and enjoyed wide support among both royalty, bourgeoisie and politicians it can be difficult to judge just how important they were in regard to creating a fundamental change in the perceptions of animal rights in society as a whole.

Furthermore it is characteristic that most of the active agitators for animal rights did not have regular contacts with animals other than pets and working animals in the city. Animal protection movements were essentially an urban phenomenon, and even though animals in cities had a common and necessary presence, the main part of the animal population lived outside the larger cities. The numbers of city animals were reduced greatly in the first decades of the 20th century, but rose dramatically in another scene: the intensified animal husbandry in rural areas.

Only a few researchers have investigated the discourse on the welfare of farm animals in the late 19th century, and Niklas Cserhalmi's analysis of Swedish cattle farming should be mentioned as central in a Scandinavian context. In this paper I will present my own preliminary results regarding ideas and perceptions of the wellbeing of farm animals – especially cows – in Denmark c. 1850–1900.

It is clear that farm animals were not the main concern of the animal protection movement in Denmark. The Society for Protection of Animals (*Dyrenes Beskyttelse*, here abbreviated to SPA) was founded in 1875, and both in its statutes, practical work and publications farm animals are strangely invisible. City animals were the main concern – most notably horses and house pets as cats and dogs. Wild animals, especially birds, also had SPA's attention and care. Farm animals, though, were only mentioned from the point when they left the stable and began the journey towards cities, butchers and finally the dinner-tables of urban dwellers. The transportation of animals to the slaughterhouses or dealers became a concern for SPA, and especially transport by train, where the animals were unprotected from the cold, did not have access to water or rest and were squeezed so tight that many were trampled to death, was criticized by the SPA. This interest can be explained by the fact that it was only during and after transport that the farm animals became physically present and visible in towns and the animal protectionists could observe their plight. The arrival or shipping off of exhausted, hungry and often wounded animals was a common sight at train stations, harbours and especially at cattle markets and outside large slaughterhouses. While the animal's sorry situation in these instances were commented on by SPA, it is surprising that no mention of the animals' welfare on the farms can be found in the papers of the SPA. The farmers' handling of the farm animals was not an official area of interest for the Danish animal protection society.

The late 19th-century perception of the wellbeing of farm animals has a specific relevance to us today, since it is in this period that the animal husbandry evolves into that intense animal production industry that most agriculture is today, and which causes

much of the debates and dominates the political side of animal protection. Danish animal husbandry evolved from dependence on crops to an animal production in the last half of the 19th century. Before this period farm animals primarily served as working animals and as suppliers of manure. Around 1900 the meat and dairy industry totally dominated Danish farming practises. A consequence of this was a heavy amount of research, discussions and writings on how further to intensify and improve the animal production. Veterinarian medicine, research in chemistry and insight into the sustenance and digestion of animals were central to this development. Animal husbandry became the main occupation in Denmark and the most important industry in regard of export and income.

The intensification of animal production has brought with it a critique of the methods of increasing productivity and reducing costs – e.g. lesser space for the animals, forced or unnatural feeding and accelerated growth. This is linked to ideas of the animal's natural habitat and behaviour being limited in modern society, and it is commonly believed that pre-industrial animals were much better off. The critique of modern animal production thus carries with it a general critique of progress and modernity. A closer reading of the agricultural books and journals around 1900 reveals that this was not the case then.

Mid-19th-century literature on farming contains several debates and instructions on feeding and caring for cows. Central themes were the quality of air in the stables and the care of the animals skin. These concerns must be a consequence of keeping the animals in the stables for longer period of times, to facilitate milking and the collection of manure. The main reason for concern about the quality of air was the heath of the animal. The spread of

diseases was often described by miasma theory, and cattle plague and lung sicknesses were partly explained by bad air; gasses and stench from the cows themselves and their output. Instructions on how to build warm and well-ventilated stables were common in farming journals, as well as tips on how to keep the animals clean. The skin was considered very important for the health of the animal, as a part of the animal's breathing and respiratory circulation, and dirty or irritated skin caused discomfort as well as diseases.

In the 1870–80s there was a debate in the volumes of *Landmands-Blade* (*The Farmers Pages*) about how best to clean a cow. Modern chemistry had lent a hand to the farmers, and new remedies were advertised in the farmer magazines. A popular remedy against lice and other pests was arsenic baths: a solution of arsenic that killed living pests in the skin of the cow, but which could also be fatal for both cows and humans. A veterinarian recommended the arsenic bath, but suggests never using a container which will later be used for food. He added, "I myself often use a chamber pot."

Some farmers were delighted about this new remedy; others criticized it for being too dangerous and causing poisoning and burning of the cow's skin. The critics advocated frequent washing of ordinary soap and combing of the cows. This procedure is more time-consuming and thus more expensive, but was suggested as better for the cow's wellbeing. It can be read between the lines that the critics of arsenic baths thought that it was poor husbandry to prefer easy, but questionable methods for cleaning the cows. The debate about arsenic baths is an early example of the dilemma between productivity and economy vs. the animal's well-being that dominates modern debates about farm animals. It should be added that the harmless glycerine baths became popular

in the 1880s and replaced the poisonous arsenic. The glycerine also kept the cow's skin soft and loose, which was commonly accepted signs of a cow's good breed and health.

The most common theme regarding cows is their feed. What should the cow eat? How much and how often? In dairy and manure production the most important thing was the energy output of the cow. Nothing should be wasted; the dairy cow should not be fattened and the manure should not have to high a nutrition value for the crops in the field to use. Instead the milk should contain the maximum percentage of fat for butter-production, and animals meant for slaughter and consumption should be as fat and meaty as possible. The farmers differentiated between "maintenance feed" and "production feed". Maintenance feed was the amount of energy necessary just to keep the cow well and alive, and the production feed was the extra amount of fodder that was used by the cow to produce milk, meat, manure and perhaps calves. Feeding the cows became thus an extremely complicated question of balancing input and output of the cow. Fodder should be varied and contain both water and energy, and the point was to get as much input as possible – and to get an equally large amount of output. But since it is limited how much a cow can actually eat of traditional fodder like grass, hay and vegetables, the development and use of high-energy food as oil-cakes and corn became very important.

If served high energy foodstuff the cow could eat and process much more energy into a better output – and thus a larger profit for the farmer. But at the same time the health of the cow was to be closely observed. A sick or weak cow cannot produce well enough, and so the feed must also be balanced not to upset the cow's digestion or general health. Very often metaphors of trade is

used in the farming literature: the farmer and the cow has made a deal, and the cow is literally "paying back" its feed by its different output. But it is only a good deal if it is a balanced benefit for both the cow and the farmer.

In the last decades of the 19th century the wellbeing and care for the cows is a common theme in farming literature. But the argument is primarily a question of profit: only a healthy and comfortable cow can process maximum input into maximum output. Animal welfare is not an isolated argument; the interest of the cows and the farmers are described as mutual. Creating the comfortable cow was in everybody's best interest, but does this mean that the cows were really comfortable? A look at the self-understanding in the farmers' organisations reveals how the welfare of farm animals was actually defined.

In a monumental book, whose title can be translated as *Danish Portrait Gallery: Danish Farming* from 1906, the developments and VIPs of Danish farming were celebrated. Current animal husbandry was compared to older and less productive ages, and the conclusion was repeatedly the same for each animal species described: progress in amounts of production is equivalent to progress in animal welfare! The logic of this conclusion goes as follows: In earlier times animals were ignored and left to fend for themselves in the wild, in bad weather and without access to sufficient feed. As a consequence the animals became small, thin, robust and hardy animals who were easily satisfied, but who had a very low output in meat and dairy products, but who were strong in field work.

The existence of free-roaming creatures was described as neglect and even mistreatment of the animals, but modern methods in feeding, keeping and breeding animals was considered a major improvement, not only for the farmers, but for the animals them-

selves. In this new golden age of intensive farming a warm stable, clean soft skin and lots of high energy feed was presumed to be an unquestionable progress for the animals. The logic is simple: an animal's wellbeing could be measured by its output. The more output, the better. The cow that produced the most was considered the most comfortable cow. In this narrative the progress of Danish farming production was also a progress in farm animal welfare.

This connection was apparently accepted by the animal protection movement, which could observe how much work farmers and veterinarian researchers put into creating optimal conditions and maximum output in the farming industry. A productive agricultural business was clearly to the advantage of the animals. Ordinary animal husbandry practices were thus of no concern to SPA. Comfortable cows were in the farmer's best interest and the responsibility was left to the farmers themselves. Only in extraordinary instances and in fiction farming animals are mentioned in SPA's publications. Tormenters of animals are described as abnormal, deranged and pitiful humans – who are found in the cities as well as in the countryside. In the cities they torture dogs, and in the country they are cruel to cows, horses and sheep. But they are considered the exceptions, and cruelty to animals was not perceived as a part of normal and modern farming practices, which were thus not put on the agenda for the work of SPA.

The ideas of animal welfare in Danish agriculture have changed completely in the last 100 years. Today, what we consider natural behaviour, free-roaming cattle in green pastures, is an idyllic ideal used in advertising for organic and animal-friendly products. High productivity is absolutely NOT considered a positive feature of animal production, but is associated with stressed, overcrow-

ded and mistreated animals. Technology and efficiency is largely considered unnatural and often cruel. Around 1900 faith in progress and technology still ruled, though, and the concept of "natural" did not have the same positive connotations as today. What we today would think of in negative term as "controlling" and "intensified" farming practises was then positive features that signalled progress and inventiveness. This technological and productive progress of animal husbandry was seen as equally benefiting the farmer and his animals. The design of stables, chemical and veterinarian remedies and high energy sustainance increased the output of the cows and synonymously the well-being of the animal. What makes a cow comfortable is thus a historically situated question of definitions of nature, production and progress.

3:4 Narrating the Cow: The Construction of Cultural Human/Animal Relationships in Written Narratives | TAIJA KAARLENKASKI

My dissertation project focuses on cultural relationships between human being and cow, constructed in written narratives collected in a public writing competition. I have two aims in my study: firstly, to find out which modes of narration and what kinds of textual strategies the writers use when they construct narratives about the cow, and secondly, to discuss how the cow is represented in the narratives. The wider frame of reference of my study deals with the urbanization and industrialization of Finnish society, which has changed the cultural meanings of cows and animal husbandry substantially. Since the 1960s, the number of cattle farms has decreased rapidly in Finland, and at the same time the average size of the remaining farms has increased. In this paper, I will briefly introduce the typical strategies of narrating cows in the writing competition data, and, subsequently, I will discuss the question of gender, which inevitably comes up in cow narratives.

My research material consists of texts which were sent to the writing competition about cows, arranged in 2004 by the Finnish Literature Society and the Union of Rural Education and Culture. These kinds of writing competitions are very common in Finland; the Finnish Literature Society alone arranges several per year. The number of answers in the writing competition about the cow was exceptionally high: over 2,600 people wrote stories, which is about ten times more than in an average writing competition in this decade. Another unusual feature compared to other writ-

ing competitions organized by the Finnish Literature Society was that respondents were asked to write either to the recollection category or the fiction category. About two thirds of the writings are recollected narratives and one third fictional narratives, categorized by either the writers themselves or the organizers of the competition. This categorization is, however, somewhat inadequate and too limited from my point of view, because the writers use and combine several narrative genres in their texts, both factual and fictional, and from both oral and literary discourses. I read the texts as cultural expressions of the relation to a domestic animal. These stories, both personal recollections and fictional narratives, represent cultural conceptions about the cow.

The participants in the writing competitions are said to be "common Finns", who are interested in the theme of the competition. Writing is a popular hobby in Finland, and participation in competitions is basically possible for anybody. However, the respondents come from various backgrounds with different aims and motives for writing. It is also important to notice that in a way the participants in the competitions are always selected; in this particular competition, for instance, they were interested in and inspired by the cow-theme. There are hardly any writers in the data who consider cows insignificant animals, or do not have any experience or impressions related to them. The research material for this paper consists of 126 texts which I have selected from the writing competition data. The ages of the writers range from 20 to 86, and roughly half of them work or have worked in animal husbandry, while the other half are or have been employed in other occupations.

Categories of Narration in the Writing Competition Data

In accordance with the method of *analysis of narratives* (see Polkinghorne 1995), I have identified four types of narration in the writing competition data: autobiographical narration, ethnographic narration, narratives from the cow's point of view, and fictionalized narration. I will briefly describe these categories of narration, and discuss representations of the cow in each of them. It is important, however, to notice that the boundaries of these categories are not strictly delineated, and they may be also combined in the texts.

About two thirds of the writings in my research material are autobiographical narratives. These are mainly written in the first person, although the third person or passive voice are occasionally employed. Also the narrated period of time varies. In "complete" autobiographies narrators recount their whole lives from childhood till the time of writing. Such writers are usually elderly persons, who have spent their childhood on a farm and worked in animal husbandry for their whole lives. They often reflect the changes in the tending of cattle and criticize contemporary industrialized farming. It is also quite common for writers to narrate only one particular phase in life, for example childhood. It is typical for these narratives and also for the complete autobiographies to reminisce some unforgettable cow "persons". These individuals are described as having their own personalities and are sometimes remembered as good friends. There are also narratives which present only one incident or experience, which may be called *autobiographical fragments* (see Saresma 2007, 119). In these fragments, writers recount humorous or dramatic cow-related events, for example difficult calvings or cows escaping the grazing ground.

Ethnographic narration focuses on the detailed description of working practices or environments related to the tending of cattle. The narration typically adopts a general rather than personal point of view, which uses the passive voice and tends to exclude emotional descriptions. This mode of narration rarely encompasses the whole text, but it may be used as a part of autobiographical narration, for instance. In ethnographic narration, the focus does not seem to fall on people or even cows; instead, the point is to describe how things were or are done, for instance what the cowsheds or pastures looked like, and so on. The use of the passive voice creates a sense of collectivity, which indicates common ways and customs.

Narratives from a cow's point of view may take the form of autobiography or biography; that is, they are written in the first or third person and are focalized through the cow. Animal fairy tales, cartoons and other kinds of fiction may be seen as models for this kind of narration. Changing the perspective to the animal's viewpoint gives an opportunity to see human activity from the outside; humans are often seen in an ironic or critical light. One common way to see cows in the texts is anthropomorphizing, representing them as having emotions and characteristics which are similar to humans (Daston & Mitman 2005, 2).

Cows are described as emotional creatures, who feel grief, happiness, envy, and even romantic and sexual emotions. On the other hand, this may be seen as "thinking with the animal"; the writers have pondered what it would feel like to be a cow and what it might think (ibid. 10).

Some writers have written fantasy narratives, which describe cows in wild adventures. In these fairy tale-like texts people and the role of the cattle as a milk or meat producer are played down,

and cows and oxen may live together with their calves as happy families.

