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Reindeer hunters in Taïmyr region



INSTITUTE FOR THE HISTORY OF MEDICINE, MEDICAL UNIVERSITY OF VIENNA quondam ACADEMIA CAESAREO - REGIA IOSEPHINA 1785

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Frontispiece

The Taïmyr region, a district of Sopotchnoye, April 1996. Returning from hunting. Andreï Jarkov (first from left) welcomes men from his family to start a short expedition to follow the spring migration of reindeer. The weather is nice but cold. The hunters' breath is frozen and ice has formed on their moustaches, ice which resembles fangs. The first reindeer are heading north and only 5 females are killed. At the hunters' feet lies a reindeer skin, behind them on the left are parts of the slain animals. (Photo: Mission Ethno-renne)

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Content

(Ethno)pharmacology of Foraging, Phytofoods, and Fermentation (Nina L. Etkin and Paul J. Ross) 4	1
Man and Wild Reindeer in the Tundra and Forest Tundra in the North of Central Siberia:	
Behaviour During Hunting (Vladimir I. D'iatchenko, Francine David and Claudine Karlin) 8	3
Contributions to Visual Anthropology:	
Hunting Among the Azande in Central Africa (Armin Prinz)	l
Lectures of Our Department	2
Congresses	3
Publications of the Department 2003	ł
Ph.D. and M.A Thesesis	5

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Editorial

In the evening of December 4 Armin Prinz held a lecture for the local population which was well attended. His topic "Traditionelle Jagd in Afrika" (Traditional hunting in Africa) was of special interest to local hunters but attracted also listeners interested in Africa and its ethnography. With his vivid presentation of hunting tools and weapons which he collected during his many field-trips to Congo, Armin Prinz understood well how also to thrill a lay audience.

On the first morning of the conference after an introduction into the topic of fermented foods and drinks, archaeological and historic aspects of hunting and wine were the main theme: royal hunt as a legitimation of kings in ancient monarchies, hunting in medieval Aragonese legislation, a general history of hunting in the Czech Republic and hunting in the Pyrenean area from the early 18th century. In the early afternoon the presentations dealt with hunting in Europe, especially the controversies in discussing hunting: hunter-antihunter syndrome, forbidden hunting of snakes in Aragon, hunting as necessity and entertainment, and popular male hunting and drinking parties in the Provence. The afternoon finally dealt with ethnographic aspects in European hunting: St. Hubertus as patron of hunters, hunting and celebrating in Austria, and hunting in England as gentlemen's pastime.

The conference took place in the "Reichensteinhof" which was generously provided by the community of Poysdorf. The building dating back to the 19th century was formerly a theatre, restaurant and dance hall. Conference participants were provided with meals and drinks during the day and different social events were organised on the three evenings relating to the conference topic "hunting and wine". On the Thursday evening the Mayor of Poysdorf, Karl Wilfing, held a reception in one of Poysdorf's most beautiful wine-cellars, the Riegelhofer Cellar. Hunting horn players from "Hegering Poysdorf" made Austrian hunting rites a unique experience and the local sparkling wine contributed equally to the enjoyable evening. The following evening there was an invitation to "Heuriger Schinhahn" to taste wild boar which was hunted near Poysdorf the week before; there we could watch how wild boar is prepared locally. On Saturday evening the participants could visit the Christmas market and mix with the local population. On Sunday early morning we held our ICAF meeting; the rest of the morning the conference participants had the opportunity in small groups to visit local winegrowers and their cellars.

The conference was supported by the Wenner-Gren Foundation, The County of Lower Austria, the Vienna International Airport and private sponsors.

The next day was dedicated to regional ethnographies of Africa, Mesoamerica, Oceania and Asia. In the morning the discussed topics were hunting among the Ngandu in Zaire, female hunting among the Gbaya in the Central African Republic, the hunter's status in Africa and New Caledonia, and wine in the Arab world. The following session especially dealt with Mexico: hunters and dogs in Mexico, turtle-hunting in Mexico, European-type hunting in Mexico, and wine and ceremonies in ancient Mesoamerica. In the final session Oceania and Asia became the focus: subsistence hunting among the Bedamuni of Papua New Guinea, hunting and preparing insects in Thailand, and wild reindeer hunting in Siberia.

Judging from the many positive replies we received we think that the conference was a success from two points of view: the friendly atmosphere made it very easy to meet with the international participants and exchange ideas; and the diverse scientific background of the participants (cultural anthropology, nutritional anthropology, medical anthropology, ethnomedicine, sociology, history, medicine, agriculture) made discussions stimulating and enriching.

Ruth Kutalek

(Ethno)pharmacology of Foraging, Phytofoods, and Fermentation

Nina L. Etkin and Paul J. Ross

This paper is organized in two parts that intersect on the theme of food pharmacology. First, we compare foragers' diets with those of other subsistence categories from the perspective of nutrient content and other healthful qualities. Second, we focus on a subset of foragers' diets to explore the pharmacologic potential of fermented foods and beverages. This work is framed by a biocultural theoretical perspective that draws on human ecology to understand not only the cultural construction and social transaction of foods, but also the physiologic implications of the deliberate patterning of specific items of consumption.

The Diets of Foraging Populations

With limitations, the diets of contemporary hunting-gathering populations represent a reference standard for early humans, who had a diverse and plentiful diet and are considered generally to have been healthy. Contemporary foragers also serve as a model for defense against diabetes, cardiovascular disease, and other conditions fueled by surfeit (of protein, sugar, and fats) and magnified by the consequences of sedentary lifestyles. From the perspective of health, two generalizations about foragers' diets are especially salient: (1) <u>Diet</u> **Diversity**: Foragers' diets include a range of plant and animal resources sufficient to assure nutrient adequacy with reference to proteins, vitamins, minerals, calories, and trace elements. Further, especially because foragers diets are dominated by wild species, the potential for pharmacologically active foods is high, on the principle that bioactive chemicals have been bred out of many domesticated species. (2) Animal Foods: Researchers approximate that wherever physical and social constraints allowed, the diets of huntergatherers contained high amounts of animal products, contributing 45-65% of total caloric value. About three quarters of all foraging societies derived more than 50% of subsistence from animals, while only 14% of those societies

derived more than 50% of subsistence from botanicals. This substantial intake of animal products has captured the imagination of many who are eager to speculate about our past, especially to reflect on what the popular media portray as hunting-centric subsistence cultures. The fact remains, however, that even though as much as 50% of caloric intake may be animalderived, the remainder of foods still are botanicals, through which people are exposed to significant pharmacologic potential. A growing body of research reveals that a substantial proportion of plants that foraging people use as soup ingredients, garnishes, and masticants contain phytochemicals that have antioxidant, anticarcinogenic, and cholesterol-lowering effects.

The advent of agriculture had perhaps the most profoundly negative influence on human diets, as it encouraged the reliance on a diminishing range of species and varieties of plants and animals. Similarly, the commercialization and globalization of food fostered greater simplification of diet. Later technological advances homogenized diets to an even greater extent and favored food plants that have mundane chemical profiles, which are not likely to intersect disease processes. In sum, and particularly in the West, although agriculture advanced food availability and security compared to the diets of foragers, the quality of diet diminished. Especially compared to foragers, agriculturalists' health was compromised in other ways as well - significantly, the advent of agriculture helped to shift the epidemiologic landscape so that infection-related morbidity and mortality increased dramatically.

Fermented Foods in Forager's Diet

The remainder of this presentation is devoted to our second theme on foraging and pharmacology. Here we focus on the subset of foragers' diets that is fermented foods and beverages. Many of the plants and animals that people traditionally used for food contain sufficient water to sustain microbial growth, and virtually all human groups learned to take advantage of some beneficial microorganisms by harnessing their metabolism for particular ends, primarily for the production of foods and beverages.

