

The symbiotic human animal relationship: An artistic investigation of Yakutian cattle

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ABSTRACT

In spring 2005, a multidisciplinary research team from Helsinki University and MTT Agrifood Research Finland conducted a field study in the Eveno-Bytantay district of the Sakha Republic in the Russian Federation. The goal was to investigate possible socio-economic risks connected to the preservation of endangered Yakutian cattle in three remote, Siberian villages. Yakutian cattle has survived only in these three villages as a population of 1000 heads. One member of the team was an artist with scientific background in animal breeding. She worked with the research team, interviewing people and drawing, painting and photographing the cattle. Working among the cattle made it possible to get to know the cattle from up close, to understand their characters and temperaments. The main part of the artistic work was done later in Helsinki. The outcome was an artistic project *Yakutian Cattle – Exploring Expedition to Siberia in the 2000’s*. It includes an exhibition, a documentation, and a description of cattle keeping practices on daily level over seasons in the extreme environment of the Eveno-Bytantay district. The paper gives an overview of the project. Symbiotic relationship of humans and cattle in these Siberian villages, our perceptions on animals and animal-human relationships are discussed.

Keywords: art, art and science, Yakutian cattle, DNA, genetic art, human-animal relationship

BACKGROUND AND CONCEPT

In spring 2005, a research team from Helsinki University and MTT Agrifood Research Finland conducted a field study in the Eveno-Bytantay district of the Sakha Republic in the Russian Federation. The goal was to investigate possible socio-economic risks connected to the preservation of endangered Yakutian cattle in three remote villages: Sakkyryr, the administrative center, population 1750 with 320 heads of cattle, Kustur, a village about 100 km north of the administrative center, population 750 with 470 heads of cattle, and Dzhargalakh, a village about 100 km south of the administrative center, population 280 with 100 heads of cattle.

I had joined the research team 8 months earlier as an independent partner and artist with the intention to work on this project. My personal interests were in the biological and genetic aspects of Yakutian cattle. I was also interested in the cultural

importance of these animals and in animal husbandry in general. These concepts were not clearly organized research themes, but acted more as an orientation method for me as I faced people and cattle in the harsh circumstances of Siberia. On a personal note, cattle have played an important role in my life from the age of 11 when I learned to milk, then on through university when I studied animal breeding, and later when I worked as a researcher. The Yakutian cattle project represented a challenge that was different than what I had encountered in my previous work, and I will discuss these issues in this paper.

In Finland there is a tradition of scientific expeditions to Siberia. These mainly occurred in the 19th and early 20th centuries, and the majority were conducted by researchers studying the origin of the Finnish people and the Finnish language. The researchers who conducted these expeditions were from different disciplines and most of them kept detailed diaries that took note of everything they saw and all the interactions with the various peoples that they encountered. Among the most famous of these explorers was Gustav John Ramstedt, an ethnographer who studied Turkish languages and later served as Finland's first ambassador to Japan. He also authored the wonderful *7 travels to the East* (Ramstedt 1951), which we read before leaving on our journey to Siberia. During our stay in Kustur, we met a veterinarian and the first thing he told us was that he had read Ramstedt. At that moment, I understood that we do not only seek our own history and identity in Siberia; we also leave our mark there. We can feel positive about some of these things that we leave behind, yet others are of a more destructive nature.

During our time in Sakkyryr, Kustur and Dzhargalakh, I worked with the research team, interviewing people and documenting our work through photography. Painting among the cattle made it possible to get to know these animals up close and to understand their characters and temperaments, and the cattle also came to accept me as a member of the herd. The main part of the project was completed later in Helsinki. The outcome of this process was an art project, *Yakutian Cattle – Exploring Expedition to Siberia in the 2000's*. (Osva 2007)

EVERYDAY LIFE WITH YAKUTIAN CATTLE IN THE EVENO-BYTANTAY DISTRICT

During our stay I learned many details that shed light on the lives of Yakutian cattle and the raising of these animals in the villages. Below are some of my observations.

Cows The cows calve in spring. During the first two months after calving, the cows' milk is reserved solely for her calf. Most of the milk is produced in summer and when the cold sets in during winter, cows usually stop giving milk. Still, if milking is continued a cow can give 1–2 liters/day in February. The normal yearly milk yield is approximately 1500–2000 liters. Cows are milked 2–3 times during the day; teats are small and udders are hidden to protect them against cold.

Milk fat content is high (5–10%). The meat is marbled and the cows gain weight very quickly in summer. The animals are strong, healthy, and resistant to brucellosis¹

¹ brucellosis: a bacterial disease typically affecting cattle causing miscarriage (the genus *Brucella*, in particular *B. abortus*). The *Brucella* bacteria can be transmitted from cattle to humans and causes

and even tuberculosis, a fact I learned through talking to several veterinarians, agronomists and researchers. People in this area sometimes contract tuberculosis, but cattle never do. It should be noted that although the cows are robust, they do have mastitis².