In fictionalized narration it is common to use textual strategies that are typical for narrative fiction, for example dialogue, free indirect discourse and changes in focalization. Fictionalized narratives often resemble short stories; they are stories, which are somehow linked with cows. These stories may be situated on small farms in past decades or in the present day. Some of them are narrated from a child's viewpoint: they describe, for instance, how a child who has lived in a city perceives a cattle farm. Fictionalized stories demonstrate that cows may be culturally linked with many situations of human life. It is not necessary to work with cattle to have contact or images about cows.

Gendered Cattle Tending and the Gendered Cow

The question of gender is crucial when analyzing the relationship between humans and cows. In Finnish agrarian culture, taking care of the cows was traditionally regarded as women's work, and for example, milking cows was considered shameful for men. This was based on the gendered division of labour: tasks outside the farm, such as working in the fields or in the forest, were mostly done by men, while women took care of the household and the cattle. Although the division of labour was strict on the normative level, in practice it yielded, but usually only in one direction: women could participate in men's work, if needed, and gained prestige for it. Men carrying out female tasks, however, could be regarded as unmanly. (Frölander-Ulf 1978, 91–92; Jarvenpa 1988, 82; Östman 2004, 59–63).

Many reasons can be found for the gendered division of labour. Household chores done by women were not mechanized, and the

products were not marketed outside the farm, so they were not very important economically. Although milk started to become an important source of income for the farms, the division of labour lasted until the mid-20th century. (Siiskonen 2004, 301–303). In addition, horses were regarded as more valuable than cows, because they were used also for public representation and marking social status, not only working. Horses were associated with men and belonged to the public sphere, while cows were a part of women's domestic world. (Frykman & Löfgren 1990, 181–182). On the other hand, in popular thought, milking was related to female sexuality, nakedness, and bodily fluids. In general, women's work was more strongly related to corporeality than tasks which belonged to men. (Östman 2000, 210, 214–215).

The writing competition data contains numerous references to cattle tending as merely suitable for women. Nevertheless, children could transgress the gendered boundaries; they did not belong to either category (Korkiakangas 1996, 128). The gendered division of labour also comes up as an implicit matter of course: people tell about their mother's cattle tending and women reminisce their work as cattle keepers in which men did not participate.

It was not until the 1950s, when milking machines slowly started to become common, that men started to participate in the tending of cattle. Since the 1970s, it has become general for the couple owning the dairy farm also to work together in the cowshed as equal partners. As a result of the decrease in the number of household members and the increase in the sizes of the cattle, farmer and farmwife together must carry out all the work on the farm. Therefore, the division of labour has become a division between these persons, not necessarily between men and women. (Siiskonen 1988, 93–94). Because of the mechanization, it

is also possible that the man alone takes care of the farming and the cows, and the wife is employed outside the farm. (Siiskonen 2004, 308–309).

However, close and emotional bonds between women and cows are still visible in the writing competition data. First of all, 78 percent of the participants were women. The usual portion of women in this kind of competition is about 65 percent. In the stories, usually written by women, cows are often represented as workmates and even friends who can listen to one's worries.

> When you're dealing with cattle, you develop an eye for it, and it's needed, when you work with such a complicated workmate as a cow. A cow, too, is a workmate; things don't work out if there's no mutual understanding, otherwise both get anxious. (SKS KRA Nauta 2114, 7; woman 27 years of age).[1]

> I often had strong headaches, but I had to milk. I leaned against the cow's flank, and it turned to look at me, made a sound and started to lick me. (SKS KRA Nauta 146, 9; woman 73 years of age).

In these examples, the communication between human and animal is interpreted as interaction, in which both understand each other. Although cows are kept for their milk and meat production, they are seen here as subjects, not merely objects (see Knight 2005, 1). In the previous example, the cow seems to understand the distress of the milker and tries to comfort her.

1 The material is stored in the Folklore Archives (KRA) of the Finnish Literature Society (SKS). "Nauta" refers to the title of the writing competition (Ei auta sano nauta – kirjoituskilpailu lehmästä).

Also in the autobiographical narratives, which are situated on contemporary farms, women seem to identify with cows: for example, they compare calving with their own childbirth. When describing calving, the cow is frequently called "a mother" and the calf "a child". Some writers use the cow as an example of maternal love, and feel pity for it, because the calf is usually taken away shortly after the birth. Women who have worked with cattle for their whole lives might even see their position as quite similar to the position of cows:

> I don't think, and neither do my fellow-men, that I'm a real "cattle-person": get up early and be efficient and tireless, I wasn't like that even when I was younger. But I have tried my best, and felt compassion for this travelling companion, the cow. The others enact the laws for both of us and we only have to obey. (SKS KRA Nauta 654, 3; woman 70 years of age).

Although men may also write quite emotionally about cows, the same kind of empathizing and identifying is absent in their texts. Despite the loosening and changing of the gendered division of labour on the farms, women working in cattle husbandry still link themselves and their identities to cows. In other words, a typical way for women to represent cows in the data is to emphasize their gender and to articulate solidarity between females.

The narratives in the writing competition data often challenge the usual conception of cows as stupid and passive animals. Calling a woman "a cow" is disparaging, and this is known in many languages and cultures. Joan Dunayer has pointed out that the "exploitation of the cow for her milk has constructed a gender-specific image". Because cows are confined to their stalls and milked there, and because they are kept pregnant constantly, they

are seen as passive, dull and fat. The cow becomes a symbol for these traits, and this metaphor can easily be attached to women (Dunayer 1995, 13). In my research material, this works also the other way around: cows are frequently called "girls" and "ladies". However, the stupidity and passiveness of the cow is often contradicted in the writings by women and also by men. Writers identify with the cow also in a positive sense: it can be seen as a personal, wise and compassionate animal.

Conclusion

In this paper, I have presented some typical ways of narrating the cow in the writing competition data. It is very common to write about cows autobiographically, but it is also possible to take the cow's point of view or create some other kind of fictional story. In the last hundred years, the image of the cow has changed from the domestic animal which used to belong strictly to the realm of women, to a part of the industrialized food production. Nowadays, few people have a personal relationship with cattle, but nevertheless, the cow has become a symbol of the living countryside. The popularity and media attention of the writing competition may be seen as indicators of the cultural importance of the cow.

Anthropomorphism and genderization may be regarded as integral ways of representing cows, that is, they are seen as fellow females. This creates what may be referred to as *cross-species female solidarity*. But it is also important to remember, as Britt-Marie Thurén and Kerstin Sundman (1997, 28–32) have pointed out, that gender is not equally important in all places and circumstances, and the meaning of it may change over time. The gendered division of labour in cattle tending has loosened remarkably, and now cattle husbandry is increasingly taken care of by men. In the cul-

tural sense, however, human/cow relationships are still gendered on many occasions.

References

Daston, L. & Mitman, G. "Introduction. The How and Why of Thinking with Animals", in *Thinking with Animals: New Perspectives on Anthropomorphism*, eds. L. Daston & G. Mitman. Columbia University Press, New York, 2005, pp. 1–14.

Dunayer, J. "Sexist Words, Speciesist Roots", in *Animals and Women: Feminist Theoretical Explorations*, eds. C. Adams & J. Donovan. Duke University Press, Durham and London, 1995, pp. 11–31.

Frykman, J. & Löfgren, O. *Culture Builders: A Historical Anthropology of Middle-Class Life*. Rutgers University Press, New Brunswick and London, 1990.

Frölander-Ulf, M. *Women: The Cattle Keepers of Eastern Finland. An Analysis of the Econimic and Political Roles of Women in Kuusisaari Village in the Twentieth Century*. Unpublished Ph. D. dissertation, University of Pittsburgh, 1978.

Jarvenpa, R. "Agrarian Ecology, Sexual Organization of Labour and Decision-making in Northeastern Finland", in *The Social Implications of Agrarian Change in Northern and Eastern Finland*, ed. T. Ingold. The Finnish Anthropological Society, Helsinki, 1988, pp. 76–90.

Korkiakangas, P. *Muistoista rakentuva lapsuus: Agraarinen perintö lapsuuden työnteon ja leikkien muistelussa*. Suomen muinaismuistoyhdistys, Helsinki, 1996.

Knight, J. "Introduction", in *Animals in Person: Cultural Perspectives on Human–Animal Intimacy*, ed. J. Knight. Berg, Oxford, 2005, pp. 1–13.

Polkinghorne, D. "Narrative Configuration in Qualitative Analysis", in *Life History and Narrative*, eds. J. Hatch & R. Wisniewski. Falmer Press, London, 1995, pp. 5–23.

Saresma, T. *Omaelämäkerran rajapinnoilla: Kuolema ja kirjoitus*. University of Jyväskylä, Jyväskylä, 2007.

Siiskonen, P. "The Role of Farmers and Farmwives in Agrarian Change", in *The Social Implications of Agrarian Change in Northern and Eastern Finland*, ed. T. Ingold. The Finnish Anthropological Society, Helsinki, 1988, pp. 91–98.

Siiskonen, P. *Maatila yrityksenä ja viljelijäperheen kotina' in Suomen maatalouden historia III: Suurten muutosten aika. Jälleenrakennuskaudesta EU-Suomeen*, ed. P. Markkola. Finnish Literature Society, Helsinki, 2004, pp. 289–311.

Thurén, B. & Sundman, K. "Inledning", in *Kvinnor, män och andra sorter: genusantropologiska frågor*, ed. B. Thurén & K. Sundman. Carlssons, Stockholm, 1997, pp. 7–45.

Östman, A. *Mjölk och jord: Om kvinnlighet, manlighet och arbete i ett österbottniskt jordbrukssamhälle ca 1870–1940*. Åbo Akademis förlag, Åbo, 2000.

Östman, A. "Mekanisoinnin ensimmäinen aalto", in *Suomen maatalouden historia II: Kasvun ja kriisien aika 1870-luvulta 1950-luvulle*, ed. M. Peltonen. Finnish Literature Society, Helsinki, 2004, pp. 19–76.

4. SCIENTIFIC ANIMALS

4:1 The *Econologics* of Genetic Autonomy – Ex-situ Genetic Resources and Corporeal Articulations of Interests | SAKARI TAMMINEN

Nonhuman gene banks are one of the most visible embodiments of complex articulation of changing interests in nonhuman life during the last decades of 20th century and the first decade of the new millennium. When first introduced in the early 20th century, their predecessors – introduction stations – were a means for mobilising parts of nature. Economically valuable plant species were circulated within and by the global networks already in place in the mid-20th century and "introduced" to new regional ecologies in the search for agricultural advancements. Ironically, in the past few decades, gene banks have become more and more central means of corporeal management of "biodiversity" in the face of the loss of genetic diversity their predecessors were helping to weed out.[1] Not only are gene banks protecting from an ecological crisis, but an economical one too. As a result of the loss of biodiversity and advancements in biotechnologies in the latter part of the 20th

1 The rapid growth of agriculture – selecting the best cultivars and animal species for production and enhancing them with biotechnological means – after the green revolution would not have been so rapid were it not the means for rapid global circulation of plants and animals already in place (e.g. Fowler & Mooney 1990, Pistorius 1993).

century, genetic resources are today becoming central elements of *national* wealth as a novel form of biocapital – and to some, this is considered a more valuable form of natural resource than gold. Gene banks are not, however, only for plants. Animal biodiversity have been under increasing international concern for the last 15 years. Starting in the early 1990s the Food and Agriculture Organisation (FAO) of the United Nations has been preparing a number of visible measures to promote and to globally conserve what it calls "animal genetic resources" (AnGRs) as part of their biodiversity conservation measures. The first "Global Strategy for the Management of Farm Animal Genetic Resources" was released in 1999 and a follow up strategy in 2007 (FAO 1999a; FAO 2007). In these documents we can witness aspirations to start conserving AnGrs in special gene banks as a measure to save animal species under the threat of their extinction.

Materially these banks come in many forms – being globally centralised "vaults" like the Svalbard gene bank in Norway or more local, heterogeneous ones consisting only of small collections. The central distinction is made through the mode of the bank: both "in situ" and "ex situ" banks exists. Whereas in situ banks are conservation practices mostly taking place in the "normal" ecological environment of conserved species, such as nature parks or farms, ex situ banks are institutions that conserve the material outside its "natural" ecology, mostly translated as *cryopreservation* measures. Regardless of this in situ/ex situ division they both can conserve either plant or animal material, seeds or gametes.[2] One of the key aspirations in conservation, for example in global animal genet-

2 Their predecessors can be traced even earlier to colonial collecting practices of exotic forms of nonhuman life (see e.g. Parry 2004).

ic conservation programmes and other working documents (e.g. Barker 1994, Boa-Amponsem & Minozzi 2006, Ruane & Sonnino 2006), is the possibility to conserve animal genetic resources in ex situ gene banks: a cost effective way to manage biodiversity.

What is common to all gene banks is that they have become more and more subjugated to international politics and governance over nature. The most important international treaty directly concerning genetic resources is the UN Convention on Biological Diversity (CBD) which was signed by 150 states in 1992 and came into force in 1993. Hailed as an international political move to save the "biodiversity" on planet earth, it may be a surprise to anyone reading the convention to find that only one article enjoying a "hard law" status enforceable within international jurisdiction.[3] In article 15 the CBD recognised sovereign rights of nation-states over their genetic resources as a form of biological heritage, a form of national patrimony (Parry 2004), and made this declaration legally binding in the international jurisdiction. It also obligated the ratifying states to identify their *national* genetic resources.

After 1992, then, every nonhuman form of life has been given a nationhood in that they are identified as genetic resources by a signatory nation-state – genetic resources became identified with a nationality as much as nationhood can now be found in corporeality of genetic resources themselves. The objects of knowledge here, *national genetic resources*, are then situated both within the category of culture and the category of nature. Genetic resources are very interesting objects – an effect of the folding of novel relations between nature and culture, not reducible either to "biologi-

3 Other articles are left on the bona fide level policy agreements and best practices over the management of biodiversity, not enforceable in international courts. Thus, seen from legal perspective CBD could be best acknowledged as an international convention on the access and benefit sharing issues concerning genetic resources.

cal populations" or "genes", but considered best at once as culture understood as natural heritage and nature understood as cultural heritage even in the earliest discourses of conservation geneticists (Frankel 1974; Frankel & Soulé 1981). In short, genetic resources are a generative effect of biopower (Foucault 1985; 2003) over non-human populations of a nation-state, legitimised by international politics.