Fermentation refers to changes rendered by the enzymes of live microorganisms and yields products that range across all food categories. The ubiquity and sophistication of techniques used in the preparation of fermented foods support their antiquity. While we cannot reconstruct with certainty where fermented foods were first produced, China is the postulated center of origin of the elaboration and broadscale application of fermenting techniques, beginning 6000 or more years ago. The range and variety of Chinese fermented products is especially broad and includes pickles, relishes, sauces, fish, meat, syrups, leavening agents, and shoyu, the original soy sauce. The techniques and products of fermentation were transmitted along land routes within the Chinese empire to the kingdoms of Indochina (Vietnam, Cambodia, Laos, Thailand, Malaya, and Burma). By sea and other migratory routes fermented foods were carried along the South China coasts or traversed open sea by island-hopping to the Philippines. An ancient porterage crossed South Malaya, and early China also traded with small ports along the northwest coast of Borneo. From there, fermented foods reached Java, where raw materials, techniques, and nomenclature provide evidence of Chinese origins. In addition to coastal trade there is a long tradition of overland migration into Thailand. There is evidence as well of extensive in situ evolution of fermentation techniques throughout Southeast Asia. Similarly, but less extensively, fermentation techniques were developed in parts of the New World and Africa.

Lactic Acid Bacteria

The term lactic acid bacteria denotes a functional grouping of non-pathogenic, Grampositive bacteria whose primary metabolic endproduct is lactic acid. These have traditionally been used in food fermentations, and include the species listed here. Which specific bacteria grow depends on substrate type and chemistry, pH, concentration of other constituents such as salts, and temperature. These conditions can be manipulated during fermentation to influence which microorganism is dominant, and to achieve a specific and reproducible succession of bacteria.

Nutritional and Therapeutic Benefits of Fermented Foods

Fermentation presents a number of nutritional and therapeutic advantages over the original products. Specifically, fermentations improve food digestibility and constituent availability; destroy some undesirable elements of the raw product; are antimicrobial; provide antioxidants and B vitamins; lower cholesterol, and have anticancer effects. Overall, fermentation preserves foods; transforms vegetable protein to products that have meat-like qualities; bring forth flavors, aromas, and textures; and are relatively inexpensive preparations that salvage wastes that otherwise would not be usable as food.

Enhanced Nutrient Bioavailability

Fermentation improves food quality by reducing phytic acid to physiologically insignificant levels. Phytic acid binds divalent cations such as calcium, zinc, iron, magnesium, and phosphorus – thus reducing the bioavailability of these important nutrients. Fermentations improve constituent solubility and availability, resulting in more complete utilization of consumed foods. Protein digestion, for example, makes available a more diverse pool of amino acids, some of them generated by the fermenting microorganisms themselves. Fats also are more digestible on rendering by enzymes in the fermentation starter cultures.

Decreased Toxicity

Fermentation destroys some toxic and unpalatable constituents of the raw product, including the antinutritional factors that are present in many legume seeds. These chemicals are diverse, and variably distributed, and include hemagglutinins, trypsin inhibitors, and allergens. During fermentation, problematic oligosaccharides are almost entirely degraded, which increases nutrient value as well as palatability. Cassava fermentation improves digestibility and, more important, the low pH hydrolysis of toxic cyanogenic glycosides diminishes poisonous hydrocyanic acid, making the tuber a safe food source.

Antimicrobial Action

It has been well established that lactic acid bacteria inhibit other microorganisms, including pathogens. The relative contributions of different bacteria vary, but their shared antimicrobial action derives from the fermentative pathways they use to derive cellular energy. Wherever they grow, lactic acid bacteria produce organic acids, primarily lactic acid, which can exceed concentrations of 1% weight per volume (100 mM). Hydrogen peroxide production by some lactic acid bacteria inhibits Clostridia and Staphylococci. Carbon dioxide, diacetyl, low redox potential, ethanol, and nutrient depletion all contribute to the inhibition of competing microflora as well. Lactic acid bacteria produce bacteriocins, polypeptide antimicrobials that inhibit other bacteria. Thus, they help to determine which strains of lactic acid bacteria dominate in a given fermentation. The bacteriocins of lactic acid bacteria have both broad and narrow inhibitory spectra.

By inhibiting the growth of common food-borne microorganisms lactic acid bacteria prevent food spoilage. They also promote food preservation, making possible storage and transport without refrigeration or related technologies. Lactic acid bacteria also have a more direct effect on human health through control of intestinal pathogens. In the last two decades several dozen published clinical studies report the effect of diverse fermented foods and lactic acid bacteria cultures on various, primarily infectious, diarrheal diseases. In all cases acidity is the most important factor, and the inhibition of pathogenic microorganisms depends on reaching numbers of lactic acid bacteria sufficient to rapidly diminish pH. Overwhelmingly, these studies record decreased incidence, severity, and/or duration of symptoms, with specific action against the pathogens listed here (Clostridia, Staphylococci, Shigella, Escherichia coli, Salmonella typhi, S. paratyphi, Campylobacter, and Clostridium difficile).

Antioxidants

Significant levels of antioxidants are present in fermented soybean foods. This may be explained by the release of isoflavones during fermentation and bacterial hydroxylation of the isoflavones daidrein and glycetin. Elevated levels of vitamins E and C and carotene may signify as well. By whatever mechanism they are generated, antioxidants are beneficial and have been linked to diminished risk of cardiovascular disease, cataract, and cancers and improved immune function.

Cholesterol Lowering

There is some evidence that lactic acid bacteria decrease cholesterol levels. A classic study of Maasai men in the 1970s recorded lower serum cholesterol for individuals who consumed fermented milk. Although specific cholesterolmodifying enzymes have not been characterized for lactic acid bacteria, a strain of *Lactobacillus acidophilus* has been described that metabolizes bile and takes up cholesterol under anaerobic conditions.

B Vitamins

Bacterial fermentations yield a variety of B vitamins. For sour milk, longer incubations at high temperatures result in the highest synthesis of folic acid and niacin. In the case of soybean fermentations, pyridoxine is elevated; biotin, riboflavin, and pantothenate levels double; folate increases four-fold and niacin seven-fold. A 33-fold increase in vitamin B_{12} is especially important as this vitamin does not occur in vegetable foods, which dominate traditional diets that typically include little meat.

Anti-Cancer Effects

Another physiologic benefit of fermented foods is the role they may play in certain cancers. Lactic acid bacteria may convert or eliminate procarcinogenic or carcinogenic compounds. For example, *Lactobacillus* strains have nitrite reductase activity and can degrade nitrites in vivo. Depletion of nitrites eliminates their conversion to nitrosamines, which reduces the risk of colon cancer. Colon cancer has been linked to the fecal enzymes listed here (glucuronidase, nitroreductase, azoreductase), which convert procarcinogens to carcinogens. Several recent studies show that levels of these three carcinogenic enzymes are two-to four-fold lower in individuals who consume milk that contains Lactobacillus acidophilus, compared to individuals who consume no or unfermented milk. Because these enzymes are largely of bacterial origin, the protective effect of lactic acid bacteria may be indirect, through change in the composition of the intestinal flora. Similarly, a case control study in the Netherlands found an inverse relationship between breast cancers and consumption of fermented milks, which suggested that bacterial enzymes might affect the synthesis or degradation of estrogen.

Recent studies suggest that tumor cell suppression also can be mediated through stimulation of the immune system. *Lactobacillus* spp. promote in vitro production of interferon, which can activate killer cells, and has antiviral and antiproliferative effects. Much has been published as well on the anticancer effects of fermented foods in animal models. Treatment with fermented foods, live bacteria, or cell extracts resulted in extended animal survival, decreased mutagenicity, or smaller tumors. These findings are compelling, although their implications for humans are not clear.