In these villages cows live much longer than they are normally allowed to do in modern industrial husbandry. They are kept as long as they are able to calve, often until they reach 15 years of age. In some cases the animals are allowed to live even longer, as the cow represents a memory of a late grandmother who had passed this animal on to her grandchild.

Cowsheds Cowsheds are built of timber and insulated with cow manure. There is a clear resemblance between the cowsheds and traditional Yakutian houses. Before Yakuts started to build Russian style log houses they actually lived in houses such as these, covered with clay on one side and manure on the other side, and used the manure covered side of the house as a cowshed.

Meeting cows on the village roads Cows move freely about the village. The animals are accustomed to living in the cold, walking alone to the watering spots outside the village, and returning to their home yards by themselves. They are also social and friendly, even the bulls were peaceful during our visit. Despite the fact that they all belong to the same breed, the differences of the individual cows in these villages are striking. The cows are distinct characters and the villagers, of course, give each of them a name of their own.

Grazing in summer Grazing lands are closer to the villages than the hay areas. But some families take their cattle to summer grazing areas, which can be as far as 60 km away from the village.

Hay making Cows do not need any other feed than hay, and during the various difficult times of change in Russia they truly did have nothing else to eat. The permafrost and northern location hinders hay cultivation, and it can only be harvested from natural meadows. The distances from the meadows to the settlements are long, and haymaking and transport is hard work. This task represents a common effort for villagers, and it is organized by families, local institutes and village leaders. Almost every family participates in haymaking in one way or another. In autumn, cattle are slaughtered or allowed to live through the winter on the basis of the hay crop.

Winter During very cold periods that can last for weeks (-40°C to -50°C and below), cattle are kept inside all day, though they are taken to an ice hole to drink every second day. Yakutian cattle can survive on a small amount of food and water. Over the centuries, these cattle have faced many harsh conditions and have survived

undulant fever in humans.

² Bovine mastitis: infection in cow udders most often caused by staphylococci. In this condition the milk coagulates and can not be consumed by humans.

long periods of cold and hunger in winter. These conditions have been part of the forces that have molded the breed into what it is today.

Families raising cattle I was told of the important role of elderly women in advising younger women in raising cattle. During my stay I met busy young women tending to cattle and observed gender-based differences in everyday milking, feeding and other labor. It is common that men help in daily routines, but this is not true for every family. The role of cattle in a given family economy varies greatly. Cows are kept to provide families with milk and meat. Some families sell milk and earn extra income, yet for others cattle husbandry is the main source of income.³

HUMAN-ANIMAL RELATIONSHIPS

Here I will describe my thoughts on the aspects of human and animal life and interaction that interest me and how these have become part of the framework for this art project.

How we think about animals All religious literature contains descriptions of how humans and animals live together. In Genesis we can read: "And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him; male and female created he them. And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth." (The Bible, King James Version)

Philosopher René Descartes wrote of animals in his *Discourse on the Method*, first published in 1637. I refer here his text on anatomy (Part V, 7th paragraph) where he describes circulation of the blood, heart, lungs, muscles, nerves, brains, and all the various functions that he observed in living creatures. He sees the analogies in human and animal bodies. But what makes these bodies move? He had previously discussed ideas, external objects, truth, dreaming and senses, and deduced the soul to be distinct from the human body and immortal. He also saw the soul as the reason for the existence of the human mind. He concludes that in living bodies there are 'animal spirits' keeping blood circulating and the muscles working, yet he states that animals do not have souls. He saw the proof of this in the lack of understandable language and inability of animals to change behavior according to acquired knowledge. After a rather fantastic anatomical text, he defines animals as mindless living machines (Descartes 1637). In the 19th century after Charles Darwin published his theory and provided practical evidence of evolution, it was no longer possible to distinguish animal and human nature in the way that Descartes had done. But we continued to ask questions; do animals have a soul, can animals use tools, do animals have feelings, can they talk, do they know they exist? This list of questions

³ See Granberg and Kopoteva (2009) and e.g. Granberg in this volume, for more information on rural village economies.

could go on and on, and behind these questions we often find reflections of anthropocentric belief systems, which have most obviously affected not only our perceptions of animal nature, but also the orientation of our research aimed at understanding animals and their behavior.

Late in the 20th century an expansion occurred in research on human-animal relations⁴ (e.g. an article by Sanders [2006] and a comprehensive encyclopedia by Bekoff [2007]). We now have a better understanding of human-animal relationships, as well as of the nature of animals in general. We also have a better view of animal consciousness, and how their personalities, emotions, intelligence, and memories are expressed, and how animals are able to communicate in a complex way with each other and with humans (Aaltola (2004), Singer (1991) e.g. Takakura, Stammer, F. in this volume). All this has led us to see both animals and ourselves as inhabitants of planet Earth who are tied together in a complex manner. The borders built in ancient times between the different natures of humans and animals are diluting and this makes way for new kind of cohabitation and common existence. However, in practice we are far from these ideals.