Whilst a number of recent analyses have been done on the politics of genetic resources (see e.g. Kloppenburg 1988, Fowler & Mooney 1993, Pistorius 1997, Parry 2001, Hayden 2003), in this paper I claim that some of the crucial aspects of the global event of *genetic autonomy*, implied by the CBD in its declaration of *national sovereignty over genetic resources* of signatory states in article 15, can be witnessed within the ex situ *practices* of genetic conservation as done by scientists. I am interested in how three different interests – ecological, economical and national – articulate in the "gene banking" in the making and finally in the corporeality of the "genetic resources" themselves. This has interesting consequences to the ontological status of "animalness" of the genetic resources derived from biological animals – their status as a form of "life" becomes unstable and a problematic question.

In this paper I look at how the three interests are articulated in the Finnsheep gene banking in Finnish genetic resources programmes started in 2004. I will claim that the articulation of interests happens at three levels – entanglements of previously separate discursive fields, or what Latour (2004) has recently called "matters of concern":

1. First, at the level of international politics both the ecological concerns of biodiversity *and* of nations to secure the potential

biocapital within nonhuman life intersect here. It is only by understanding nature as national biocapital, which is simultaneously under an ecological and economical threat, that makes the contemporary object of knowledge – national genetic resources – possible. This is most visible in the juridical status of the genetic resources within the CBD and their particular conceptualisation as objects of knowledge within the science of genetic conservation that make the corporeal identification possible.

2. Second, the technical means of cryopreservation used in the genetic conservation – deriving from the animal breeding sciences of the 20th century – creates a novel technological ecology within which these new objects of national interests can circulate within inter/national networks of gene banks. This new technological ecology makes this mode of national biocapital, translated into nonhuman reproductive materials, economically viable, thus adding the interest to build these inter/national networks that conserve cryopreserved "life". Successful cryopreservation does two things for the conservation programmes. First, it allows the indefinite storage of the animal sperm in ex-situ gene banks (in vitro). Second, it makes the Finnsheep interesting and viable form of agricultural economy to the Finnsheep farmers. These interests then traverse the logic of Finnsheep sperm collection and secures the future of the *national herd of Finnsheep as genetic resources* – in the corporeal form of cryopreserved sperm.

3. Third, the identification, collection and standardisation of the cryopreserved material itself within the network depends both

on the technical infrastructure and the economic rationale traversing the whole of cryopreservation laboratory protocols themselves. The reason for this is that maintaining the whole national collection biological animals scattered around the country (the "in situ" mode of genetic resources, the Finnsheep as organic animals) – the national herd – within the Finnish genetic resources programmes is a problem both of the ecological and economical sort. The problem can be solved so that the differing interests pass through an obligatory passage point: cryopreservation, a technology first invented in animal breeding sciences, that aimed at the betterment for breeds. With the technology you can do away with the animal itself, the biological animal, and concentrate on its reproductive material – the pure potentiality of only the "best animals" embodied within the sperm cells in a microscopic scale. Thus cryopreservation marks a total change in the object of knowledge and material interest – it is founded on the move from the animal to its reproductive material. A total re-configuration of the ontology of the Finnsheep breed happens as it goes from "in situ" to "ex situ".

Thus, the three distinct crossings of interests that make the passage from "animals", understood as biological objects, to "genetic resources", understood as objects of national heritage, result in an interesting shift of ontology. This shift problematises the concept of the "animal", or rather the ontological status of "animal life", and the aims of nonhuman biopolitics.

What I argue in this presentation is that the network consisting of the collection, identification, standardisation and banking work that goes into the making of national gene banks operate within a

very special imploded (Haraway 1997) space of "economical" and "ecological" interests. The words "ecologic" and "economic" derive etymologically from the same Greek root "oikos" – they are both the art and rationality of governing the "home". In the presentation I try to show how the two former rationalities not only etymologically but also very practically are entangled and articulated with the *interests of taking care* of a nonhuman population of Finnsheep in their native homeland – *a form of nonhuman biopower aiming to optimise and capitalise on vital processes of the national herd of Finnsheep.*

As a final remark, I will admit that I am not the first to explore the inseparable relations of economy and ecology. Writing in the 1980s, Raymond Williams once urged people to consider the relation between economy and ecology, between Man and Nature in a novel way. He argued that:

> "[i]t will be ironic if one of the last forms of the separation between abstracted Man and abstracted Nature is an intellectual separation between economics and ecology. It will be a sign that we are beginning to think in some necessary ways when we can conceive these becoming, as they ought to become, a single discipline." (Williams 1980, 84).

With the Finnsheep case I try to show how ecological and economical interests, described by Raymond Williams in the quote above, traverse each other at multiple levels, materially articulated in the context of national gene banks and finally embodied as national genetic resources in the gene banks of all sorts, currently holding the nonhuman genetic heritage of nations. As a conclusion I argue that the contemporary articulation, the multiple folding of the economy and ecology, translated into and empirically wit-

nessed in the material interests and corporeal material of national genetic resources, are inseparable. Inseparable as they are, I call this folding "econologics".

This folding not only gives the gene banking work its special characteristics but also shows how the whole network occupies a novel technoscientific time-space, one which provides for an eternal reproduction of the genetic autonomy of nationhood. This presentation on the "econologics" of gene banks is based on the analysis of key documents of inter/national animal genetic resources movements and my ethnographic field work within the national (Finnish) genetic resources programmes between 2004 and 2007.



References

Barker, J.S.F. 1994. Animal breeding and conservation genetics. In V.Loeschcke, J.Tomiuk & S.K. Jain. (eds.) *Conservation genetics*. Berlin: Birkhäuser Verlag. 381–398.

Boa- Amponsem, K. & Minozzi, G. 2006. *The state of develepment of biotechnologies as they relate to the management of Animal Genetic Resources and their potential application in Developing Countries*. Rome: FAO, Commission on Genetic Resources for Food and Agriculture.

Food and Agricultural Organisation FAO 1999: *The Global Strategy for the Management of Farm Animal Genetic Resources*. Rome: FAO.

Food and Agricultural Organisation FAO 2007. *Global plan of action for Anumal Genetic Resources and the Interlaken declaration*. Commission on Genetic Resources for Food and Agriculture. Rome: FAO, Commission on Genetic Resources for Food and Agriculture.

Foucault, M. 1985. *History of Sexuality*. New York: Vintage Books, 1985.

Foucault, M. 2003. "Society must be defended". *Lectures at the Collège de France 1975–1976*. New York, NY: Picador.

Fowler, G. and Mooney, P. 1990. *Shattering. Food, politics, and the loss of genetic diversity.* Tucson: The University of Arizona Press.
Frankel, O.H. and Soule, M.E. 1981. (eds.) *Conservation and Evolution.* Cambridge: Cambridge University Press.
Frankel, O.H.1981. *Genetic conservation – our evolutionary responsibility.* Proceedings XIII International Congress Genetics 78: 53–65
Haraway, D. 1997. *Modest_Witness@Second_Millennium.FemaleMan_Meets_Oncomouse.* New York and London: Routledge.
Hayden, C. 2003. *When Nature Goes Public: The Making and Unmaking of Bioprospecting in Mexico.* Princeton, NJ: Princeton University Press.
Kloppenburg, J.R. 1988. *First the Seed: The political economy of plant biotechnology, 1492–2000.* Cambridge: Cambridge University Press.
Latour, B. 2004. Why has critique run out of steam? *Critical inquiry,* 30, 2. 225–248.
Parry, B. 2004. *Trading the genome.* New York, NY: Columbia University Press.
Pistorius, R.1997. *Scientists, plants and politics. A history of plant genetics resources movement.* Rome: International Plant Genetic Resources Institute.
Ruane, J. & Sonnino, A. 2006. *The role of biotechnology in exploring and protecting agricultural genetic resources.* Rome: FAO.
Williams, R. 1980. *Problems in Materialism and Culture.* London: Verso.

4:2 Lifeworlds of the Pig: Towards a Cartography of Porcine/Human Entanglements. A Proposed Case Study of the Danish Pig Between the Production of Meat and Medicine

MARIE PALDAM FOLKER, METTE NORDAHL SVENDSEN AND LENE KOCH

This paper is a first attempt to map a research field and identify central analytical themes of a research project in the making on the interconnected lifeworlds of the Danish domestic pig. Its empirical uptake is the pig's two-sided role of being represented as both a source of important public health problems (e.g. producer of climate and environmental problems and diseases such as obesity, cardiovascular disorders or pig-associated zoonoses such as salmonella) and – in a biologically manipulated form – the instrumental solution to such problems by reducing the content of fat in pork, minimising the outlet of phosphorous in pig slurry or functioning as experimental animal disease model. Focusing on the pig as a site for agricultural innovation as well as for deriving and applying health-promoting knowledge and products, the project seeks to contribute to an understanding of the ongoing technologisation, biologisation and instrumentalisation of animal as well as of human bodies.

Introduction: The Shaping of the Pig in Agriculture and Biomedicine

Notions of "the human" and "life itself" have become decentred and re-configured in the wake of a range of forces in contemporary social, material, and intellectual life. At one end, our views of the relations between human and nonhuman animals have changed due to developments in sciences, such as ethology, philosophy and ethics associated with issues of animal rights and animal welfare. At the other end, in the biological sciences, the "human" has been unsettled by a host of developments in biotechnology. Biotechnological elaborations of human and animal life in genomics, transgenics, stem cell research, embryology, bioinformatics and systems biology demonstrate important shifts in human/animal relations with profound implications for bioethical and legal forms of regulating biotechnological research and for the ways in which we understand ourselves and others. Concomitantly, posthumanist approaches in the humanities and social sciences challenge the notion of the fixed, autonomous, authentic and coherent self and the fundamental division between human and animal worlds as traditionally conceived by familiar forms of humanism (Badmington 2003).

We aim to study empirically and reflect theoretically on the ways in which knowledge and practices related to pigs are produced and performed in the borderlands between agriculture and human medicine. The project investigates the shaping of the pig in agriculture and biomedicine and the associated social meanings ascribed to pigs and pig-derived products/knowledge in these areas in order to examine the dialectical relationship between nature and culture, and between animals and humans. At stake are novel forms of reciprocity, but also of inequality (between humans and

animals, among animals and among humans). Developments in the new biology (genomics, proteomics, systems biology) and its resulting biologicals (hybrids, cybrids, transgenics, clones) demonstrate close similarities and malleabilities at the molecular level between mammal species. Thus, today, investigations into animal gene function feed back into human medical research, and database information covering the sequenced human genome is used in comparative genomics in order to pinpoint gene function and interesting chromosomal loci for the farm animal sciences. These exchanges of biologicals and informatics configure what we may refer to as the "common biological", or our "species being" (Thacker 2005). Such activities challenge classical dichotomies between humans and animals, notions of human individuality and views on the specificities of human dignity and create new possibilities, responsibilities and accountabilities. The project specifically addresses the interfaces between agriculture and biomedicine and the human and social sciences.

Case: The Danish Pig Between the Production of Meat and Medicine

The breeding and production of the Danish Landrace Pig (LRP) – the leaner and longer Danish bacon pig – is a cornerstone of Danish agriculture in terms of national cultural heritage and agricultural export numbers. Its improvement through classical genetic breeding techniques and ensuing standardisation was achieved in the course of a century and this project seeks to probe the history of the continuities and cuts between a standardised and industrialised production of pork, the sequencing and annotation of the porcine genome, and the contemporary and future development and production of genetically modified pigs modelling common

human diseases such as neurological, metabolic and cardiovascular disorders.

Biomedical interest in the pig as a model for human biology is not a new phenomenon due to the many similarities between human and porcine physiology and anatomy (Bustad and McClellan 1965). Pigs are used as general surgical models of most organ systems, for cardiovascular research including atherosclerosis, for digestive, dermal and urinary system models, and in recent years in transplantation and xenografic research. Recent developments in porcine genomics, however, have strengthened the anticipation of the pig as the preferable experimental animal model for investigating human diseases (Vajta et al. 2006). Efforts to unravel the pig genome began in the early 1990s with the development of the international PiGMaP gene mapping project and efforts by the USDA and US agricultural universities. Danish researchers have been at the forefront of these developments building the scientific collaboration, The Sino-Danish Pig Genome Project, with researchers from Beijing Genomics Institute. This partnership was able to document that genetically, pigs are more similar to humans than humans are to rodents, thus bolstering the argument that porcine biology is more relevant than murine biology for modelling human diseases. It is anticipated that the sequencing of the porcine genome will lead to intensified pig gene discovery and that functional genomics will allow gene markers for specific diseases to be identified, assisting breeders in generating pig stocks resistant to infectious diseases and in combination with GM technologies establish the pig as a disease model of human common diseases. Thus, advances in pig genomics have implications for both the pig industry and human health.

The trajectory of the pig in the production of meat, health

knowledge and health care products covers a significant transition from a profit oriented system of agricultural production to new human food and health regimes. In these new regimes an ethically and environmentally robust pork industry is aligned with a production of novel entities such as cloned transgenic pigs (whole-animal-models), genetically modified porcine cell lines (disease-in-a-dish-models) and bio-pharmaceuticals that de-familiarise the very nature of what it is to do biology and what biology is (e.g. creating embryos through fusion of same sex gametes). With the increasing delegitimation of the productivist paradigm in farm animal breeding and production, new animal breeding goals in terms of animal and human health have come to the fore, strongly supported by funding schemes in agriculture and the life sciences. This widening of the scope of genetic technologies (traditional and molecular) to include ethical, social and environmental norms as well as animal welfare and health considerations in addition to interests in increased product output and efficiency of production, commands human and social scientific scrutiny. Investigating this agricultural, scientific, medical, ethical and legal modelling of the Danish pig, the project sets out to explore the connections between on the one hand scientific and technological transformations in human and animal biology and on the other hand changes in basic notions of humanness, individuality and human and animal identity and health.

Theoretical Grounding: The Role of Animals in the Construction of Expert Knowledge

Analysing the domestic pig as a mediator between agriculture and biomedicine and as a node in the production of value (profit and scientific knowledge) in agriculture and health care we draw on

two separate but mutually reinforcing strains in social theory: the rapidly emerging interdisciplinary field of animal studies and the more established field of science and technology studies (STS). We have identified a common research interest that cuts across both "fields": the role of animals in the construction of expert knowledge of man as well as animal.

Studies of the relations between humans and animals have investigated the different ways in which animal products and animals themselves as food sources imply that nonhuman animals help to support human populations, creating both human health and disease (Franklin 1999, Hardy 2003, Shanklin 1985).