Conclusion

How shall we make sense of this wealth of nutritional and therapeutic potential? Should we be content with broad generalities about fermented foods and the wisdom of indigenous peoples? We think not. A more productive exercise would frame the question in the theoretical domain of human ecology in order to explore the complex nature of humanenvironment relations in the context of a particular society.

We return attention to the first part of this presentation in which we stressed the relative merits of foragers' diets vis à vis other subsistence categories. That much is still true with reference to diet diversity and the pharmacologic potential of wild foods. Additionally, as we have just discussed, the quality of foragers' diets is further extended by the healthful qualities of fermented foods. Fermented foods are important elements of diet for contemporary foragers and are likely to have been so in the past. The seasonally, or otherwise episodically, migratory lifestyles of foragers make it difficult to store or carry perishable and other items. Fermented foods tend to be lightweight and nonbruisable – they travel well.

The healthful qualities of fermented foods apply to the diets of early agriculturalists and modern populations as well. The animal-food habits that early foragers developed can be sustained in sedentary populations by consumption of preserved, fermented foods such as sausage and acid fermented cheese and other dairy products. Where meat is scarce, diets are characterized by tofu, fishpastes, and other fermented foods that mimic the taste and texture of meat. Further, the salty, piquant, and other tastes of fermented foods and condiments counterbalance the tedium of carbohydrate-based cuisines.

There is nothing controversial about the contention that foragers' diets are more healthful than those of other subsistence groups. This has become more or less general knowledge - consider popular culture and media representations of our purportedly superhealthy ancestors. The particular contribution of our presentation is to demonstrate the complexity of diet, to underscore the nuances of cuisine, and to problematize a category of diverse foods that has garnered little attention. To conclude, we revise our first statement to suggest that to the extent that fermented foods increase the nutritional and therapeutic potential of all diets, the differential between foragers' and agriculturalists' diets is compressed, at least by a small margin. One can speculate that, as infectious diseases and the potential for nutrient deficiency became increasingly important in large, dense agricultural populations, people began to take greater advantage of the antimicrobial, immune-mediating, and nutrient qualities of fermented foods.

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Man and Wild Reindeer in the Tundra and Forest Tundra in the North of Central Siberia: Behaviour During Hunting

Vladimir I. D'iatchenko, Francine David and Claudine Karlin

The hunting of tundra reindeer has long been the basic means of existence of the northern nomads, in particular those of Central Siberia between Taimyr to the west (fig.1) and Lena to the east. It is here that the largest reindeer populations live, representing about one million animals. Until quite recently all the economic resources of the indigenous population (Dolgans, Evenks and Yakouts of the north) were based on reindeer hunting; it provided them with meat, skins for clothing and habitation needs, elements essential to survival in far north conditions. The history of these



Fig. 1: Map showing where northern nomadic people (Evenks, Dolgans and Yakouts of the North) live and hunt (Mission Ethno-renne).

northern nomads shows how vital hunting has been to them, even in the still recent past. Variations in the migration dates of the reindeer and in their migratory territories have brought periodic famines to these peoples, resulting in the occasional disappearance of entire communities.

In no other region of the world has there existed so much variety in hunting techniques than in the territory between Lena and Taimyr. This is explained not only by the region's natural geographical features, but also by the history of its indigenous people. Their ancestors who inhabited it relatively late came from neighbouring territories with their forest-region hunting habits. In their new environmental context they not only knew how to master hunting techniques proper to the tundra, but also completed and enriched their hunting practices in a taiga and mountain-taiga context. These traditions were passed on from generation to generation.

In devoting themselves all year long to the hunting of wild reindeer, the hunters acquired perfect knowledge of their behavioural particularities, without which they would not have captured enough animals to live on. Not only did they know these particularities intimately, but they also successfully adjusted their hunting methods to them, adapting their classical hunting models to the conditions of the tundra. With minimum effort they reaped maximum efficiency for survival. Thus until very recently, between Taimyr and Lena the indigenous population practised seven different reindeer-hunting methods: hunting during river-crossing, different forms of lie-in-wait hunting, hunting using trained reindeer (with the use of a second reindeer and a mounted reindeer), hunting by rope knotted onto the antlers of a domestic reindeer, screen hunting, crossbow hunting in forest tundra regions, and hunting by tracking on sledges: in other words, intimate knowledge of the animal's habits and the use of this know-how during hunting so as to quickly adapt to the situation in hand. The more a hunter uses his knowledge of reindeer behaviour, the greater his chance of success.

Hunting During River-Crossing

As we know, the tundra reindeer move towards the north, towards the coasts of the arctic ocean in spring and from the ocean, south, in the autumn. Their annual migration routes have been known to hunters since ancient times; they organise the hunt along these routes, in particular in spots where the reindeer cross the rivers. Before beginning the hunt, they choose a chief to lead it. Water hunting was a collective affair, but each participant knew how it would unfold, and the role they would have to play. The prerogative of the most experienced among them was to kill on the water; they also had to know how to row.

Having come to a river bank, some reindeer herds, especially those which arrived first, would not decide to cross for two or three days. Sometimes they would even head out along the bank to another crossing point (tigyan). But once the first reindeer had taken the plunge and was swimming to the other bank, the others would follow immediately. They would usually choose places where the current was weak, interspersed with sandbanks in the middle of the river-bed. The biggest crossings took place during cold and windy conditions, sometimes even on stormy days when the rivers and gulfs had already begun to freeze. In darkness, the reindeer would not cross, so neither did the hunters have to keep watch. Moreover, "in fine

weather, they (the reindeer) eat and drink", said the local people. So they would not cross either.

Most often, the females were first to take to the water, followed by the rest of the herd. The hunters in their boat would encircle the herd and to tire it more quickly, would drive it against the current or the wind, if there was wind. The less experienced men would remain on the bank with the women and children to prevent the reindeer from coming ashore. They would first make a lot of noise to scare them and then fall silent to keep them grouped. When the boats approached the herd, the hunters would row parallel to it and begin by killing the animal furthest away with a lance, and finish with the animal nearest, aiming for the lower ribs or back. In the thirties, the use of rifles was forbidden so as not to disadvantage those who had none. When the boats were numerous, two hunters would come up front to direct the herd while the others would approach the reindeer from the right side attempting to kill them in one go. On occasion, certain males would attack a hunters' boat and attempt to overturn it. Experienced hunters could recognise such animals and would try to slaughter them immediately. When there was only one boat (fig. 2), the hunter would enter into the midst of the herd and kill all that he could on all sides. The hunt ended when no animals remained alive in the water. To then recover their booty, the hunters would make a kind of floating train, tying the reindeer by the nostrils to a long rope. They could link up to twenty animals in this manner, one behind the other, separated by a body-length. Or they



Fig. 2: Dolgan drawing. Two moments of hunting. – Below: the dog pushes the reindeer towards the lake and the hunter is going to the boat. – Above: the hunter is headed for killing the reindeer (photo: Kunstkamera, St. Petersburg).



Fig. 3: After a good hunt (1930s) (photo: Kunstkamera, St. Petersburg).

would attach them by the antlers and feet to form a kind of floating train.

The hunt was considered good if in the space of time when "a man could smoke a pipe" he could catch 20 reindeer. Yet an inexperienced hunter or a beginner could spend the whole hunt trying to deal with one single animal. During mass migrations, hunters might slaughter between five and six hundred reindeer during each river crossing. And in the thirties two good hunters could kill up to 130 animals in a day (fig. 3).

Lie-In-Wait Hunting

Lie-in-wait hunting is largely based on the manner in which the reindeer move from place to place. When they are feeding they move in well-defined directions: against the wind, always up-slope, or following a visible bearing: a riverbed, or for example, the trace of another reindeer. The wind, the incline of the terrain, the scent of another reindeer or herd stimulate it, according to the environment, to orient itself towards a peaceful and secure resting or grazing spot.