Role of animals in society Today, highly automated indoor production systems keep dairy cattle, pigs, and poultry out of public sight, and marketing systems finalize the impression of the nonexistence of these animals in our society. What follows is that the relationship between people and animals becomes tenuous and abstract. There is a need to increase research on the social function of animals, as animals are an integral part of modern societies, as all contributions in this volume show (see also Tovey 2003). I found the concept of co-evolution, which is described in this way: "... agri-ecology refers to the reliant co-development or co-evolution of society and natural factors. It is recognized that farming systems essentially result out of co-production i.e. the ongoing interaction, mutual transformation and dependency between man and nature, that is between the social and the natural." (Marsden 2003, pp. 34-35). In the Eveno-Bytantay district these theories meet an interesting analogue on practical level.

Though in western societies we seem to have lost some or most of our connection to cattle, the cultural meanings tied to these animals are deep and rooted into the philosophical and religious traditions of humankind. This may still be understood through the role of cattle or cattle products in cultural feasts and through analyzing different belief systems. Bulls, cows, calves, milk and many cattle related customs are elements of human identity and historically a part of national identity (e.g. Stammer, A. in this volume).

Humans and animals – what we see in the face of the other According to research on American cattle herders (cow/calf ranchers in beef cattle production), people build up emotional ties with their animals. These ranchers, mainly men, know their animals by sight and as individuals with personalities. The men avoided

⁴ Clinton Sanders briefly outlines the history of sociological human-animal research. Marc Bekoff is the editor of an encyclopedia of human-animal relation research numbering 1632 pages in 4 volumes.

causing the animals unnecessary pain during the management of the business, and they had emotional skills that helped them cope with contradictory situations that arise in the context of raising animals for food. One of interviewed ranchers says “If you talk to most ranchers, and if they are honest with you, its more than just an economic thing, there’s an emotional tie there, that’s because they (cattle) are part of your lifestyle, most people don’t talk about it, but it’s there.” (Ellis 2007) But can this be true for automated dairy cattle farms?

In context of art, *anthropomorphism* must be mentioned. One area of anthropomorphism is the placing of human characteristics in animals and plants. Almost anything can be subject to anthropomorphism, and it is a way of thinking that is very common and typical to us as humans. I try to avoid falling into anthropomorphic thought both in making artistic choices and when interacting with cattle.

An animal is like a mirror. In this mirror we see ‘the other’⁵ through our human world – through our senses, perceptions and experiences. Think about horseback riding or the sport known as ‘agility’ (a sport with human-dog pairs). These sports bring people and animals into a close mutual learning process where both parties learn new ways to work together. Humans and animals learn from each other, and they also teach each other, as Vuojala-Magga shows in the case of humans and reindeer in Finland (this volume). Donna J. Haraway (2008) calls the concept in this situation the ‘contact zone.’ In this ‘contact zone’ we face animals, even though the unknown will always be present. When painting a portrait of a cow I’m basically revealing something about my perceptions of this individual cow while at the same time showing some of my thoughts about cattle in general. In this process I have to rely on my experiences in the ‘contact zone.’

ART PROJECT

Yakutian Cattle – Exploring Expedition to Siberia in the 21st Century Art and science or *art&sci*⁶ is an interdisciplinary approach, where artistic and scientific practices meet. It is an approach that enables an artist to work and interface with the world of scientific research with all the technical and other methods that make up the scientific process. For researchers, *art&sci* means shared observations and the opportunity for new viewpoints into their world of research. Scientists also value the possibility to create together with artists artworks that enable an audience to experience some of their research observations, conclusions, or works in progress. In my case, I had both of these approaches available in my own head. I have a university degree and research experience in animal breeding and animal genetics, and during my studies I learned to think as a scientist and how to use the tools necessary for research. I also learned to look at the world through the perspective of life sciences. I decided to take this training with me in my artistic work. This led me to contemplate the nature of human DNA and the philosophical and ethical questions of genetic manipulation and biological innocence. I also recognize that research and scientific knowledge play a fundamental role in our modern, western economy as well as in

⁵ Facing animals always includes the concept ‘the other’ known from gender research and philosophy.

⁶ Art and Science or *art&sci* approach, see da Costa & Philip 2008, Sommerer & Mignonneau 1998.

our culture and worldview. These two issues – my personal history in science and the larger role of science in our culture – led me to view the world of science and research as an important companion discipline to my artistic work.