Another group of studies have provided some spotlight on animals in human scientific institutions. These studies have largely taken two paths: one leading to a preoccupation with the raw materials of research: its acquisition, exchange and potential to establish strategic research positions for scientists (Clarke 1987). The other focussing on how "model organisms" are rendered as scientific objects. Seminal studies count Robert Kohler's work on the Drosophilia fruit fly (Kohler 1994), Bonnie Clause's work on the construction of the "Wistar Rat" (Clause 1993) and Karen Rader's work on the process of constructing the inbred mus musculus, the common mouse as a laboratory material and tool (Rader 2004). These works emphasise the history of assembling animals in the laboratory highlighting issues of stabilisation and standardisation in the construction of biological objects and knowledge. Apart from these studies of fully fledged animal model systems, specific attention to the practice of making science with animals has revolved around biomedical experimentation with animals (rodents, cats and dogs) discussing their textual representation in scientific papers and reports (Lynch 1988, Birke and Smith 1995) and related

historical themes, such as the debate on vivisection and the development of the anti-vivisection movement (Lederer 1992). What unites the above mentioned studies is an effort to address the materiality of the animal while exploring the different ways and different settings in which human and animal interact.

This interest in the materiality of scientific practice and the role of nonhuman actors in the construction of scientific knowledge also fits a broader movement which has been gathering force and pace in the past couple of decades to add up to what can be described as a "materialist turn" in the Humanities and Social Sciences (Pels et al. 2002, Henare, Holbraad and Wastells 2007). The idea that material objects "have a life" of their own (Appadurai 1986) was an important attempt to re-focus analytical attention on the material embodiment of objects themselves and their transformations through different value regimes. The most radical approach, however, to devote analytical attention to objects is the actor network theory (ANT) developed by Bruno Latour and others (Callon 1986, Latour 1987, 1993). In the ANT approach, things are also actors (or at least actants) which must be recruited as allies, refuted as enemies, or otherwise dealt with in the web of relations that constitute scientific and technological development. In the ANT view, the injunction to closely "follow the actants" revealed a practice of intimate hybridisation between humans and artefacts, which suggested that social networks were unable to cohere without the agency of things. The accordance of agency to animals has been of great importance and influence in several animal studies. Yet, studies of the role and agency of animals in scientific research practice remain scant (Despret 2004 is one example).

Using historiographical and participant-based ethnographic research methods (observations and interviews) the proposed

project will address the following interrelated analytical themes: 1) relations and boundaries between pigs and humans, 2) instrumentalising (animal) life and practising (human) care, and 3) configuring species, health and humanness. In the following, these themes will be briefly introduced.

Relations and Boundaries Between Pigs and Humans

One central aspect of pig/human relationships concerns varying degrees of proximity and distance. Pigs and humans share phenotypic as well as genotypic features. They have a comparable organ and digestive system and an extensive genetic homology connects the porcine and human species (Swanson et al. 2004). Recognition of these similarities between human and pig is the prerequisite for pigs to function as valid models for human injuries and diseases. Simultaneously, pig experiments and agricultural breeding, production and slaughtering practices presuppose that humans differ fundamentally from pigs in terms of moral status. Human biomedicine contains this tension between similarity and difference (Birke and Hubbard 1995). Also, in a historical perspective the physical life of pigs and humans is characterised by both proximity and distance. Sharing thousands of years of common history with humans, the domesticated pig has moved from the backyard pigsty of preindustrial society, further on to the farrowing crate of the pork production industry and now towards the biomedical laboratories. In these movements between agricultural and biomedical settings, biological, socio-cultural and ethical boundaries have changed and been challenged. A major concern of this research project will be the ways in which connections are formed between humans and pigs in the production and use of pigs and pig-related scientific knowledge.

Instrumentalising (Animal) Life and Practicing (Human) Care

Humans have used pigs for a variety of purposes: as a resource for food, tools and ornament and now also increasingly as a way to obtain health knowledge benefiting humans as well as pigs. Pig husbandry and meat production in industrialised countries is characterised by specialisation and intensive stock rearing, or factory farming. The modern pig industry focuses on increased competitiveness and the potential for more stringent quality management during the production process. However, an emphasis on meat quality, animal welfare and potential reduction of environmental pollution due to pig slurry is increasingly prioritised, also due to consumer perceptions and demands. Such human requirements have shaped the conditions of production and has prompted organisations involved in the meat production and trade to adopt codes of conduct on animal welfare and agricultural sustainability (e.g. the Code of Good Practice for Animal Breeding and Reproduction, Code-EFABAR). Also at the national and EU level, legal instruments safeguarding welfare standards for pigs have been introduced. A possible contributing factor to these initiatives is the perceived zoonotic risk. The spread of viral respiratory pathogens, e.g. influenza that moves among birds, pigs and humans while mutating and changing its pathogenicity is a major concern in the area of animal and human health. Thus, these initiatives comprise care for animal lives and animal-human relations. Just as practices of care are increasingly part of the pig production process, so is care for cell lines and the experimental animal an indispensable part of the research process itself in order to make experiments work. Practices of care (concerns for the well being of the individual animal and its cellular components as well as herd animal welfare,

issues of food safety, CSR, agricultural sustainability) become part and parcel of practices that work towards instrumentalising the pig to serve human requirements. With this theme we will explore the co-existence and relationships between practicing care and instrumentalising life in both research and agricultural practice.

Configuring Species, Health and Humanness

The goals of optimising agricultural output and enhancing public health are increasingly brought into the same frame of reference. One aspect of this is about producing leaner, faster growing, disease resistant pigs along with securing public health in terms of better nutrition and minimising zoonotic risks. Another aspect of this is about combining pig and human biologies to create knowledge about human disease progression and disease control. Veterinarian and biomedical experiments exchanging biological material from humans to nonhumans and vice versa (e.g. grafting, transplantation and xenotransplantation) has taken place since the early 20th century (Maienschein 2003), but the practice – and its success – has increased quantitatively and qualitatively since then. The creation of transgenic, hybrid and chimaeric animals have had the purpose of creating assay systems for the testing of medicine for humans and for the creation of model animals for other forms of clinical experiments. A range of laboratories worldwide attempt to humanise the pig to make its organs acceptable for the human immune system (Vajta et al. 2006), till now without clinical success, but trailing a host of ethical and legal battles in their wake (Glenn 2003). One strand of the current ethical debate in this field has pointed to the dangers of a genetified, quantified and digitalised definition of humanness, another strand to the impossibility of keeping up an anthropocentric view of the living world. Thus

the new biology seems to have "colonised" notions of humanness and a social controversy on the authority to define humanness has emerged. Following such controversies, we seek to examine the ongoing configurations of species, health, and humanness.

References

Appadurai, A. 1986 "Introduction: Commodities and the politics of value." Pp. 3–63 in A. Appadurai (ed.), *The Social Life of Things: Commodities in Cultural Perspective*. Cambridge: Cambridge University Press.

Badmington, Neil 2003 "Theorizing posthumanism." *Cultural Critique* 53 (Winter): 11–27.

Birke, Lynda and Jane Smith. 1995 "Animals in Experimental Reports: The Rhetoric of Science." *Society and Animals*, 3: 23–42.

Birke, L., and Hubbard, R. 1995 "Introduction". Pp. ix–xvii in L. Birke, and R. Hubbard (eds.), *Reinventing Biology: Respect for Life and the Creation of Knowledge*. Bloomington and Indianapolis: Indiana University Press.

Bustad, L. K. , McClellan, R. O. 1965 "Use of Pigs in Biomedical Research." *Nature* 208: 531–535.

Callon, M. 1986 "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay." Pp. 196–233 in Law, J. (ed.). *Power, Action, and Belief: Sociological Review Monograph* 32. London: Routledge.

Clarke, A. F. 1987 "Research materials and Reproductive Science in the United States, 1910–1940.". In Gerald G. Geison (ed.) *Physiology in the American Context, 1850–1940*, Baltimore, Md.: American Physiological Society and Williams & Wilkins.

Clause, B. T. 1993 "The Wistar Rat as a Right Choice: Establishing Mammalian Standards and the Ideal of a Standardized Mammal". *Journal of the History of Biology* 26(2): 329–349.

Despret, V. 2004 "The Body We Care For: Figures of Anthropo-zoo-genesis." *Body & Society* 10 (2-3): 111–134.

Franklin, A. 1999 *Animals and Modern Cultures: A Sociology of Human–Animal Relations in Modernity*. Sage, CA: Thousand Oaks.

Glenn, M. L. 2003 "When Pigs Fly? Legal and Ethical Issues in Transgenics and the Creation of Chimaeras." *The Physiologist* 46: 5.

Hardy, A. 2003 "Animals, Disease, and Man: Making Connections". *Perspectives on Biology & Medicine*, 46(2), 200–215.

Henare, A., M. Holbraad and S.Wastells 2006 *Thinking Through Things: Theorising Artefacts Ethnographically*. London & New York: Routledge.

Kohler, R. 1994 *Lords of the Fly: Drosophilia and the Experimental Life*. Chicago: Chicago University Press.

Latour, B. 1987 *Science in Action: How to Follow Scientists and Engineers Through Society*. Open University Press. Milton Keynes.

Latour, B. 1993 *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.
Lederer, S. E. 1992 "Political Animals: The Shaping of Biomedical Research Literature in Twentieth Century America." *Isis* 83: 61–79.
Lynch, M.1988 "Sacrifice and the Transformation of the Animal Body into a Scientific Object: Laboratory Culture and Ritual Practice in the Neurosciences." *Social Studies of Science* 18: 265–89.
Maienschein, J. 2003 *Whose View of Life? Embryos, Cloning and Stem Cells*. Cambridge, Massachusetts and London: Harvard University Press.
Pels, D., Hetherington, F. Vandenberghe. 2002 "The Status of The Object. Performances, Mediations, and Techniques." *Theory, Culture and Society* 19 (5/6): 1–21.
Rader, K. 2004 *Making Mice: Standardizing animals for American biomedical research, 1900–1955*. Princeton: Princeton University Press.
Shanklin, E. 1985 "Sustenance and Symbol: Anthropological Studies of Domesticated Animals." *Annual Review of Anthropology* 14: 375–403.
Swanson, KS, MJ Mazur, K Vashisht, LA Rund, JE Beever, CM Counter, LB Schook. 2004 "Genomics and Clinical Medicine: Rationale for Creating and Effectively Evaluating Animal Models." *Exp Biol Med* 229: 866–875.
Thacker, E. 2005 *The Global Genome: Biotechnology, Politics, and Culture*. Cambridge, Massachusetts: The MIT Press
Vajta, G., Y. Zhang, Z. Macháty 2006 "Somatic cell nuclear transfer in pigs: recent achievements and future possibilities." *Reproduction Fertility and Development* 19 (2): 403–423.

4:3 Anthropologists in the World of Insects | KARIN DIRKE

In the late 19th and early 20th century Swedish entomologists successfully published popular accounts on the lives of insects. This paper will focus on the analysis of these accounts. I will discuss the concept of gender and anthropomorphism in the study of insects and also raise questions about the popularity of these "anthropological" travellers of the insect world.

It is not a matter of chance that ants are given such attention at the turn of the last century. The well-known nineteenth-century popular scientist Alfred Brehm writes that it is the social instincts of the ants that arouse admiration. They are undoubtedly the most intelligent of the invertebrates, he states.[1] In the great Swedish encyclopaedia, *Nordisk Familjebok*, from the early twentieth century there are no less than nine (9) columns about ants.[2] The article was written by one of Sweden's most prominent entomologists of the time, Gottfrid Adlerz. He wrote his doctoral thesis in the 1880s on Swedish ants and their living-conditions. He was appointed associate professor in 1889 but shortly afterwards he moved to Sundsvall (city of the great strike in 1879) to become a teacher. He was well known in Sweden at the time of his popular works on the behaviour of insects. In 1913 he published *The Life of Ants*. His main interest, however, was digger wasps which he also depicted in his popular writings.[3]

1 Brehm, A: *Djurens liv: Insekter* (4:th edition, 1930) p. 142
2 Adlerz, G. A: "Myror" in *Nordisk familjebok* (1913) p. 104
3 Adlerz, G. A: *Grävsteklarnas liv* (1916)

In the encyclopaedia we are told that ants demonstrate surprising signs of intellectual activity. Among other things Adlerz points out that the ants show individual variations in their behaviour. This is the closest ants have ever come in literature to the individualization other animals underwent in the eighteenth and nineteenth centuries! The Finnish zoologist O. M. Reuter also discussed the individuality of ants in books published in Swedish. He argues that the evidence is overwhelming that there are individual differences between ants.

The idea of the ant as a model for the workers in society was spread and enforced in Sweden at the time. Ants were also depicted as models for schoolchildren. It was suggested that in the modern school, children should be taken out into nature and shown its wonders. In a lecture in 1888 the schoolteacher Erik Schütz states: "Tell them [the children] that the many little animals that seem to be crawling all over the place without any sign of order really are part of a highly organized society with masters and servants, workers and non-workers, quite like among humans."[4] The manifestation of the hierarchy in society as well as its naturalness is important. Ant-society was used as a conservative way to establish the class society but it could also point towards more radical alternatives. In the encyclopaedia Adlerz points out that the ants seem to live in a working-class community. He states that: "Because of, and thanks to, their agile bodies and their energetic behaviour, the workers are the prevailing social class [on the ant hill]." He also notes that the workers are all female.[5]

4 Schütz, Erik: *Skolan och djurverlden* (1888) p. 7. "Tala om för dem att de många små djuren, som synas krypa härs och tvärs utan regel och ordning, dock utgöra ett ordnadt samhälle med herrar och tjenare, arbetare och icke arbetare, aldeles som bland menniskorna." (Translation by the author.)

5 Adlerz, G. A: "Myror" in *Nordisk familjebok* (1913) p. 104

From the 1880s to the 1920s the Finnish zoologist O. M. Reuter published a series on the mental life of animals, where insects were a focal point. Reuter puts together current research on the behaviour of insects and discusses the psychology of animals. He gives many examples of astonishing and intelligent behaviour in insects. Here Reuter argues against another popular biographer of insects, Henri Fabre (1823–1915). Fabre popularized the concept of instinct which was continuously connected to the idea of motherhood.[6] Adlerz also argued against Fabres view on instinct, even though he expressed a deep admiration of his work. Fabre saw instincts as essential while Adlerz argued that instincts can vary even among individual insects.[7] Reuter went even further than Adlerz in arguing that the animal soul "basically is similar to ours".[8] The study of the animal soul is, according to Reuter, an excellent way to access the human soul at its early stages and understand the evolution of human psychology.[9] Reuter seems conscious of the threat of anthropomorphism to scientific thought and he addresses the problem promptly: "There is, however, a morphology of the animal mind as well as a morphology of the animal body and the inquiry thereby completely falls within the boundaries of science."[10]

The sexual behaviour of insects was especially interesting to

6 Uddenberg, Nils: *Idéer om livet* (2003) p. 227

7 Adlerz, Gottfrid: *Grävsteklarnas liv* (1916) p. 8, 22, 25. Uddenberg, Nils: *Idéer om livet* (2003) p. 230ff

8 O. M. Reuter: *De lägre djurens själslif: Artvanor och instinkter.* (1886) p. 3: "att djursjälen till sin grund typ är likartad med vår egen". (Translation by the author.)