This way of moving holds true for every season of the year and has always been taken into account by hunters. Once the herd or group of reindeer had been sighted from afar, the hunter would stop and try to gauge the direction taken by the herd if feeding, and to study the particularities of terrain and wind direction. Depending on the wind, it was possible to remain hidden from the reindeer or not. The hunter had to be downwind of the herd, or at least benefit from a crosswind. If the wind was weak, its direction was determined using hairs plucked from fur clothing, or leaves or dried grasses which the hunter would cast in the air. Once he had ascertained the direction of the wind, the hunter would decide upon an approach itinerary, taking the natural relief and the possibility of hiding into account. If the reindeer happened to be at the bottom of a valley with a river, it was possible to act swiftly and easily. In terrain without rivers in which there was little possibility of not being detected, the hunter was often obliged to crawl on his belly, hiding among small rises and tufts. With grazing reindeer and wind permitting, the hunter would come to meet them, as it were. He would stretch out and patiently wait for the animals to approach within a suitable distance for firing. Otherwise, it was up to the hunter to get closer. He would do so with great precaution. Crawling, he would strive to always maintain the initial direction. And if the reindeer were growing wary and began to get nervous, he would remain dead still until the herd calmed down anew. Once they have fed, reindeer usually regroup to ruminate a while and to doze. Approaching such a group is in fact more difficult, in that lying reindeer are more circumspect and react very rapidly to the slightest movement.

This method was practiced outside of the autumn migration. In winter, it was used with great precaution on darker days of wind and snow. The noise of the wind would stifle that of the walking hunter and the falling snow would prevent the wild reindeer from seeing him. The latter would come to the forest-tundra with a domestic reindeer. When he spotted a reindeer herd he would head for it, hiding behind trees as he went, to fire usually from fairly close range. After the first shot the reindeer would usually get agitated, but not be able to determine where the shot had come from. The hunter could thus re-fire from the same spot. In a good period, he might shoot five wild reindeer or more in one go.

In summer he would hunt when the wild reindeer herds were split up into smaller herds. This was the only hunting method possible. In spring it would be during the migration north when the snows would begin to melt and allow dark patches to appear. Once the herd of wild

continue page 17

Contributions to Visual Anthropology

Hunting among the Azande in Central-Africa

Armin Prinz

The Azande are a hunting and farming population who live in the border regions between the Democratic Republic of Congo, the Central African Republic and the Sudan¹. With the exception of chickens and dogs, they have no domestic animals. The main source of animal proteins is therefore derived from hunting and fishing. As the greater part of the Azande population lives on the watershed between the Nile and the Congo rivers, fishing is not very productive. The water-levels of the small creeks and rivers in this area change considerably. In the dry season the rivers nearly dry up, during the rainy season there are floods, conditions which do not enhance the development of the fish population. It is the work of the women to catch some small fish using nets, baskets and the fish poison mokoko (Tephrosia vogelli) (Prinz 1999). The importance of hunting for this population is underlined by the extensive knowledge on animals and especially game. An average Zande² knows about 100 species which are hunted, specialised hunters even more. The hunted animals range from elephant, buffalo, wild boar, and antelopes to monkeys, crocodiles, non poisonous snakes and turtles (Prinz 1976: 178ff).

The totemistic clan system and the clan animal also have a significant influence on hunting. Nobody is allowed to kill his totem animal nor the animal of his mother's clan. However, not all Azande totems have a large influence on the daily food intake. Some of them are animals which are not eaten, like the lion, the leopard and poisonous snakes, some of them are only seen as an animal in the Azande notions of nature, like the rainbow, thunder or a flash of lightning. However, the Azande totemistic system in fact plays an effective role in the traditional protection of nature because there is always a certain amount of people who are not allowed to kill specific animals.



Our logo for this series: Azande children inspecting the camera of a visual anthropologist. Photograph: Manfred Kremser

As usual in hunting societies boys start to hunt small animals and birds very early. With selfconstructed slings, bows and traps they try to catch small rodents, pigeons or guinea fowl, which they like to prepare on the spot. This, together with the collected insects and fruits is an ideal nutritional supplement for the children. The most successful hunting boys are accepted in the adult hunting parties quite young. There are hunting groups where boys not older than 10 years are already fully accepted members (fig. 1). They are quick, attentive, daring and eager to gain recognition, facts which are also a reason for the recruitment of so-called "child soldiers" in unstable counties.

Rituals linked with hunting are numerous, but none of them are very spectacular. When a boy



Fig. 1: A hunting party of the Azande with hunting nets; the leader in front carries magical medicines in his left hand to be offered to the spirits of the animals.

takes part for the first time in big game hunting, he is initiated by an old hunter. He cuts several symmetric incisions into the skin of the back of his hands and feet. Magical substances are then rubbed into these wounds They should enable the novice to handle the arms and to aim at the animals properly. Sometimes hunters go to the shaman (*binza*) who will consult an oracle to identify the most promising hunting places³. The hunter can also bring his spears and guns to the oracle operator to find out which will be the most the successful weapon (Prinz 1999).

There are secret societies such as the basolo, which use a magic substance smeared onto the weapons and traps in the hope of enlarging their yield of meat. For the preparation of this substance they need a clitoris which is "stolen" in a magical way. While shaking hands with a woman, the organ "wanders" through the hands into a small leather bag on the belt of the hunter. In the bag are several other magical substances. They are carbonized at home together with the whole bag. The black powder produced is mixed with peanut oil and smeared onto the weapons. A woman who believes she is a victim of such a practice starts to panic. She then consults oracles to find out who the evildoer was in order to force him to return the clitoris before he destroys it. If she is too late she believes that she will die if a special female shaman nabinza basolo is not able to save her life (Prinz 2001).

When a hunting party leaves the village the leader carries magical plants with him, which are offered to the spirits of the animals to calm them down before entering the hunting area (fig. 1). Small coins are also thrown onto the ground as a sign that they do not want to have the meat for free, but that they are willing to pay for it.

The construction of traps is very common and there are numerous types and construction variations. They are not only designed to catch animals but also to protect the fields. The type gbua, a deadfall trap, is especially used to protect maize and sorghum from monkeys and other animals (fig. 2). A heavy stone lies on a wooden triangle and when the animal pulls at the bait, mostly a corn-cob, the relay opens and the animal is trapped under the wooden board.



Fig. 2: The deadfall trap gbua (Prinz 1976: 197).

Another deadfall trap is the type dangbo, which is used to hunt smaller animals like rodents, aardvarks or hyraxes (fig. 3). The trap consists of a cage which is opened at one end, and a wooden log. When the animal enters the cage to reach the bait again the relay is released, and the wooden log drops und buries the animal underneath. For larger animals the Azande use spear traps gbolo (fig. 4). In a big and heavy wooden log they insert the iron spearhead of the largest lance called kawagia, which is about 40-50 cm long. This kind of trap is used to hunt very large animals such as elephants and buffaloes. For this reason they are often combined with a pitfall which is filled with pointed stakes. When the animal steps onto the relay, it is not only wounded in the neck by the



Fig. 3: The deadfall trap dangbo (Prinz 1976: 198).



Fig. 4: The spear trap gbolo (Prinz 1976: 196).

spearhead but is also impaled simultaneously by the stakes (Prinz 1976: 195ff).

Hunting is usually done with dogs. The Azande dog *ango* is an autochthonous race of Central Africa, which has some special characteristics⁴ (fig. 5 and 6). It has no dewclaw, it cannot bark and does not have the same smell as other dogs. The Azande are very fond of their dogs. They feed them regularly, their owners carry them around with them, and children play with them. As they are not able to bark, they need clocks prepared from the shell of the Palmyra palmtree (*Borassus flabelliferum*) fruit, in order to flush up the animals (Prinz 2002).