The key artworks in the project *Yakutian Cattle – Exploring Expedition to Siberia in the 21st Century* are nine portraits of the cattle, three life-size paintings of the cattle, the paintings *Siberian Sky* and *9 Paths*, and an approximately 25 meter long chain of plaster spheres.

The nine portraits present nine Yakutian cattle, both cows and heifers. Portraits are hung on the wall at the eye level of the viewer. In the faces of the cattle one sees the present moment and reflections of their genome, as well as the long history of co-evolution with humans. The portraits are in the same space as *Mother's Pearls*, which shows genetic information in a very short sequence of the mitochondrial DNA of Yakutian cattle. Mitochondrial DNA is inherited and transferred to a descendent in the cytoplasm of the mother's egg cell. An area of mtDNA, which can have four types of sequences (T, T₂, T₃ and T₄), was examined. The existence of the T₄ type in Yakutian Cattle populations is a sign of the uniqueness of this cattle that has been discovered through modern biotechnological methods. (Kantanen et al. 2009). I have transformed the genetic code in T₄ into a visible form. Each plaster sphere refers to a nucleotide and the size of the sphere portrays what base is in question (a,t,c or g). The plaster spheres reflect in green on the wall, except for three spheres, which reflect in red. The red reflecting spheres show this to be special T₄ type sequence (Kantanen, personal communication). T₄ is possibly derived from an ancient East-Asian Wild Ox population, or it is a mutation that does not exist in Europe (Kantanen et al. 2009, see Kantanen in this volume). We do not know yet, but these genetic signs can break open the symbiotic history of Yakutian cattle and humans and tell us how and where people have wandered with their cattle. Viewers in the space between pearls and portraits are the third part in this work.

Cattle, and all living beings, are the outcomes of their genomes and of the environment where they live. I used this as one of the starting points in the work *Siberian Sky*, which is partly covered by a bovine DNA. The work *9 Paths* shows the variation in the mtDNA sequences of nine head of Yakutian Cattle (Kantanen, personal communication). The painting refers to genetic paths derived from ancient bovine ancestors to the present living animals.

Siberian Sky and *9 paths* are presented together with almost life-size paintings of Yakutian cattle. In this series of three paintings called *Co-travelers* one can see how cattle are growing out of white, wide and heavy brush strokes or, if one would like to interpret the pictures in another fashion, out of the harsh climate and barren soil. The elements combined in *Co-travelers* refer to the long companionship between humans and cattle. We can ask 'What is our responsibility for the lives of our companion species, species which do not exist wild in nature?'

When our Yakutian colleagues visited my studio in Helsinki, they wanted to place themselves for a photo between the *Co-travelers*, in the middle of 'their' cows and bulls. I could see how proud they were of their cattle. I recognized that the cattle are co-travelers for these Yakuts; they are an integral part of their identity. The Yakutian cattle art project has been exhibited in several places and I have given many presen-

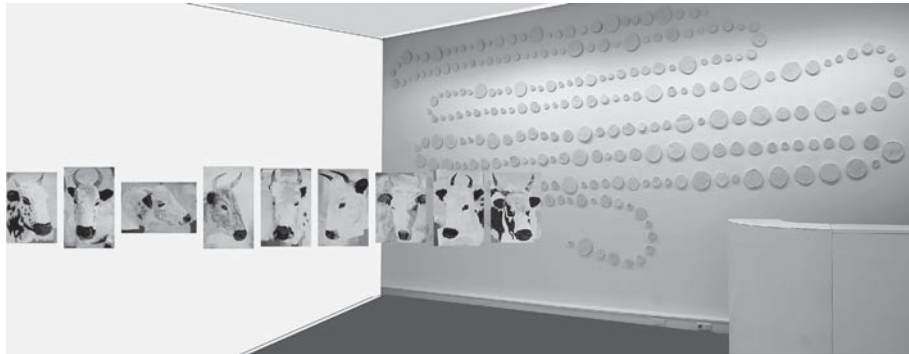


FIG. 1. Anu Osva *Yakutian Cattle, 9 Portraits*, 2007
Oil on canvas, Avg. 60x40 cm

Anu Osva, *Mother's Pearls* 2007
Plaster spheres, acrylic color
About 25 m

Represents genetic information in the mitochondrial sequence T4, found in Yakutian cattle (Kantanen, personal communication), Kantanen et al. (2009)). Each nucleotide is marked with one of four different size plaster spheres that refer to four different constituent bases of DNA, adenine, guanine, cytosine and thymine (the basic elements of genetic information in DNA). Bases (i.e. spheres in this work) that make this sequence T4 type are marked with red glow, other bases (i.e. spheres) reflect green on the wall.

tations on it. The unique look of the cattle, the location of the villages by the Verkhojansk Mountains, and the co-evolution of humans and cattle in these harsh territories fascinates people everywhere and makes them remember their own disappearing native cattle breeds.

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