9 O. M. Reuter: *De lägre djurens själslif: Artvanor och instinkter.* (1886) p. 3

10 O. M. Reuter: *De lägre djurens själslif: Artvanor och instinkter.* (1886) p. 7. "Det gifves emellertid en djursjälens morfologi lika väl som en djurkroppens, och forskningsområdet faller härvid fullkomligt inom naturvetenskapens gränser." (Translation by the author.)

the scientists of the late 19th century.[11] However, neither Reuter nor Adlerz have much to say on the matter of gender. Though conscious of the fact that anthills as well as beehives are dominated by females Reuter does very little to draw attention to this fact. In discussions of female insects Reuter calls them "the ant", "the worker" or just plainly "it". Both Adlerz and Reuter are inconsistent in the gendering of insects and do not hesitate to apply male gender to an obviously female creature.[12]

In the last chapter of Reuter's book the question of gender is brought up. At first Reuter seems impressed with the matriarchy of the insects. He states that: "The female is the real individual of insect society [...] the male is merely a subordinate creature of secondary importance."[13]

In insect society, Reuter informs us, the mother and her daughters know each other mutually, perceive the same movements, love and hate the same things and are governed by the same principles. The mother is the most important creature of insect society.[14] The concept is quite similar to the Swedish writer Ellen Key's contemporary ideas on human society. One can also note the readiness to ascribe strong emotions to female insects while calm-

11 G. Richard: "The Historical Development of Nineteenth and Twentieth Century Studies on the Behavior of Insects" in Ray F. Smith, Thomas E. Mittler, Carroll N. Smith (eds.): *History of Entomology* (1973) p. 484

12 Adlerz, Gottfrid: *Grävsteklarnas liv* (1916) p. 27, 38, O. M. Reuter: *De lägre djurens själslif: Artvanor och instinkter* (1886) p. 10, 14, 61, 82

13 O. M. Reuter: *De lägre djurens själslif, andra afdelningen: Individen. Samhället* (1888) p. 127 "Honan däremot är den egentliga insektsindividen"..."hanen är merendels att betrakta blott som ett slags hjälpindivid af helt underordnad art." (Translation by the author.)

14 O. M. Reuter: *De lägre djurens själslif, andra afdelningen: Individen, Samhället* (1888) p. 128 "Modern och hennes döttrar känna däremot hvarandra ömsesidigt, erfara samma rörelser, älska och hata samma föremål, styras och ledas af samma princip i sitt medvetande." (Translation by the author.)

ness and rationality is more often associated with males.[15] The mother as the central figure is important for the whole society. She is its goal and its purpose. "It is primarily with the mother as a centre of the family that insect family becomes a moral organism", Reuter states.[16]

Note that Reuter here speaks of the family and not the state. He points out that insects never have evolved beyond the family society. He makes an Aristotelian division of types of societies and marks social insects as living in a secondary society of a female kind. The female factor is, according to Reuter, the reason why insects cannot evolve as far as vertebrates. "Only among animals where the male element is a permanent, essential and integral part of the family, and where polygyny, as opposed to the polyandry of the bees, is prevailing, social life can evolve into a higher form of unity." The vertebrates, including humans (as opposed to insects), are characterized by male intelligence, polygyny and male dominance.[17]

The comparison of humans and animals in popular and scientific accounts was, as we have seen, easily done with insects. The idea of comparing humans with insects was obviously less controversial than the notion that humans would be similar to, for instance, primates. When we, in the wake of Darwinism, contemplate our relation with animals we often think of the great apes.

15 Adlerz, Gottfrid: *Grävsteklarnas liv* (1916) p. 19, 27, 34 O. M. Reuter: *De lägre djurens själslif. Artvanor och instinkter* (1886) p. 17, 22

16 O. M. Reuter: *De lägre djurens själslif, andra afdelningen: Individen. Samhället* (1888) p. 128. "Först med modern såsom medelpunkt blir insektsfamiljen en lefvande varelse, en moralisk organism […]." (Translation by the author.)

17 O. M. Reuter: *De lägre djurens själslif, andra afdelningen: Individen, Samhället* (1888) pp. 128–131, the quote from pp. 131–132. "Först bland djur, hos hvilka det manliga elementet utgör en väsentligt integrerande och bestående del af familjen samt där i motsats till binas polyandri tvärtom polygynien är rådande, kan det sociala lifvet utveckla sig till en högre enhetsform." (Translation by the author.)

Gorillas and chimpanzees are regarded as our wild cousins. But in Darwin's time one was rather likely to use insects as examples and an argument for our fraternity with animals or their likeness to us. Early twentieth-century scientific and popular accounts of insects, such as the works of Adlerz and Reuter, bear the stamp of Darwinism as well as of anthropomorphism. Perhaps the obvious human form of insects in early twentieth century entomology also was an argument for Darwinism? This anthropomorphism was dismissed by later behavioural science as unscientific. In scientific accounts of animals such as in evolutionary biology, comparative psychology and ethology great effort is spent on eliminating anthropomorphism.

The interest in the behaviour of animals explodes in the wake of Darwinism and it is in this period that the behavioural study of animals is developed. Field studies of insects became popular in the middle-classes. The interest in popular entomology was also enforced in popular accounts on the subject. Henri Fabre is best known, but as we have also seen in Sweden, entomologists published popular books on the topic. The insects were easy to study and could be found everywhere. The study was carried out in anthropomorphist terms, certainly with Darwin as a model, among others.

The sociologist Eileen Crist argues that Darwin, in his often discussed anthropomorphist language, expresses a view of animals as s*ubjects*. Darwin sees animals as active individuals and "bearers of meaningfulness", i.e that they can govern their own lives. This also applies to insects. When Darwin describes ants as building a road: "the perspectives of the actor and the witness – in this case, the ants and the human observer – are brought into alignment ecause action is captured as embodying ideas that are both expe-

rienced from within and witnessed from without."[18] This function of anthropomorphist language is fundamental. To share an experience becomes a way of describing it.

Originally the word anthropomorphism was used in the history of religious thought for the act of describing divinities in human terms. Gods, which were assumed to belong to a different category than humans were ascribed human traits such as human deeds and feelings. The word anthropomorphism, however, also points to the boundary between humans and machines. The last one hundred years have brought about a revolution in the bringing together of the human and the machine. The human-machine is more real today than ever and anthropomorphist language depicts a tight bond between humans and machines. The connection between animals/humans/machines has been pointed out by scholars in the last few decades. Especially Donna Haraway has brought our attention to these new constellations, lately with her companion-species concept.[19]

Anthropomorphism in relation to animals is clearly the most debated and questioned phenomenon. Animals have, at least since Darwin's days, been regarded as more closely related to us than both gods and machines. We are uncertain as to where the boundary between us and animals should be drawn and this makes the notion controversial. Anthropomorphism becomes in itself a statement on this boundary. This is also what makes it so interesting to study.

What is, and what is not, anthropomorphism? This question is

18 Eileen Crist: *Images of Animals: Anthropomorphism and Animal Mind* (1999) pp. 29-31, citation from p. 31

19 Haraway has discussed the animal-human-machine-relationship in several works such as Haraway, Donna: *The Companion species manifesto* (2003), *The Haraway Reader* (2003) and "The Cyborg Manifesto" (1987)

very interesting to contemplate.[20] The concept is of course culturally and socially determined. Ideas can shift with time and space. This is most apparent in the study of animal behaviour, ethology.[21] Ethology has its roots in Darwin's theory of evolution as well as in the interest in human intellectual and emotional life that developed at about the same time. In the wake of both the study of animals expanded and it was primarily focused on insects. The writer and historian of science Nils Uddenberg states in his history of biology *Idéer om livet* (2003) that the behaviour of insects was better known at the end of the nineteenth century than the behaviour of mammals.[22] Insects were, as we have seen, both popular and easy to study.

Central to the debate on animal behaviour was the discussion on instincts and intelligence. The concept of instinct was formulated as early as the eighteenth century but it was the entomologist William Kirby's view of instincts that became predominant until the twentieth century. Kirby was of the opinion that instinct and intelligence were mutually exclusive. With a lot of instinct one requires less intelligence and vice versa.[23]

The great interest in the boundaries of reason is typical of the Western study of animal behaviour and also explains its concern with anthropomorphism. Anthropomorphism has been considered a threat to science from the time of Francis Bacon but behaviourism is often seen as the point of departure for "scientific" (i.e.

20 I also address the question in an article in Burman, Jacobsson (eds) *Över tid och rum* (2003) Karin Dirke: "Vad är antropomorfism?"

21 Asquith, Pamela J: "Why Anthropomorhism Is *Not* Metaphor: Crossing Concepts and Cultures in Animal Behavior Studies" in Mitchell, Thompson, Miles (eds.) *Anthropomorphism, Anecdotes, and Animals* (1997) p. 23f

22 Uddenberg, Nils: *Idéer om livet* (2003) p. 232

23 Uddenberg, Nils: *Idéer om livet* (2003) p. 226

non-anthropomorphist) ethology.[24] The comparative psychologist C. Lloyd Morgan's anti-anthropomorphist rule from 1894 is often considered a starting point. The rule reads:

> In no case may we interpret an action as the outcome of the exercise of a high psychical faculty, if it can be interpreted as the outcome of the exercise of one which stands lower in the psychological scale.[25]

However it is too easy to say that anthropomorphism is diminished at the same pace as ethology is scientifically developed. Anthropomorphism has much deeper implications than merely to mislead scientists towards a naïve perception of animals. This is discussed in recent research on anthropomorphism.[26]

To sum up; the accounts on insects from the late nineteenth-century and the early twentieth century show conservative as well as radical traits. The hierarchy in society is stressed. The workers loyalty and self-sacrificing attitude towards society is emphasized. However the idea of workers being both female and dominant complicates the view on insects. They are said to be like us in the matter of being able to think, act rationally and to organize life to promote the family. On the other hand they are described as different to us on the issue of female dominance and matriarchy in

24 Knoll, Elizabeth: Dogs, "Darwinism, and English Sensibilities" in in Mitchell, Thompson, Miles (eds.) *Anthropomorphism, Anecdotes, and Animals* (1997) p. 20.

25 Citation from Knoll, Elizabeth: Dogs, "Darwinism, and English Sensibilities" in Mitchell, Thompson, Miles (eds.) *Anthropomorphism, Anecdotes, and Animals* (1997) p. 20.

26 See for example: Mitchell, Thompson, Miles (eds.) *Anthropomorphism, Anecdotes, and Animals* (1997), Eileen Crist: *Images of Animals; Anthropomorphism and Animal Mind* (1999), Lorraine Daston and Gregg Mitman (eds) *Thinking with Animals; New perspectives on Anthropomorphism* (2005), Adrian Franklin: *Animals and Modern Cultures; A Sociology of Human-Animal Relations in Modernity* (1999)

insect-society. This certainly poses a problem for the conservative entomologist.

Finally one can conclude that the point of view of the entomologist is worth further study. The view of the anthill certainly mirrors a view of contemporary society. One can find underlying comments on, and reactions to, just about every aspect of society at that period such as the Women's movement, the enforcing of the stability of society, the idea of worker loyalty and self-sacrifice. Even specific ideas such as Ellen Key's Mother of society can be identified. The entomologists are eager to maintain a scientific approach to the topic and they discuss the problem of anthropomorphism seriously in their accounts on insect life. However, entomologists most often portray themselves as a sort of traveller in the insect world. They encounter a different way of life and thought but the point of departure is still the ability to compare the lives, behaviour and even thoughts of insects to their own. The comparison is done as a process of alignment, as Crist has also noted in Darwin's writings, where the actor and the observer, insects and humans, interpret and approach the outside world basically in the same way. Thus the entomologist becomes an anthropologist in the world of insects.

4:4 Subjected to Parliament II | KRISTIN ASDAL

It is widely recognized that laboratory practices in medicine developed in the face of opposition and controversy. England is often cited as the country where such controversy was most acute, but it also occurred in a range of other countries (see e.g. French, 1975, Ritvo, 1987, Rupke, 1990). Norway was one such country, although the debate came later than in England. The Norwegian debate is interesting in its own right. Interestingly, it has slipped the attention of historians who apparently have not even known that it existed. When taking a closer look at this, however, it seems that the way in which the controversy unfolded in Norway has close parallels to the controversy in the United States (Bittel, 2005, Lederer, 1985), where there was little research for antivivisectionists to fight against before the beginning of the 20th century (Turner, 1980).

In a former analysis of this controversy I argued for the importance of exploring not only the opposition to and critique of these controversies, but also the ways in which these practices came to be socially and politically accepted (Asdal, 2008). My argument was that Parliament [Stortinget] played a crucial role in this process. Hence, the fact that animal experiments became accepted cannot be understood in the light of the efforts taken by science and medical experts alone. Political arguments and *social* theory played a crucial role. Nevertheless, what I have now started to work on in more detail is the exact opposite: I am interested in understanding how the critique and opposition to animal experiments in medicine became so strong and so tense. Because this is precisely what occurred in the Norwegian case: At the turn of

the 20th century, in 1901 and 1902, a tense controversy emerged over animal experiments in medicine. My overall concern in this respect is what this entailed regarding the political challenge to science.

Since 1814 Norway had been part of a union with Sweden. Towards the end of the century the fight for national independence was the predominant political issue. The consequence was that that the union ended shortly after the turn of the century, in 1905. Thus there was an overall and thorough concern with national and political *sovereignty*, and with democracy. This concern with sovereignty or autonomy as well as democracy at a national level can also be found at another level. In the 1890s the demand for universal suffrage was fought for by way of a vast popular movement (Danielsen, 1964).

Towards the end of the 19th century Norway had been going through a political revolution, and it has been argued that science was one of its sacrifices (Hestmark, 1999). The political revolution this refers to was the introduction of a parliamentary system, from 1884 onward. This battle for a parliamentary system had consequences for the ways in which science was perceived. Through its alignment with the old regime, science and the university had lost credibility vis-à-vis the public. There was a widespread understanding that the academia was more concerned with securing its own privileged authority than with serving the interests of the people (Hestmark, 1999). The Faculty of Medicine at the University contributed to this lack of popularity by its unwillingness to let women into the study of medicine (Morgenstierne, 1911). And although the years at the turn of the century are described as a breakthrough for bacteriology and the empirical sciences in Norway as well (Schiøtz, 2003), these practices were also met

with suspicion and critique (Roll-Hansen, 1980). In general the investments in science were small, often reluctant, and at other times did not become part of the state budget at all. The Faculty of Medicine appointed its first professor of bacteriology in 1893, but according to the accounts the laboratory was hidden away in a "small, dark and unpractical room" (Reichborn-Kjennerud, Fr. Grøn and I. Kobro, 1936). Apparently this was representative for the situation in general: The beginning of the 1890s is described as some of the darkest in the history of the University (Collett, 1999). The poor conditions were felt most acutely within natural science and medicine. The new professorship in bacteriology was the first new position granted since 1866.