There are two different kinds of hunting. If a man goes alone into the bush only accompanied with his dog, the Azande call this *do*, if there is a hunting party they say *sasa*. Bows *amboto* and arrows *aguanza*, spears *abaso* and guns *atu* are used as hunting weapons (Prinz 1976: 184ff).

Large animals which have been killed far away from the village are eviscerated on the spot and the meat, the inner organs and the intestines are preserved immediately. On hastily constructed wooden drying frames the flesh is smoked for some days until it is completely dried. During this time the hunters stay in temporary camps. Smaller animals, especially if they where killed near a homestead, are transported into the compound of the hunter and disembowelled directly in front of the ancestors shrine (fig. 7). The scull, the spleen and some money are offered to them by the owner of the homestead (fig. 8).

The arrowheads are poisoned with the latex-like sap of *Periploca lineari folia or Parquetina nigrescens* (fig. 9 and 10), and both are also used to vulcanise the inner tube of bicycles and even lorries (Prinz 1999). Sometimes the poison is mixed with the sap of *Rauwolfia vomitoria*, the alkaloids of which fortify the cardio toxic activity.







Fig. 10: Cuts in the blade of the arrowhead to facilitate the adhesion of the poison.

The Azande have been and to some extent still are very famous for their blacksmith skills. Their iron spearheads are especially well made, sometimes with attractive decorative engravings. The have considerable variety in form and function. The longer ones like the types *kawagia* or *koya* are used to hunt large animals such as the elephant or the big antelopes. For quick and aggressive animals like the buffalo they use the type *katakpa*, which has barbs to hinder the wounded animal from easily removing the spear (Prinz 1976: 185ff).



Fig. 5: A Zande dog (ango).



Fig. 6: The first image of a Niamniam (Azande) dog drawn by Schweinfurth in the year 1870 (1922: 295).



Fig. 7: A wild boar is disembowelled in front of the ancestors' shrine.

Fig. 8: Money is offered to the ancestors.





Fig. 12: Treatment of a *kaza ngua na tua*. The healer examines the back of the patient.



Fig. 13: Treatment of a *kaza ngua na tua*. The painful area is incised after being smeared with black ointment.



Fig. 14: Treatment of a *kaza ngua na tua*. The treatment along the leg indicates the radicular symptomatic of the patient.

Since the beginning of the 19th century the Azande acquired fire arms which were exchanged for slaves from Arabic slave traders. Even nowadays one can find this old muzzle-loader in remote areas of Zandeland, but mostly people construct their own guns. As barrel they use old water pipes or other iron tubes with a 12 mm calibre (fig. 11). Into old shot cartridges they fill in quite large amounts of gun powder and a homemade lead bullet. These projectiles are quite dangerous and can seriously injure the hunter.

For hunting smaller antelopes the Azande use nets apio (fig. 1). They are about one and a half-metres high und 10 to 20 metres long. When the dogs sense that there is an animal in a shrubby area, the hunters fence it off with the nets. Afterwards some of them enter the thicket and chase the animal from one fence to another until they are able to spear it. Another possibility is hunting with fire. The hunters surround a certain area and set fire to different spots. If animals try to escape, the hunters wait outside to spear them. Sometimes animals are killed by the fire and their skin bursts with an explosive bang. This sound is called *susu* and a very good sign for hunters, because they can be sure that they have been successful.

Hunting in a traditional way can also be a health hazard. Not only can people be injured by fire, by accidents with hunting weapons and by wounded animals (especially the buffalo is very dangerous), they also run a much higher risk of being infected with sleeping sickness, which is fatal unless treated within two years. But there are also other health problems linked with hunting. Already in 1972 I saw a pathological condition among the Azande, which they called *kaza ngua na tua*. This means "illness caused by magical substances which infect hunters". They reported that the infected patients were unable to even move due



Fig. 11: Homemade gun.

to pain and feebleness. They believed that the disease was caused by evil, jealous fellow hunters who deployed magical substances along paths leading through the bush in order to protect "their" hunting grounds from strangers. The substances, according to belief, are slowly absorbed by the body thus causing the "hunters disease". The traditional treatment is done by incisions in the skin along the painful muscles and nerves (fig. 12, 13, 14). Being unable to diagnose pathological changes in the patients that would have explained the pain, I considered this kind of disease to be a hypochondriacal-neurotical disturbance in the sense of a "Culture-Bound Syndrome" (Prinz 1991). Only by coincidence in 1986, when we conducted a serological-epidemiological study, did the disease turn out to be Lyme Borreliosis. The severe disease transmitted by ticks and other blood-sucking insects very often leads to protracted suffering and was conclusively clarified by Western medicine only in 1982 (Stanek et al. 1989).

Notes

A map of the Azande area is published in Prinz 2003.
 The suffix "a" indicates in the Zande language the plural.

3 Oracle consultations can be seen as a kind of life counselling. When a Zande is doubtful about the future he likes to visit an oracle operator to get information on how to deal with the new situation (Prinz 2003).
4 The Azande dog is subject to intensive breeding in the USA and Europe. In the homepages of some breeding organisations it is named the Basenji dog which is, according to a letter from the former British District Commissioner of the Zande District of Southern Sudan, Major Wyld, a European invented word based on a misunderstanding of a British lady in the Congo (Wyld 1945).

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Man and Wild Reindeer in the Tundra and Forest Tundra in the North of Central Siberia: Behaviour During Hunting

continued from page 10

reindeer had been spotted, the hunter dressed in dark clothing would outstrip them and lie in wait in a snow-less area so that the reindeer would not pay attention to this particular dark patch, namely the hunter. He would only have to wait for the distance to close sufficiently to fire. If the reindeer were too far away, he would crawl forward with great care. But if the reindeer began to grow wary, he would stop dead in his tracks until the animal became totally calm once more. In the opposite case, if the reindeer happened to be on a snow-less patch, it would inevitably detect the hunter before he had time to fire. This method is more easily practicable in forests.

Hunting Using Trained Reindeer

A specific feature of reindeer is to be drawn to what resembles them. When they mutually perceive each other, they are inevitably drawn to one another, even upon the sight of a mockup in their image. Despite their rather poor eyesight in comparison to their extraordinarily developed sense of smell, reindeer are capable at a distance of 300 metres to distinguish the smallest details of another approaching animal. That is why the antlers of domestic reindeers trained as mantchiks for this kind of hunting have to be cut, and formed into a little crown. As in wild reindeer herds, large antlers are worn only by very few large reproducing males. In smaller herds such males are even absent. Young males and grown-up males usually have smallish antlers. If domestic reindeer, which are being used as a ploy by which to hide from the wild herd, have large antlers, the wild herd can get very wary indeed.

The outline of a quiet reindeer observed at a

distance of 500 metres is a sign that the environment is favourable. And if the wild herd is worried by something, the sight of the silhouette of the domestic reindeer peacefully going about its business inevitably triggers a precise effect: the group tends to rush towards it. The hunter uses this ploy, hiding among a group of peaceful domestic animals. Having fired on and felled the most distant animal, the hunter can expect the wild herd to rush towards the peaceful domestic group in which he is hiding. This enables him to fire anew. Very often, fleeing before the gunshots, the reindeer do not discover the hunter if he does not make any sudden moves and remains still. Having moved away to a distance of 2 or 3 kms,the herd stops and begins to graze once more. When there are a lot of wild reindeer in the tundra the experienced hunter, despite the shortness of the winter days, has the time to approach two or even three herds.