Hence, it is hardly controversial to argue that the concern with and fight for democracy and sovereignty made its way into science, into a challenge of elite institutions such as the medical laboratory and of scientific expertise as opposed to lay knowledge and political authority. Politics, deeply occupied with questions such as the right to popular vote, the establishment of a system of political parties founded upon election and representation, the fight for national sovereignty and more equally distributed political rights, raised demands to science based on precisely these concerns.

During the 19th century a range of countries introduced laws which regulated and forbade the mistreatment of animals (Dirke, 2000, Rupke, 1990). Hence this was an issue, a matter of regulation, which was not new to law. Within the existing penal code of Norway the mistreatment of animals was already subject to regulation. However, a thoroughly revised version presented to Parliament in 1899 comprised, in principle, all animals, whereas before only domestic animals had been included.

It was within this textual context of mistreatment that the

issue of animal experimentation emerged. The new draft law introduced the issue in the form of a sub-theme to the more general issue of animal mistreatment. The proposed paragraph reads as follows: '… whoever … should be guilty of gross or malignant mistreatment of animals, or whoever aids or abets such an act, will be punished by fine or imprisonment up to 6 months. This decision does not hinder the King, or someone to whom the King has bestowed authority, from allowing appointed persons in designated places to conduct painful experiments on animals for scientific purposes (Neg. 1901/1902: 636).'

The draft paragraph was open to interpretation. On the one hand, it was read as a way of regulating, limiting, and potentially prohibiting animal experiments. On the other, it was read as a way of exempting scientific experiments from any form of legal regulation. Was the proposal simply a way of carving out space for such activities to proceed unregulated? Or did it imply that permission would be difficult, or perhaps even impossible, to obtain?

The medical research community (for instance the Faculty of Medicine at the University and the veterinary authorities) feared the latter. They attended Parliament on several occasions to express their opposition and reservations. They worried aloud that any prohibition against using animals in scientific experiments would put an end to Norwegian experimental medicine, so that Norwegian researchers would be compelled to leave the country. Animal bodies were crucial to progress in medicine, they argued, as animal experiments had made it possible for medicine to achieve great results in the battle against illness and suffering, and no other way of obtaining similar results was feasible.

In addressing the Parliament, the medical researchers made reference to the significance of animal experiments to the progress of

medicine in Europe: This had been the case with regard to Koch and Pasteur, Lister and Behring; it was the case regarding tuberculosis, anthrax, surgery… As a result of the methods and achievements of scientists such as Koch and Behring, human lives were saved – daily, it was argued. The Medical Faculty of the University added that, to the best of its knowledge, there existed no abuse of animals in scientific experiments. Thus the issue raised by way of the penal code had no relevance to current medical practice.

The reactions from the medical community were no less vehement when a competing version of the proposed paragraph was suggested, this time by ten members of Parliament. This version stipulated a more radical and explicitly restrictive regulation of laboratory practice: 'In cases where there are important interests to society, the [king] may permit specified persons in specified places to inflict pain on animals by way of experiment' (Doc. 35 1901/02:8). Thus in this version, the medical laboratory could not be granted a general or overall exemption from the regulations of the penal code. Only in cases of vital interest to society was this to occur. On top of this, 'society' had to be given access to the laboratory: First, 'those who pursue these forms of experiments are obliged to document the nature and quantity of the employed animals as well as the nature and purpose of the experiment'; and second, the local animal protection movement should be allowed to appoint one or two adult men to witness any experiment.

These formulations of the stricter alternative paragraph explicitly challenged the autonomy of science and expertise, as well as the right of the experts to regulate their own activities. As it was formulated in the ensuing parliamentary debate: 'What they [the medical experts] should have acknowledged was that it was not them, but we here [the members of the Storting]' who should

decide whether particular experiments should be allowed. A cautious, sober-minded collective outside the expert circles should deploy their sense of justice in place of 'the especially interested', that is, the experts (Neg. 1901/02: 744).

The argument was that if a group of citizens were given dispensation then this should be accompanied by strict controls: '… we do not want a caste in society which will have the special privilege of being exempt from the penal code, and which may freely do what is subject to punishment in the case of others, and moreover, without any form of control' (Neg. 1901/1902: 746). Thus the controversy was one of esoteric knowledge versus common sense embodied in ordinary political actors. It entailed a political challenge to laboratory medicine and the laboratory as a free room of science, a space exempted from democratic control.

"All power in this assembly" ["All makt i denne sal"] had been the expression (or so it was often claimed) of liberal Johan Sverdrup in the fight for parliamentarism, the Storting´s prominence vis-à-vis the ministries of government. The way it was put in the vivisection controversy: "it is not them" – but "we here", the elected members of the Storting who were to decide on laboratory affairs, rings the same bell. Thus the tense controversy should be read in precisely this context; (in a Norwegian setting) the quest for democratic control, for democracy, made its way into an emerging experimental science. Thus in this sense the history of science and political history goes together in producing this particularly tense controversy.

When analysing and discussing why the Norwegian controversy evolved – and came to be so tense – one could easily stop at this point: The quest for democracy posed, as its consequence, a profound challenge to an elite science and the laboratory as a space

exempted from democratic control. However, if we had taken a closer look at the textual level, at the textual contexts of the penal code, we would have discovered that there is more to this case and this controversy. But that is another story.

References:

Asdal, Kristin, (2008), "Subjected to Parliament: The Laboratory of Experimental Medicine and the Animal Body", *Social Studies of Science*, 38 (6): 899–919.

Bittel, Carla (2005) "Science, Suffrage and Experimentation: Mary Putnami Jacobi and the Controversy over Vivisection in Late Nineteenth-century America", *Bulletin of the History of Medicine* 79 (4): 664–94.

Collett, John Peter, (1999), *Historien om Universitetet i Oslo*, Oslo: Universitetsforlaget.

Danielsen, Rolf (1964), *Det Norske Storting gjennom 150 år.* Bind II 1870–1908, Oslo: Gyldendal.

Dirke, Karin, (2000), *De värnlösas vänner. Den svenske djurskyddsrörelsen 1875–1920*. Stockholm: Almqvist & Wiksell International.

Dokument nr. 35 (1901/1901) Fra justiskomiteen. Angaaende anvendelsen af dyr til videnskabelige forsøg, tillæg til dokument nr. 35 (1901/1902), tillæg 2 til dokument nr. 35 (1901/1902), Centraltrykkeriet: Kristiania.

French, Richard D. (1975) *Antivivisection and Medical Science in Victorian Society.* Princeton. NJ & London: Princeton University Press.

Hestmark, Geir (1999), *Vitenskap og nasjon*, Oslo: Aschehoug & Co.

Lederer, Susan E. (1985), "Noguchi, Hideyo Luetin Experiment and the Antivivisectionists", *ISIS 76* (281): 31–48.

Morgenstierne, Bredo (1911) *Det Kongelige Fredriks Universitet 1811–1911.* Kristiania: Aschehoug & Co (W. Nygaard).

Oth.Prp. No. 24 (1898/99) Ang. Udfærdigelse af en almindelig borgerlig straffelov (…), Centraltrykkeriet: Kristiania.

Reichborn-Kjennerud, Grøn. Fr, and Kobro I. (1936), *Medisinens historie i Norge*, Oslo: Grøndahl & Søns Forlag.

Ritvo, Harriet (1987) *The Animal Estate: The English and Other Creatures in the Victorian Age.* Cambridge MA: Harvard University Press.

Roll-Hansen, Nils (red) (1980), *Skandinavisk naturvitenskap og teknologi omkring 1900*. Rapport nr. 4. Institutt for studier av forskning og høyere utdanning: Oslo.

Rupke, Nicolaas A. (ed) *Vivisection in Historical Perspective.* London and New York: Routledge.

Schiøtz, Aina (2003) *Folkets helse – landets styrke 1850–2003*. Universitetsforlaget: Oslo.

Stortingstidende 1901 /1902 I. Forhandlinger i Odelstinget. [Negotiations in Parliament] 3. December 1901, 15 January 1902, and 22-24 January 1902. Centraltrykkeriet: Kristiania.

Turner, James (1980), *Reckoning with the Beast: Animals, Pain, and Humanity in the Victorian Mind, Baltimore*, MA & London: Johns Hopkins University Press.

Udkast til Almindelig Straffelov for Kongeriget Norge. II. Motiver (1896) Kristiania: Det Steenske Bogtrykkeri.

4:5 Negotiating a Standard | TONE DRUGLITRØ

Investigating the "making of mice" in American biomedical research in the first half of the twentieth century, Karen Rader (2004) concludes that the use of particular animals for research in scientific laboratories has not been an inevitable development. Rader shows how laboratory animals have been produced, standardized and used, and portrays the complexity of negotiating mice into a standardized tool in science. In line with Rader, in this paper I will explore the unfolding of the debates that emerged regarding the critical conditions of experimental medicine at the University of Oslo and related institutes in the early 1960s. These debates initiated the establishment of certain standards for how research animals were to be handled and taken care of as well as stimulating an increasing concern for the production of standard-animals; i.e. animals bred for experimental purposes.

I will focus on two processes that were initiated and principally proposed as solutions to the emerging problems: First, the proposal of establishing a breeding station for small animals that was envisioned *primarily* to supply the various research laboratories in the Oslo area with specific pathogen free (SPF)[1] animals, and *ultimately* become a core-centre for laboratory animal science in Norway. The breeding station was not only supposed to breed and supply quality animals, but also to be a competence-centre for methods, terminology, feeding and housing, and other requests concerning the use of research animals. The second solution proposed was directly related to the welfare of the animals, i.e. educating competent caretakers and researchers to secure quality in

1 Germfree animals – kept in safe houses, which require strict hygenic conditions.

the handling and care for the animals. It was recognized that the conditions under which animals were held, had significant effects on their "performance" in experiments.

The appeal for improved conditions in the biomedical sciences and enhanced quality in their research objects came primarily from the scientists themselves – marking a new turn of the significance of the (laboratory) animal in the biomedical sciences. The animal breeding station as proposed was never built, although the discussions raised important questions regarding both the standardization of scientific practice and the research objects, and the importance of science in society. My research supports Rader's study in this by emphasizing the importance of the animals that are used in biomedical research as being standardized and assessing specific scientific methods and practices, the debates in the biomedical community can be said to shed light on the mutual dependency between the human and animal actors in science and society.[2] Before I look more closely at the negotiations of standards in Oslo in the 1960s, I will situate the study in a larger empirical and theoretical context.

Laboratories and Animals in Science and Technology Studies

Historically, research on animals has been a small-scale practice in Norway, and until the 1970s animal experiments were performed in relatively "closed" spaces: The regulations in force – the initial Animal welfare law issued in 1935 – had no actual authority in the laboratory. Thus, the scientists conducting research on animals, and producing animals, were not subjected to any external

2 Rader, 2004.

control.[3] However, using animals in research had earlier been contested both by forces inside and outside the medical laboratory. Kristin Asdal (2008) has portrayed how the status of the animal body, as well as the status of the medical laboratory, was revised in the Norwegian political and scientific environment already at the turn of the 20th century. The controversy was linked to the medical laboratory, "becoming more important than the sickbed as a locus for the study of disease"[4] during the 19th century.[5] Negotiations on the laboratory status created a demand for a link between the laboratory and the relief of pain and suffering outside of it. The practices within the laboratory was seen as morally questioning, and posed a call for a socially relevant experimental medicine. This purposefulness became intimately linked with the issues of the research material; i.e. the animal body.[6]

In science and technology studies, research on experimental creatures and laboratory practices emerged as an important topic in the 1980s,[7] and has since become an expanding field. Lynch (1988) explores how the laboratory animal, through preparatory practices, is transformed in an *interpretive sense* and thus abstracted from what he categorizes as a "naturalistic" animal to an "analytic" animal. The "analytic" animal is a cultural artefact – an

3 Professor Helge Stormorken at the Norwegian School of Veterinary Science writes in a letter in 1960: "Approximately 30 institutions and private locations produce research animals in the Oslo area. Among these you can find everything from high standard when it comes to feeding, hygiene and breeding, to places where none of these things are controlled at all."

4 Gradmann, 2003: 80.

5 Collett, Haave & Røberg (2001: 26) writes about the new aspiring attitudes in 19th century medical sciences: "Today's research is tomorrow's practical medicine."

6 Asdal, 2008.

7 Lynch (1988), Latour (1988), Clarke (1987), and Haraway (1989), to name a few.

artefact with a form, a function and a meaning – part of material practices.[8] Robert Kohler (1994) defines the laboratory animal in similar terms, i.e. as "[…] a special kind of technology in that they are altered environmentally or physically to do things that humans value […]",[9] and the laboratories within which they are experimented on as "[…] a distinctive kind of ecosystem, in which creatures live and evolve in symbiotic and commensal relations with humankind."[10] Following this, the laboratory animal practice then consists a *moral economy*,[11] both internally and externally: Research animals have been negotiated and constituted as meaningful objects through scientific practices and in relation to the society outside, in the sense that established practices carry historical judgments of value.[12] In a co-productionist framework, as proposed by Sheila Jasanoff (2004), it is thus possible to say something explicitly about human evaluation of research animals and animal science, because the production of animals and animal research is a human practice. In such a view, both laboratory animals and the experimental practice have become shaped and standardized in a constant interplay of the cognitive, the social, the material, and the normative.[13]

In the 1960s the research community in Oslo gradually came to realize this mutual dependency of the experimental practice and the quality of the animals required for this science. Subsequently

8 Stoklund, 2003: 17.
9 Kohler, 1994: 6.
10 Kohler, 1994: 10.
11 By *moral economy* Kohler means that the productive life of experimental workplaces is made up of unstated moral rules, defining the mutual expectations and obligations of the various participants in the production process. (1994 12)
12 Nydal, 2006: 133.
13 Jasanoff, 2004: 38.

I will follow the animal and explore how scientists proposed and shaped different practices in order to manage these complex research materials and to promote a better science. It may seem as if this new focus represented a "new deal"[14] for the animals used in research.

Negotiating a Place for Laboratory Animals

In all branches of science one is always seeking to refine and improve ones research methods. But the source upon which these results are based – i.e. the research animal – receives little or no attention.[15]

In December 1960 a committee was formed by the National Research Council (NAVF), after urgent demands from two central figures in the medical sciences in Oslo, director of the Norwegian Institute of Public Health (SIFF[16]) Christian Lerche and Professor in physiology at the Norwegian School of Veterinary Science, Helge Stormorken. The committee's main agenda was to investigate the possibilities and need for a centralized breeding station that was going to supply the larger Oslo area with research animals in the early 1960s. At the time SIFF had a central role as a research institute and was in some cases acting as a multi-distributor of animals, methods, and laboratory facilities to the wider research community. Still, the most common practice among users of research animals was self-breeding or acquiring animals from other users who coincidentally had a surplus. The committee hired veterinarian Stian Erichsen to map the extent of consumers and producers, and the possible need for research animals, in the Oslo

14 Rader, 2004: 135.

15 Stormorken, 1960, [my translation].

16 The abbreviation is not in use anymore, however I will use it as that was the correct term at the time.

area in 1961. He concluded that the two largest consumers of mice imported most of their stock from abroad. Rats were bred by each user for their own purposes, and rabbits were bought from random small-scale producers. In each case, Erichsen concluded that the dire quality of most of the animal models rendered the situation unacceptable.[17]

The most common reasons why research on animals failed as secure research methods can be divided into three main problem areas: The first and most dominant problem was *infections*, particularly chronic infections that derived from the mismanagement and random choice of animals. The *mismanagement* of animals was primarily linked to ignorance in the treatment of animals: For instance, knowledge on the biology of different animal species was not as common, particularly not among medical scientists. Familiarity with proper conditions like temperature, ventilation, humidity, nutrition, and other habitual arrangements, was based on exchanging skills with other scientists, or more often: by self-training. Also, housing of research animals was based in unfitting locations – like basements or crumbling rooms – mostly because of the general lack of space at the University and the hospitals where research was performed. These environments had obvious negative inflictions on the animals, and consequently on the research results based on these models of science. The third main problem was unsuitable *genetic compositions* of the animals in use. That is, animals were often chosen for experiments based on availability rather than being the proper species for that particular experiment. Furthermore, the researcher had often no knowledge

17 "Innstilling til NAVF fra Komiteen for utredning av spørsmålet om oppretting av avlsstasjon for laboratoriedyr på Bygdøy Kongsgård", 14th April 1962.

of the genetic history of the animal, which again would most likely have negative inflictions on the outcome of the experiments.[18]

In October 1960, Lerche wrote a letter to NAVF complaining that research based on animals was being seriously hampered because of the random use of animals in the different laboratories. The different small scale distributors did not deliver the necessary quantity of animals, and did not have sufficient expertise with regard to strains, genetic compositions and so on. These skills were necessary in order to conduct high quality research and to develop in accordance with the international scientific community.[19] Professor Stormorken complained in a letter to the NAVF the very same day, that in addition to the poor quality in retrievable animals, the scientists had to use a lot of time to track them down.[20] A centralization of expertise was in order to solve the undeniable crisis of the laboratory animal science in Oslo.

Establishing a Discipline

Problems with funding put an end to the plans of a centralized breeding station and competence centre during the course of the 1960s. However, the issue came up now and again in the medical community. In discussions of the establishment of a centralized breeding station for laboratory animals, it was recognized that suitable housing was not sufficient to upkeep an adequate level of quality of animals. It was acknowledged that animals were complex research tools that often would work against or resist

18 Lerche, 1962.
19 Lerche, 1960.
20 Stormorken, 1960.

the scientist's research agenda. W. Lane-Petter wrote in an article in 1959, addressing the problems of laboratory animals: "It must be stressed that we are not dealing with chemical reagents, but with complicated biological organisms having built-in pattern of behaviour that is highly responsive to the quality of human care."[21] Knowing animals' biology was considered a significant skill in the handling and care of the animals. For instance, insights in nutrition physiology in order to offer optimal sustenance, an understanding of different clinical conditions, and the prevention or cure of these conditions in different species, and lastly, knowledge on behavioural and habitual requirements, reproduction physiology and genetics, were seen as crucial when working with laboratory animals. Stormorken writes in his letter that in many countries, scientist's had faced these facts and initiated a specific training program for people working with research animals,[22] that culminated in a profession entitled "animal technician" – and emphasized that in England they even had strict exams for these kinds of positions.[23] Also another veterinarian, Olav Berg, urged a more organized training of animal technicians. After attending an international conference in Holland in 1964, he stated that modern biologists had finally recognized the importance of animals' quality and health, and that

21 p. 190.

22 Stormorken (1960) writes:"This is no longer a place for people that are useless for other purposes" [my translation], indicating that the work of caring for research animals was a job that was too easy to acquire. W. Lane-Petter (1959) also comments on the unskilled personnel handling animals, showing that this was not a particular problem in Norway, but also in other countries: "This new discipline has to compete with a damaging and out-of-date tradition that has relegated to the animal house those who were considered incompetent or unfit for employment in any other scientific capacity, and such a tradition, as always, is hard to combat", p. 193.

23 Stormorken, 1960.

establishing *Laboratory Animal Science* as a research field laid the best foundation for reliable results in research on animals. Doing this meant having people caring for the animals that was qualified by education and also motivated by a genuine interest in the field. This would ultimately be cost effective and provide safer research results.[24]

The establishment of a breeding station and a new profession, both with the goal of enhancing the quality of animals, marked a newfound appreciation and emphasis on the research material.[25] Rader (2004) has shown how scientists using mice mobilized existing boundaries between nature and culture to create positive associations to their use, and argued that through their involvement with science, mice had been positively transformed, in that they now served science and humanity. In a similar fashion, Lane-Petter (1959) writes that laboratory animals are irreplaceable means, and that "[…] it would be ungrateful to the animal world and culpably perverse to deny these animals their necessary place in the scheme of medical and biological research".[26] This shift to the animal – and the technologies involved in laboratory animal science – would later generate ethical debates on animals' value and place in the human world that still is highly present in today's society.

24 Olav A. Berg, 26.9.1965.

25 W. Lane-Petter, 1959: 180: "[…] the laboratory animal has tended to be relegated to a position outside and inferior to that of the laboratory."

26 p. 180.

References

Asdal, Kristin (2008): "Subjected to Parliament: The Laboratory of Experimental Medicine and the Animal Body", *Social Studies of Science*, 38(6): 899–919.

Berg, Olav A. (1965): "NATO Advanced Study Institute". Letter. National Archives: NAVF Rådet for medisinsk forskning. Sakarkiv. Box 781. Folder: Avlsstasjon for laboratoriedyr 1961–62.

Collett, Haave & Røberg (2001): Kunnskap i vekst. Institutt for eksperimentell medisinsk forskning gjennom 50 år. IEMF.

Gradmann, Christoph (2003): " Experimental Life and Experimental Disease", in *Futura*, 18.

"Innstilling til NAVF fra Komiteen for utredning av spørsmålet om oppretting av avlsstasjon for laboratoriedyr på Bygdøy Kongsgård", 14th april 1962. National Archives: NAVF. Rådet for medisinsk forskning. Sakarkiv. Box 781. Folder: Avlsstasjon for laboratoriedyr 1961–62.

Jasanoff, Sheila (ed.) (2004): *States of Knowledge: The Co-production of Science and Social Order*. Routledge.

Kohler, Robert E. (1994): *Lords of the Fly: Drosophila Genetics and the Experimental Life*. Chicago & London: The University of Chicago Press.

Lane-Petter, W. (1959): "The Place of Laboratory Animals in the Scientific Life of a Country", in *Impact of Science on Society*, Vol. 9, No. 4.

Lerche, Christian (1962): "Dyreforsøksvirksomheten i søkelyset", in Special Issue of "Tidsskrift for Den norske lægeforening", No. 7: 424–425.

Lerche, Christian (1960): "Avlsstasjon for laboratoriedyr på Bygdøy Kongsgård", Letter to NAVF 17th October 1960. National Archives: NAVF Rådet for medisinsk forskning. Sakarkiv, Box. 781. Folder: Avlsstasjon for laboratoriedyr 1961–62.

Lynch, Michael E. (1988). "Sacrifice and the Transformation of the Animal Body into a Scientific Object: Laboratory Culture and Ritual Practice in the Neurosciences", in *Social Studies of Science* Vol. 18 (1988) 265–89.

Nydal, Rune (2006): *Rethinking the topoi of normativity. Co-production as an alternative to epistemologically modelled philosophies of science*. Doctoral thesis, NTNU 2006: 19.

Rader, Karen A. (2004). *Making Mice: Standardizing Animals for American Biomedical Research,1900–1955*. Princeton, N.J.: Princeton University Press.

Stoklund, Bjarne (2003). *Tingenes kulturhistorie. Etnologiske studier i den materielle kultur*. Museum Tusculanums Forlag. Københavns Universitet.

Stormorken, Helge (1960): Letter to NAVF 17th October 1960. National Archives: NAVF Rådet for medisinsk forskning. Sakarkiv. Box 781. Folder: Avlsstasjon for laboratoriedyr 1961–62.

4:6 Handling Transgenic Dilemmas in Scientific Practice | TORA HOLMBERG

Transgenic animals are animals that have purposely been genetically altered; genes have been either knocked-out, added or reinforced, in order to study the effects in a living organism. Although the majority of animals used are mice, many other species, including sheep, rats, fish and pigs, have recently been modified. The increased use of transgenic animals has reversed a 30-year trend toward reducing numbers of experimental animals in Western countries (Schuppli et al, 2004). Transgenic animals are produced and bred all over the world, both commercially and at special transgene units at universities, and are thus subjected to "techno-scientific bespoking" (Michael, 2001). Transgenic mice, which are the focus for the present Swedish study,[1] are used both in basic research (for example to find out more about functions of a specific gene) and as disease models. Basically, there is a wealth of applications, with new ones continually emerging.

Transgenic and other animal experimentation is fundamentally a dilemmatic enterprise (Birke et al, 2007). Humans use other animals in biomedical and other research, in order to improve the conditions of our own species. With this usage follows the responsibility to make sure that the experiments are conducted in a good manner. Legal and other regulations control the conditions so that laboratory animals are not to be subjected to more suffering than necessary. There are a number of ethical principles that dominate

1 The project is called "Dilemmas with Transgenic Animals" and is funded by the Swedish Research Council (Dnr. 421-2005-1010).

all literature on laboratory animal science and animal welfare, referred to as the three Rs; *Reduction*, *Refinement* and *Replacement* (Russell and Burch, 1959). These principles are inscribed in documents regulating, for example, the procedures of the animal ethics committees. The principles state that animal experimentation should strive towards a reduction in the numbers of animals used, better and refined methods and animals, and the use of alternative methods or the partial or full replacement with "lower" species. Lately, the utility of a forth R has been discussed: responsibility (Schuppli et al, 2004: 530). Swedish experiments on animals are in turn controlled by the animal welfare act, and since 2007 the authority with the overall responsibility for the activities has been the Agricultural department. Seven local animal ethics committees scrutinize all projects dealing with animal experiments.

In addition to the formal ethical apparatus, each and everyone who works within the business (researchers at different levels, students, laboratory assistants and animal technicians) have to take individual stands in order to handle daily situations and dilemmas: When is an animal too unhealthy, where is the endpoint? When and how is the mouse to be euthanized? What is a good enough aim of the project, justifying the experiments that I do? What is ethically correct, and where do I draw the line? These questions have no given answers. They cannot easily be solved by a cost-benefit analysis, through referring to the three Rs or through ethical guidelines. Ethical dilemmas are constantly present and their character change, depending on context and in relation to the animal in question (Haraway, 2008). Examples of transgenic dilemmas expressed in the literature concern the many "surplus animals" that are used in production and breeding, the severity of burden on the animals used for production (especially on the

female donors and surrogates), and the prevalence and risk of unexpected phenotypes (Schuppli et al, 2004).

The dilemmas above are integral to the discourse on and working with transgenic animals, and I am here interested in how researchers and others *do* ethics, how they use ethics as a means to handle the dilemmas present in practice. To clarify, I am not interested in whether actors refer to a utilitarian perspective, or prefer one or the other abstract principle. Instead, I am interested in how actors understand and use ethics in relation to specific human and nonhuman actors in specific situations, as a kind of *situated ethics* (Benhabib, 1992, Hoeyer, 2004, Lundin, 2004a). In particular, I am interested in "ethics-talk" and the discursive boundary work that goes on in the making of ethics in practice (Wainwright et al, 2006). I do not use the concept "dilemma" in the ordinary, cognitive sense, the donkey between two bundles of hay, trying to weigh pros and cons in order to come up with a reasonable solution. Instead, I make use of a discursive perspective, in which dilemmas are seen as the common way of thinking and arguing. According to the perspective, there are no clear-cut solutions, "only" discursive effects. A working definition comes from Michael Billig's understanding of ideological dilemmas (Billig et al, 1988). He writes that argumentation, and consequently contradictory and contingent dilemmas, are fundamental when constructing knowledge of and in the world. Dilemmas do not always have to be expressed in speech or writing. We can also find *indirect* dilemmas in the way a person expresses him or herself. In this paper, I try to trace those indirect dilemmas, through an analysis of discursive strategies. Research questions are as follows:

What specific dilemmas can be discerned within this practice? How do actors handle these dilemmas? What is articulated and

what becomes silent? And, finally, how can one understand the findings?

The project this paper builds on consists of two parts. In the first part, ethnologist Malin Ideland investigates how members of animal ethics committees talk about transgenic dilemmas, both in committee meetings and in individual interviews. The second part derives from research practice, and concerns how researchers and animal technicians handle dilemmas in talk and practice. I have performed observations on a two-week course for researchers (Holmberg, 2008), and spent time with several research groups, observing animal experiments in practice including field work at two different animal houses. In addition, I have conducted in total 20 semi-structured interviews with researchers at different levels, laboratory assistants and animal technicians from two different Swedish universities. The fieldwork has been performed part time over a period of 18 months. The data is partly focused on the questions presented above. In other words, I have not dug deeper into traditional sociology of science questions concerning methods, theories or knowledge claims. Neither have I primarily focused on matters central to STS- and laboratory studies such as time, space, technology and division of labour. My main interest has instead been to develop a framework within which the doing ethics perspective can be combined with insights from both animal and science studies.

It becomes striking that certain dilemmas almost always get highlighted, for example the matter of tails; the question of where one should take the biopsy enabling genotyping of mice pups (tail, toe or ear). Other, more marginalised questions, concerning animal welfare in breeding and the issue of "wasted animals" are also articulated, but I argue that these questions become back-grounded.

These more empirical parts are presented in length in *Tail tales: handling transgenic dilemmas in practice* (Holmberg, forthcoming). Here, I discuss possible ways of understanding and analysing why some questions become established, while others rarely are articulated. In order to discuss this I would like to contextualise the case study somewhat. First, by asking what a transgenic mouse is and, second, by turning to the strongly emerging animal welfare discourse and practice.