As with screen hunting, this hunting method is based on reindeers' instinctive gregarious behaviour. The professional hunter within the group of domestic reindeer must manage to get within firing distance of the wild herd. Dressed in a light coloured costume, he resembles, from afar, a facing reindeer. Moreover, it is very important that he wear light coloured boots, as legs and feet covered in dark coloured kamous (the sturdy skin of the reindeer's legs used for making boots) would appear suspect. Upon approaching the wild herd, the hunter bends, lowering himself to the height of the withers of a standing reindeer. If he bends too much, he will attract the wild reindeer's attention and frighten it. This means of advance is also used when hunting by rope knotted onto the antlers of a domestic reindeer. According to the relief

of the terrain, throughout his approach to the herd the hunter closely monitors the behaviour of the wild reindeer and accordingly changes his tactics of advancement, striving to give the group of reindeer in which he is hiding the appearance of a herd quietly grazing.

Once the wild herd had been spotted, the domestic reindeer would be immediately directed towards them. On open terrain, with little or no relief, this special hunting method using a trained domestic reindeer has been practiced for a long time. A female with her fawn, which has the same colour coat as wild reindeer would usually be used. This was practiced outside of the autumn mass migration, especially on mild overcast days. In addition to the trained reindeer (ondoto), the hunter also used two other domestic reindeer, one to help the ondoto, the other to be mounted (fig.4). Once the wild reindeer had been spotted the ondoto's key task was to approach them without haste, taking long pauses at times. The hunter would sometimes have to lie on his belly on the snow to calm the wild reindeer. The role of the second reindeer was simpler: it would walk behind the ondoto and form a kind of screen between the wild reindeer and the



Fig. 4: Hunter harnessing his reindeer (photo: Mission Ethno-renne).



Fig. 5: To steer the trained reindeer, the hunter fix tethers to his leg (photo: Mission ethno-renne).

hunter. The third reindeer, the mount, which had helped the hunter to get this far, would now also help the hunter to dissimulate himself. This reindeer would work with the first and second animals who would walk in front of him with the help of two long tethers. The length of each tether was between 100 and 150 metres for the ondoto, the first reindeer, and half that for the second (fig. 5). When the wild reindeer looked at the domestic group, they would not take fright as such little groups are common among wild reindeer. Thus the hunter, dissimulated among the domestic group, could get very close to the wild herd and shoot at them with a rifle, or formerly a bow. On this occasion, the ondoto would wear a special bone collar for guiding purposes. Sometimes the hunters would get within 20 to 30 metres of the wild herd, but would go no further so as not to show the tethers on the domestic animals. The hunter would fell the largest, fattest animal first, aiming for the shoulder, to knock it off balance. Great confusion would follow in the wild herd, but it would not take flight as it did not know where the shot had come from. The hunter could thus fire ten or fifteen times before the herd would eventually take flight. Very often they would not manage to spot the hunter at all if he remained still. Then they would move off to a distance of 2 or 3 kms to begin grazing anew. After gunshots, wild reindeer do not split up on all sides. They tend to run in a circle around the point of departure of the first shot. The circle would then widen and the reindeer split off in a sideways direction. A good hunter could kill up to ten or more animals a day.

In unfavourable conditions, the animals regroup quickly. This can begin by a fright caused by a surprise of any sort, either by humans or trained reindeers (unless absorbed in the quest for food). If one takes fright, this is immediately transmitted to the others and causes instant clustering into a dense circle. If that which caused the fright does not diminish, a leader reindeer bursts forth from the herd and the others immediately flee in its wake. After gunshots, wild reindeer do not split up on all sides. They tend to run in a circle around the point of departure of the first shot. The circle would then widen and the reindeer split off in a sideways direction.

Hunting Using a Domestic Reindeer with Rope Knotted into its Antlers

In October-November, during the wild reindeer mating season, the males engage in combat. Some hunters then use domestic reproducers who they allow to approach the wild herd. These domestic animals would have a rope knotted into the branches of their antlers (fig. 6). The cord, 5mm in diameter and 5 metres long, was made from reindeer tendons. One end of the cord was attached to the base, the other to the tips of the antlers. To do this, the hunter would choose a male with the widest



Fig. 6: Drawing showing how to fix the rope to the antlers (photo: Kunstkamera, St. Petersburg).



Fig. 7: Method of hunting with rope fixed to the large antlers of a male (photo: Kunstkamera, St. Petersburg).

possible antlers (fig. 7). To have wide antlers, in summer the hunter would attach a kind of wedge to them. Hunting in this manner was not complicated. Once he had spotted a wild herd with a large male, he would release the domestic animal. The trained reindeer would immediately head for the wild herd and the hunter would hide. The wild male would come to meet the domestic animal and begin to clash antlers with him. During the combat the wild reindeer's antlers would get caught up in the cord, whereupon the hunters would approach and kill him using a rifle or a knife. The domestic reindeer would then be released, the cord affixed anew, and the search would then begin for another herd to hunt. Using this method, it was only possible to capture males of about 5 years old. For this reason and due to the shortness of the days in late autumn, this method gave poorer results when compared to other methods. However, before the arrival of the gun, it was quite widespread.

Screen Hunting

Screen hunting was practised in winter on days when a light breeze would whirl the snow into a kind of ground-level mist. The hunter would use a wooden screen, *dalda*, (fig. 8) two metres long by 30 to 40 centimetres high, covered with frozen snow or a white cloth. It was placed on two little skis and featured a hole in the middle by which it could fire. Two little wooden forks served as rifle steadies in case of approach. The hunter would dress entirely in white for maximum invisibility. When he spotted the wild reindeer, he would hook up the sledge and follow them on foot, holding the screen before him. As soon as the wild reindeer pricked up their ears, he would stretch out on the ground



Fig. 8: Screen-hunting method (photo: Mission Ethno-renne).

and crawl forward pushing the screen before him, which slid on little kamous-covered skis. Having got within striking distance he would fire, but never more than two or three shots, after which the reindeer would startle and take flight. This form of hunting was not very fruitful. The initial bewildered paralysis of the reindeer can last but a few seconds. Yet this particularity is used by the hunter when hiding behind the screen. The best time to fire is when the reindeer are feeding. As the reindeer are wholly absorbed in their food, they can remain totally indifferent and simply cast a glance at the person who happens to be near them. If they move, the hunter lets out a whistling noise, whereupon the reindeer stop in their tracks and the hunter, without moving, has the possibility of firing upon the static animal.

Crossbow Hunting

Crossbow hunting was mainly practised in forest tundra regions where the herds of wild reindeer would come to winter. The stake out would begin at the end of October before the appearance of the first herds of wild reindeer descending from the tundra towards their wintering spot. A kind of hedge would be set up by the edge of the forest, a hedge which blended into the forest background so as not to frighten the reindeer. It was in the form of a continuous zigzag but with points of passage where the crossbows would be placed (fig. 9). If it were too straight the reindeer would skirt around it. Thus its general orientation was perpendicular to the reindeers' habitual route, namely on a more or less east-west axis.

Encountering the barriers, the wild reindeer would attempt to pass through the openings and



Fig. 9: Crossbow-trap

there, triggering a trip-cord with their hooves, would release the loaded crossbow, which would kill them with a single arrow. During the setting up of the crossbows, the hunters took account of the fact that the moment they triggered the bow, the reindeer presented itself flank-on so that the arrow would penetrate beneath the shoulder-blade. If the crossbow were good, the arrow would pass through the reindeer. Many animals were killed in this fashion.

The barrier of posts would extend for a distance of 3 to 5 kms, unbroken, but usually did not exceed 10 kms by the trees edge. This was due to the difficulty in transporting the necessary materials and the fact that in treeless tundra the barriers would be too visible. The openings in which the crossbows were set up were spaced at a distance of 50 to 100 metres from each other. The number of crossbows varied between 15 and 80, but they were more numerous in the angled sections. On 15 km barriers the nomads would install over 200 crossbows.

At the height of the migration period the crossbows would be checked every 1 to 3 days, sometimes daily. For this reason the hunters would set up camp not far from the barriers. In autumn a hunter who had set up 200 crossbows on a mass migration path could bag up to 100 reindeer. This hunt would last for 6 to 8 weeks before the beginning of the artic night and at the end of the southern displacement of the reindeer herds.

Tracking on Sledges

This was the most widespread hunting method in the 20th century. It would begin with the first snowfalls. To hunt, one required three well-fed domestic reindeer and a light sledge. They were changed for each new expedition. The hunter's clothing was usually white or light coloured. The hunters would leave their encampment very early before dawn. Having arrived at the spot where the wild reindeer were gathered, they would split up so as not to get in each other's way. They would arrive at the hunting ground in total silence. The hunter would stand upright in the sled to scout the reindeer before being seen. Once they were spotted, he would stop and determine the direction in which they were proceeding (unless of course they were feeding), study the features of the terrain and the direction of the wind. Once he had established his hunting plan, he would try to approach the nearest herd, sometimes slipping behind a rise so as not to be seen. When he no longer had any possibilities for dissimulation left to him, the hunter would drive his own reindeer at full speed towards the feeding herd. The wild reindeer, having noticed the hunter coming towards them, would startle and begin to run in the overall confusion. At this point the hunter would have to pay particular attention to how he chose to head off the herd. Adjusting his direction, he would aim for the shortest possible cut-off point. The wild reindeer would be in total panic. In their desperate attempt to outstrip him they would form a circular arc towards which the hunter would drive his sledge directly so as to catch them. In this way he would gain upon them and once within striking distance, he would choose the moment to fire.

After a successful hunt upon returning home the hunter would repatriate the slaughtered reindeer that same day. When there were many and the sled team were tired, the hunter would gather his spoils together and leave them at the hunting spot until the following day. He would then send a member of his family (an old man, youngsters or wife) to bring home the killed animals. It was frequent for arctic foxes to follow the wild reindeer herds and these would quickly find the slaughtered reindeer. So the hunters would set up traps near the carcasses for the night. The next day, in addition to the spoils of the hunt, the hunter could bring home arctic foxes caught in the traps.

A fruitful sledge hunt depended on several factors: the quality of the arms used, the skill of the hunter, the physical state of the domestic reindeer team used to draw the sled, the number of wild herds, their degree of attention and also the weather – preferably, overcast with snow – the relief of the terrain and the movement of the reindeer. Sometimes, during a cold winter, hunters near the forest edge would use an echo effect. When the reindeer stampeded towards the woods, the hunters would begin to yell. The echo from the woods would frighten the reindeer who would then form a circle, bringing them almost into the path of the approaching hunters.

Prior to the arrival of the Russians, the indigenous people did not drink alcohol. In the tundra until quite recently, some people used to ingest hallucinogenic mushrooms. They would eat them in particular during shamanic preparation, during festivals and death ceremonies. In the taiga, for example, the Yakouts, who bred horses, would prepare a drink called *kumis*, a kind of fermented mare's milk. They would consume it on festive occasions and after a good hunt. In the Far North, alcohol, now mainly vodka, came into use only with the arrival of the Russians.

By way of conclusion in this brief overview we have attempted to outline the most characteristic behavioural traits of the wild reindeer and how such traits are taken into consideration by hunters in the various methods they use to acquire subsistence. By adapting their hunting methods to environmental conditions they have honed them to maximum efficiency. We have also outlined how the domestic reindeer plays its part in all this, as a means of transport for finding game, as a match in terms of speed and as a decoy.

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Lectures of Our Department

Armin Prinz: Introduction Ethnomedicine (for graduate and undergraduate students)

Start: Wednesday, March 10, 5.00-6.30 p.m., Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25

Introduction, theoretic and methodical concepts, the position of Ethnomedicine in Medical Anthropology, ecology and epidemiology, medicine and cultural change, patterns of medical thinking and doing, humoral and solidar concepts, culture-bound syndromes, surgical practices in Ethnomedicine; all topics with slides/examples from own research

Ruth Kutalek: Ethnopharmacology and -botany

Start: Tuesday, March 9, 1.15-2.45 p.m., Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25

Introduction and history of Ethnopharmacology and -botany, important plants and plant-groups (mind-altering plants, hunting poisons, ...), use and categorisation in indigenous societies and in our own, field-techniques of collecting plants

Guestprofessor

John Janzen (University of Kansas): Themes in African Medical Anthropology

Start: May 2004 (will be announced) Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25

Health does not just happen, it is socially reproduced; how therapeutic resources are defined, shaped, and used in "therapy management"; African approaches to misfortune and wellbeing: why divination is so central to health and healing in Sub-Saharan Africa; ngoma: one of Sub-Saharan Africa's most widespread therapeutic institution; ngoma: the historical context of "waxing and waning" of cultic therapies in relation to modes of afflictio and sources of distress; ritual dimensions of sickness and healing, developed into a social sign or semiotic theory; the importance of trauma healing to overcoming cycles of revenge and violence.

John Janzen: Seminar: Field & Analytical Methods in Medical Anthropology

Start: May 2004 (will be announced), Institute for the History of Medicine, auditorium (Josephinum), Währingerstr. 25

Methodologies for the research and analysis of the "social reproduction of health"; a look at methodological issues in the original work on "therapy management" and "therapy managing group", critiques and reviews, and where this perspective has gone in medical anthropology; studying divination in ethnographies of divination clinics, divination-type discussions in therapy management settings; ethnographic and up close methodologies for the study of ngoma networks and healers; long-term and historical perspectives, shifting epidemiologies and political dimensions of ngoma; what is the methodology of semiotic analysis in medical anthropology, and what difference does it make? Approaches to anthropological research in highly charged settings of Rwanda, Burundi, and Eastern Congo in 1994-5; follow-up in cases returning home, and those ending up as refugees in other countries.

Lectures of the Module MAKOTRA (Ethnomedicine/Medical Anthropology) which are held at the Department of Social and Cultural Anthropology, University of Vienna, are announced under www.univie.ac.at/voelkerkunde

Congresses

2nd African Conference on Social Aspects of HIV/Aids Research. Conference Theme: "Social Aspects of Access to Care and Treatment", 9-12 May 2004, Cape Town, International Conference Centre, South Africa. Organised by Human Sciences Research Council, South Africa

The African Conference will be a vehicle to improve the effectiveness of the SAHARA (Social Aspects of AIDS Research Alliance) and to integrate its activities more closely with those of other organizations and individuals active in HIV and AIDS control within the African continent, through sharing information on progress and experience on social aspects of HIV/AIDS research. This is particularly so in view of the increase in overall activity anticipated following the recent establishment of the Global Fund against Aids, Tuberculosis and Malaria and other international initiatives to mitigate the problem of HIV/AIDS particularly in sub-Saharan Africa. It will identify the barriers to interaction between researchers and decision makers in government ministries so as to enhance the impact of research on effective programmes to reduce the spread of HIV/AIDS in Africa. The conference will be a unique opportunity for African researchers to make inputs to a continent wide research alliance on social aspects of HIV/AIDS. The proposed nine thematic tracts of the conference are: Nutrition and food security, policies of access to care, stigma in relation to care, cultural and communal mobilization, human rights – legal and customary law issues related to care, drug and trade related issues, the financing of AIDS, orphans and vulnerable children, HIV surveillance.