What is a transgenic mouse? Is it an organism, an intervention, a tool, model, animal, metaphor, or all of the above (Haraway, 1997)? A transgenic mouse is of course in many ways like any other laboratory mouse; bred for a purpose and inbred, standardised, preferably pathogen free, in short, an animal constructed through history for experimental purposes (Rader, 2004, see also Druglitrø in this volume). Laboratory mice share their history with laboratory humans, in the material-semiotic process of domestication they have adapted to the laboratory setting (Haraway, 2008). From this perspective, transgenic animals can be viewed as one pole on a continuum from domestication of animals to techno-scientific biological control, enabled by an "unconditional biology" (Franklin, 2007: 33). But the strive for biological control is never completely fulfilled.

> In this view, the genetically engineered animal is both a symptom of human overconfidence in biological control and the culmination of a lengthy process by which the drastic consequences of domestication has been unfolding. (Franklin, 2007: 31)

What can and cannot be controlled within the production and handling of transgenic animals? Technical issues, such as where to take the biopsy, are possible to handle in a technocratic, cost-benefit calculating ethical discourse. Issues like unexpected phenotypes or surplus animals become marginalised. They lie on the margins of biological control, and thus become more difficult to handle. The absence of discussions, both in my material and in the public debate, regarding the utility and existence of transgenic techniques, and moral status of transgenic mice, is a critical one.

In recent years we have witnessed an increased awareness about experimental animal welfare. The background can be discussed, but the importance of healthy animals for valid results is often pointed out. Good research and happy mice are said to go hand in hand. I argue that this welfare culture concerning "a feeling for the animal" (Holmberg, 2008), also works as a means to handle dilemmas inherent with animal experiments, to keep the business blameless outwards as well as inwards. Susanne Lundin writes in her study of how stem-cell researchers create ethical reflexivity, that "it concerns a cultural pattern characterized by ethical reflexivity – a culture in which ethics talk becomes a strategy for maintaining the moral accounts" (Lundin, 2004b: 201, my translation). With the discursive perspective, we can understand the strategies as moral accounts and accountability as something with clear effects. This is what it means to do ethics.

References:

Benhabib, S., *Situating the Self: Gender, Community and Postmodernism in Contemporary Ethics*, Routledge, London & New York: 1992.

Billig, M., et al., *Ideological Dilemmas*, Sage, London: 1988.

Birke, L., Arluke, A., & Michael, M. (2007). *The Sacrifice: How Scientific Experiments Transform Animals and People*. West Lafayette, West Virginia: Purdue University Press.

Brown, N., Michael, M., "Switching Between Science and Culture in Transspecies Transplantation". *Science, Technology and Human Values*. vol. 26, no. 1, pp. 3–22: 2001.

Franklin, S., *Dolly Mixtures. The Remaking of Genealogy*. Duke University Press: 2007.

Haraway, D.J., *Modest_Witness@Second_Millenium, FemaleMan_Meets_Onco-Mouse*, Routledge, London & New York: 1997.

Haraway, D.J., *When Species Meet*. Routledge, London & New York: 2008.

Holmberg, T., "A Feeling for the Animal. On Becoming an Experimentalist", *Society & Animals*, vol. 16, no. 4, pp. 316-335: 2008.

Holmberg, T., "Tail Tales. Handling Transgenic Dilemmas in Practice" (forthcoming)

Hoeyer, K., "Bioetik i praktiken". (Bioethics in practice) in Lundin, S. (ed.) *En ny kropp: Essäer om medicinska visioner och personliga val* (A new body. Essays on medical visions and personal choices). Nordic Academic Press, Lund: 2004.

Hoeyer, K., "The Power of Ethics: A Case Study from Sweden of the Social Life of Moral Concerns in Policy Processes", *Sociology of Health and Illness*, vol. 28, no. 6, pp. 785–801: 2006.

Lundin, S. "Etik som praxis" (Ethics as practice) in Lundin, S. (ed.) *En ny kropp: Essäer om medicinska visioner och personliga val* (A new body. Essays on medical visions and personal choices). Nordic Academic Press, Lund: 2004a.

Lundin, S. "Moraliska räkenskaper" (Moral accounts) in Lundin, S. (ed.) *En ny kropp. Essäer om medicinska visioner och personliga val* (A new body. Essays on medical visions and personal choices). Nordic Academic Press, Lund: 2004b.

Michael, M., "Technoscientific Bespoking: Animals, Publics, and the New Genetics". *New Genetics and Society*. vol. 20, no. 3, pp. 205–224: 2001.

Rader, K., *Making Mice*, Princeton University Press: 2004.

Russell, W.M.S., Burch, R.L., T*he Principles of Humane Experimental Techniques*, Methuen, London: 1959

Schuppli, C.A., Fraser, D., McDonald, M, "Expanding the three Rs to Meet New Challenges in Humane Animal Experimentation", *ATLA*, vol. 32, pp. 525–532: 2004.

Wainwright, S.P., Williams, C., Michael, M., Farsides, B., Cribb, A., "Ethical Boundary Work in the Embryonic Stem Cell Laboratory", *Sociology of Health and Illness*, vol. 28, no. 6, pp. 732–748: 2006.

List of Contributors

KRISTIN ASDAL, Dr., is a Senior Researcher at the Centre for Technology, Innovation and Culture (TIK) at the University of Oslo. Her work concerns the history and politics of nature and the environment in the post-war era and the history and politics of medicine in the late 19th century. She is currently heading an interdisciplinary working group on "Nature and the natural" at the University of Oslo as part of a wider research program on cultural transformations in the age of globalization.
http://www.cultrans.uio.no/english/participants/KAsdal.html

LYNDA BIRKE, Professor, is in the Anthrozoology Unit, University of Chester, U.K. She is a biologist who has specialised in feminist studies of science; her most recent work has concentrated on human/animal issues. Lynda Birke is the author of a number of publications, for example *Feminism, Animals and Science: The Naming of the Shrew* (1994), *Feminism and the Biological Body* (1999) and *The Sacrifice* (together with Mike Michael and Arnold Arluke, 2007).

KARIN DIRKE, Ph.D., is Assistant Professor in History of Ideas at Stockholm University. Her research concerns the relationship between humans and animals in history. In her dissertation she investigated the Swedish animal welfare movement, its origins and early developments, 1875–1920. She has also published articles on anthropomorphism and opinions and debates about the nature of animals, wild as well as domestic.

TONE DRUGLITRØ, is a PhD fellow at the Centre for Technology, Innovation and Culture, and the Ethics Programme at the University of Oslo, Norway. Professional interests are historical and cultural studies of science and technology, and ethical perspectives on human/animal relations.

MARIE PALDAM FOLKER, is an anthropologist and research assistant at the Department of Health Services Research, Institute of Public Health, University of Copenhagen. Her master thesis is a historical and analytical exploration of the social construction of domestic animal embryos as scientific work objects based on ethnographic fieldwork in two veterinary reproductive research facilities. Her current research interests include the complex and dynamic ways in which the life sciences (including veterinary medicine) are affecting the nature and process of technological and therapeutic innovation within the health care sector. She is about to undertake a PhD on the social dimensions and epistemic aspirations of the emerging field of translational medicine within neurology and dementia research: an arena in which the pig is considered a highly suitable disease model.

REBEKAH FOX, shares her time between the Department of Health and Social Care, Royal Holloway University of London and the Centre for Gender Research, Uppsala University. She completed her Ph.D. entitled *The Cultural Geographies of Pet-Keeping* in 2005 and is currently working on a post-doc entitled *Gender, Science and Animals: The World of Pedigree Pet Breeding and Showing*. Rebekah Fox's research interests include human/ani-

mal relations, companion animals, post-humanism, embodiment and health geographies.

ANNE KATRINE GJERLØFF, Ph.D., holds a Post-doc Fellowship at the SAXO Institute, History Section, University of Copenhagen. The title of her current project is*: In Pig's Sty and Lion's Cage: Animal Roles and Right in Denmark from 1850 to 1920*. Research interests are history of culture, knowledge and science in the 19th and 20th century. Anne Katrine has published several articles on history of archaeology, natural sciences, apes and other animals.

TORA HOLMBERG, Ph.D. in Sociology, works as a researcher at the Centre for Gender Research, Uppsala University. In a joint project entitled *Dilemmas with Transgenic Animals*, Tora Holmberg together with ethnologist Malin Ideland explore how the production and research on transgenic animals are managed and authorized by actors involved in research and animal ethics committees. Questions concerning the nature/culture divide and its boundaries become essential to understand the negotiations going on in these arenas. From 2007 she also works as a programme coordinator for *GenNa: Nature/Culture and Transgressive Encounters*. This programme aims at bringing together, under the umbrella of gender and science issues, scholars and perspectives from the social sciences, humanities and the natural science.

TAIJA KAARLENKASKI, M.A., is a Ph.D. candidate in Folklore Studies at the University of Joensuu, Finland. She also works as a doctoral student in the Graduate School of Cultural Interpretations. Her research interests include cultural relationships between human beings and cows, gendered human/animal relations, and writing competition materials.

LENE KOCH, M.A., Ph.D, Dr. Phil., is a professor at the institute of Public Health, University of Copenhagen. Her work concerns the history and sociology of genetic and reproductive technology with special reference to the political and ethical aspects. Lene Koch has published widely on these issues. http://www.pubhealth.ku.dk/stf/ansatte/leko/

ELLEN KREFTING, is Post-doctoral Fellow in History of Ideas at Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. Her PhD was on the topic of sensibility and self-awareness in French philosophy from Malebranche to Rousseau. She has worked on French periodical texts from the same period and is studying the problem of nature within modern urban boundaries in the texts of Louis Sébastien Mercier.

PERNILLA OUIS, has a Ph.D. in Human Ecology from Lund University, Sweden. She is a senior lecturer at the Faculty of Health and Society at Malmö University. Her research interests are gender issues in Islam, human/animal relations, ethnobiology and ecotheology.

HELENA PEDERSEN, Ph.D. in Education, is a researcher at the Centre for Gender Research, Uppsala University in 2008/09. Her research lies at the interface between education science and critical animal studies. Recent and forthcoming works appear in the volumes *Social Justice, Peace, and Environmental Education: Transformative Standards* (Routledge, 2009); *Zootopian Visions of Animal Encounter: Farewell to Noah* (Lexington Books, 2010); *Global Harms: Ecological Crime and Speciesism* (Nova Science Publishers, 2008); and *Values and Democracy in Education for Sustainable Development* (Liber, 2008).

PÄR SEGERDAHL, is associate professor in Philosophy at the Centre for Gender Research at Uppsala University, Sweden. Originally interested in philosophy of language and Wittgenstein, he came to see the lives of language-enculturated apes as a source of examples that can drive philosophical inquiries into notions that traditionally are assumed to pertain only to human life. This approach is developed and used in the book *Kanzi's Primal Language* (Palgrave, 2005).

METTE NORDAHL SVENDSEN, is an anthropologist and assistant professor in the Department of Health Services Research, Institute of Public Health, University of Copenhagen. Her main research interests include the introduction of biotechnology in public health care, focusing on relationships between clinical practices, technology, and patient lives. She has published on the mutually constituting processes of knowledge production and patient lives in the context of BRCA testing and recently on practices and experiences of embryo donation to stem cell research in Denmark.

SAKARI TAMMINEN, (M. soc.sci, Lic.soc.sci) is working as a researcher at the University of Helsinki, Department of Social Psychology. His research focuses on the complex relationships of human and nonhuman life, especially within the inter/national politics of nature and nationhood, about which he is currently finishing his Ph.D.

LIV EMMA THORSEN, is professor at the Department of Culture History and Orieantal Languages, Oslo. Her research interests include animals' cultural history and material culture studies, and the present research project is called *Animal biographies. On the unnatural history of animals*. Thorsen is also the project manager of *Animals as objects and animals as signs - standardization and visualization of animals*. http://www.hf.uio.no/ikos/forskning/forskningsprosjekter/liv_emma/animals/index.html

SALLA TUOMIVAARA, (M.Soc.Sc.) is working at the Department of Social Research, University of Tampere, with the doctoral thesis *The significance of animals in early sociological texts - Cases of Edward Westermarck and Émile Durkheim*. Salla Tuomivaara is further interested in sociological animal studies and especially the socio-cultural meaning of human-animal boundary.

Crossroads of knowledge
Skrifter från Centrum för genusvetenskap

Order from publications@gender.uu.se

1. Johansson, Åsa & Ragnerstam, Petra (red.) (2005) *Limitation and Liberation: Women writers and the politics of genre.* (167 s.) 200 kr.

2. Blomqvist, Martha (red.) (2005) *Dialoger mellan kön och genus.* (85 s.) 100 kr.

3. Blomqvist, Martha (red.) (2006) *I görningen. Aktuell genusvetenskaplig forskning I.* (131 s.) 100 kr.

4. Holmberg, Tora (2007) *Samtal om biologi. Genusforskare talar om kön och kropp.* (61 s.) 100 kr.

5. Malmström-Ehrling, Anna-Karin & Folkesdotter, Gärd (2007) *Spegel, gravsten eller spjutspets.* (150 s.) 150 kr

6. Holmberg, Tora (2008) *Discussions on biology: Gender scholars talk about bodily matters.* (63 pp.) 140 kr; 15 EUR

7. Ganetz, Hillevi (2008) *Talangfabriken. Iscensättningar av genus och sexualitet i svensk reality-TV.* (146 s.) 150 kr

8. Malmberg, Denise & Färm, Kerstin (2008) *Dolda brottsoffer. Polismyndighetens och socialtjänstens hantering av brott och övergrepp mot personer med funktionshinder.* (171 s.) 150 kr

9. Bromseth, Janne, Käll, Lisa Folkmarson & Mattsson, Katarina (eds.) (2009), *Body Claims* (234 pp.) 150 kr; 15 EUR

10. Holmberg, Tora (ed.) (2009) *Investigating Human/Animal Relations in Science, Culture and Work* (194 pp.) 150 kr; 15 EUR

HOW CAN WE make sense of the ambiguous and historically shifting characteristics of human/animal relations? How can these relations be analysed in terms of power and hierarchies intersecting with gender, race, class and nationality? This collection of essays, derived from a Nordic workshop on the matter, contributes to the growing interdisciplinary field of human/animal studies (HAS). The book contains 17 articles, divided into three sections: *Thinking with Animals, Animal-Human Culture* and *Scientific Animals*. All the papers included are work in progress – from ongoing or planned projects – in the shape of short contributions. This volume thus constitutes a "smörgåsbord" of lively and vivid research in the area of human/animal relations that goes on throughout the Nordic countries.

Skrifter från Centrum för genusvetenskap
/ Crossroads of Knowledge 10

Universitetstryckeriet, Uppsala 2009

CENTRE FOR
GENDER RESEARCH
CROSSROADS OF KNOWLEDGE