Deadline for abstract submission is: 20 March 2004; submit abstracts to: Prof. Karl Peltzer, Social Aspects of HIV/AIDS & Health, Human Sciences Research Council, Private Bag X9182, Cape Town 8000, South Africa, e-mail: llamour@hsrc.ac.za, Fax.: +27-21-4612696 or 4610299

Conference chair, information and organization: Dr Olive Shisana, Executive Director, Social Aspects of HIV/AIDS & Health, Human Sciences Research Council, Private Bag X9182, Cape Town 8000, South Africa, Tel: +27-12-3022860, email: mrousseau-maree@hsrc.ac.za

8th Biennial EASA Conference, Vienna 08.09. – 12.09.2004Workshop title: Facing Distress. Distance and Proximity in Times of IllnessConvenors:Els van Dongen, MA, PhDProf. Dr. Armin PrinzMedical Anthropology UnitMedical UniversityUniversity of Amsterdamof ViennaOudezijds Achterburgwal 185armin.prinz@univie.ac.at1012 DK AmsterdamThe NetherlandsEmail: elsvandongen@compuserve.com

Distance and proximity are concepts par excellence to describe what may happen in times of illness and suffering. The possibility of proximity of the sick person and others manifests itself, but the opposite also happens resulting in loneliness and feelings of desolation. Nature and quality of social relationships can be caught in times of illness and suffering. Illness raises questions for all individuals who are involved in the process concerning the relationships between individuals and between individuals and society. In times of illness, the sick individual will question the relationship with others and being-in-the-world. In relationship with others, such as doctors, a sick person can experience empathy and compassion, but also conflict and struggle. The difference between the work of anthropologists and doctors focuses the attention to the relation between empathy and the production of knowledge. Issues of distance and proximity in illness and suffering vary in various situations; they are related to age, gender, kinds of illnesses and they depend on the anthropological approach.

Publications of the Department 2003

Prinz, Armin: Ethnomedical film work among the Azande – Part 1. Contributions to Visual Anthropology: In: Viennese Ethnomedicine Newsletter 5, 2, 10-16.

Prinz, Armin: Anthropologische und ethnokulturelle Aspekte der Genese von Krankheiten. (Anthropologic and ethnocultural aspects of disease genesis) In: Karl J. Wittmann (Hg.) Der Mensch in Umwelt, Familie und Gesellschaft. Facultas, Wien, 164-168.

Prinz, Armin: Transkulturelle familienmedizinische Aspekte. (Transcultural aspects of familymedicine) In: Karl J. Wittmann (Hg.) Der Mensch in Umwelt, Familie und Gesellschaft. Facultas, Wien, 217-224.

Kutalek, Ruth: Divination und Diagnose bei den Bena in Südwest-Tansania. (Divination and diagnosis among the Bena of Southwest Tanzania) In: Anthropos 98, 59-73.

Kutalek, Ruth: Medizinische Systeme in Afrika. (Medical systems in Africa) In: Greifeld, Katarina (Hrsg.) Ritual und Heilung. Eine Einführung in die Medizinethnologie. Reimer Verlag, Berlin, 39-67.

Kutalek, Ruth: Hunting in Poysdorf. Contributions to Visual Anthropology. In: Viennese Ethnomedicine Newsletter 6, 1, 15-17.

Kutalek, Ruth: Holy groves and indigenous strategies of conserving biodiversity in East-Africa. In: XV ICAES 2K3 Humankind/Nature Interaction: Past, present and future. Florence, Italy, July 5th-12th, 2003, 423.

Binder-Fritz, Christine. Um körperliches Anderssein zu verstehen. Vorwort in: Maier, Cristina, M. 2003. Echo des Schweigens. Stimmen der Betroffenheit zur Genitalverstümmelung bei afrikanischen Immigrantinnen in Wien. Wien, Edition Roesner. 5-9.

Binder-Fritz, Christine: Growing old in Aotearoa/New Zealand. Maori Women's Perception of Aging. In: Ferro, Katharina u. a. (Hg.) Gender and Power in the Pacific. Women's Strategies in a World of Change. Band 2. Novara Österreichisch-Südpazifische Gesellschaft: 127-157.

Binder-Fritz, Christine: Gender, Körper und Kultur: Ethnomedizinische Perspektiven auf Gesundheit von Frauen. (Gender, body and culture. Ethnomedical perspectives on the health of women) In: Lux, Thomas (Hg.) Kulturelle Dimensionen der Medizin – Ethnomedizin – Medizinethnologie – Medical Anthropology. Berlin, Reimer Verlag. 89-123.

Binder-Fritz, Christine: Herausforderungen und Chancen interkultureller Fortbildungen für den Pflegebereich am Beispiel Österreich. (Challenges and chances in intercultural education for nurses) In: Friebe, Jens u. Zalucki, Michaela (Hg.) Interkulturelle Bildung in der Pflege. Bertelsmann Verlag. Bielefeld, 116-144.

Burtscher, Doris: Circumcision and initiation among the Seereer-Siin in Senegal. Contributions to Visual Anthropology: In: Viennese Ethnomedicine Newsletter 5, 3, 13-16.

Ph.D. Theses

Mosetig-Pauleschitz, Gabriele: The Becoming of a Sangoma. "Kudede umnyama kuvele ukukhanya." "The darkness should give way to the light." Dissertation, University of Vienna, 2003

In cooperation with a diviner-medium (*sangoma*) in southern Swaziland, the traditional training (*kutfwasa*) is documented. The main features are: calling to the profession, acceptance as adept, formal training, rituals and initiation. Among these the daily routine, ritualistic training to achieve spirit-mediumship, rules and taboos, ritualistic equipment, song-dance-sessions and significance of trance are being discussed. The dreams and visions, the acquisition and handling of the divining bones, the use of medicinal plants are presented to illustrate the spiritual learning process. Participant observation was combined with informal conversational interviews, in-depth dialogic interviews and an experiential approach, referring to personal spiritual learning in the indigenous healing tradition.

Summarizing the research results it can be said that a *sangoma* being engaged in transcultural teacheradept-relationships is reassuming a sociopolitic role lost through colonial intervention; today's *kutfwasa* may be seen as a formal learning process, but the cultural construction behind has remained traditional: religiously determinded, symbolically bound, ritualistic in procedure and visionary in character; at last focusing on genderspecific aspects of healing it is emphasized that a *sangoma*'s task as the predominantly female healer in Swaziland is not confined to healing spirit possession in other women. She fulfils a social and religious role in diagnosing and treating cultural relevant sicknesses. Spirit possession in African women has been interpreted as compensation of their marginal position in society. Here, a symbolical marginality of women is conceived. A *sangoma* is representing the ancestors, her female body accomodating them. Women are interweaving the generations while bearing children and giving life to the dead. The female incorporation of spiritual entities determines the specific female aspect of shamanism.

M.A Thesesis

Ilunga, Marion Marlene: Ethnopharmakologie anhand ausgewählter Gift- und Heilpflanzen afrikanischen Ursprungs. (Ethnopharmacology of selected poisonous and medicinal plants of African origin)

Prunner, Ines: Die Garifuna-buyeis: Traditionelle Heiler in Belize. (The Garifuna-buyeis: Traditional healers in Belize)

Wheeler, Karoline: Der Hirntod als Todeskonzeption. Überlegungen zur kulturellen Dimension von Organtransplantationen am Beispiel der Pflege von hirntoten PatientInnen. (Brain death as concept of death. Reflections on the cultural dimension of organ transplants. Examples of nursing of brain death patients).

Ungar, Ruth: Die Berufung zum Heiler. Ausgewählte Beispiele aus Afrika. (The vocation to become a healer. Selected examples from Africa.)

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Armin Prinz, Prof., MD, Ph.D. head of the Department of Ethnomedicine (Medical University of Vienna), since 1972 research among the Azande in the Democratic Republic of Congo and Southern Sudan

Photograph last page

Participants of the conference at an evening event in the cellar "Riegelhofer". From left to right: Mayor Karl Wilfing, Ricardo Avila, Jun Takeda, Ruth Kutalek, Igor de Garine, Kanvee Viwatpanich, Armin Prinz. (Photograph: Werner Kraus)



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