

Mauri Nieminen

PORO - *Reindeer*



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Onko tämä vanhin kuva poroerotuksesta? Pohjois-Norjasta, Altan kallioista löydettyillä piirroksilla on ikää yli 5 000-6 000 vuotta. Todennäköisesti piirrokset liittyvät peurojen pyyntikulttuuriin./ Over 5 000-6 000 years old rock carvings in Alta, Northern Norway.



*L*apin vanhoissa saduissa sitä kutsutaan myös aurinkon karjaksi, jonka aurinkojumala on lahjoittanut ihmisille, jotta heidän ei tarvitse tuhoutua tunturien hedelmättömään tyhjyyteen.

Ja lappalaisten Jubmel loi kerran maan poronvasasta; luis-ta tuli kallioperä, lihasta maa ja multa, mutta maan sisuksiin luoja piilotti poronvasan sydämen. Tuulessa yksinäinen vael-taja voi joskus kuulla pienen poronsydämen lyönnit.

Erik Therman, Noitien ja paimentolaisten parissa, 1990

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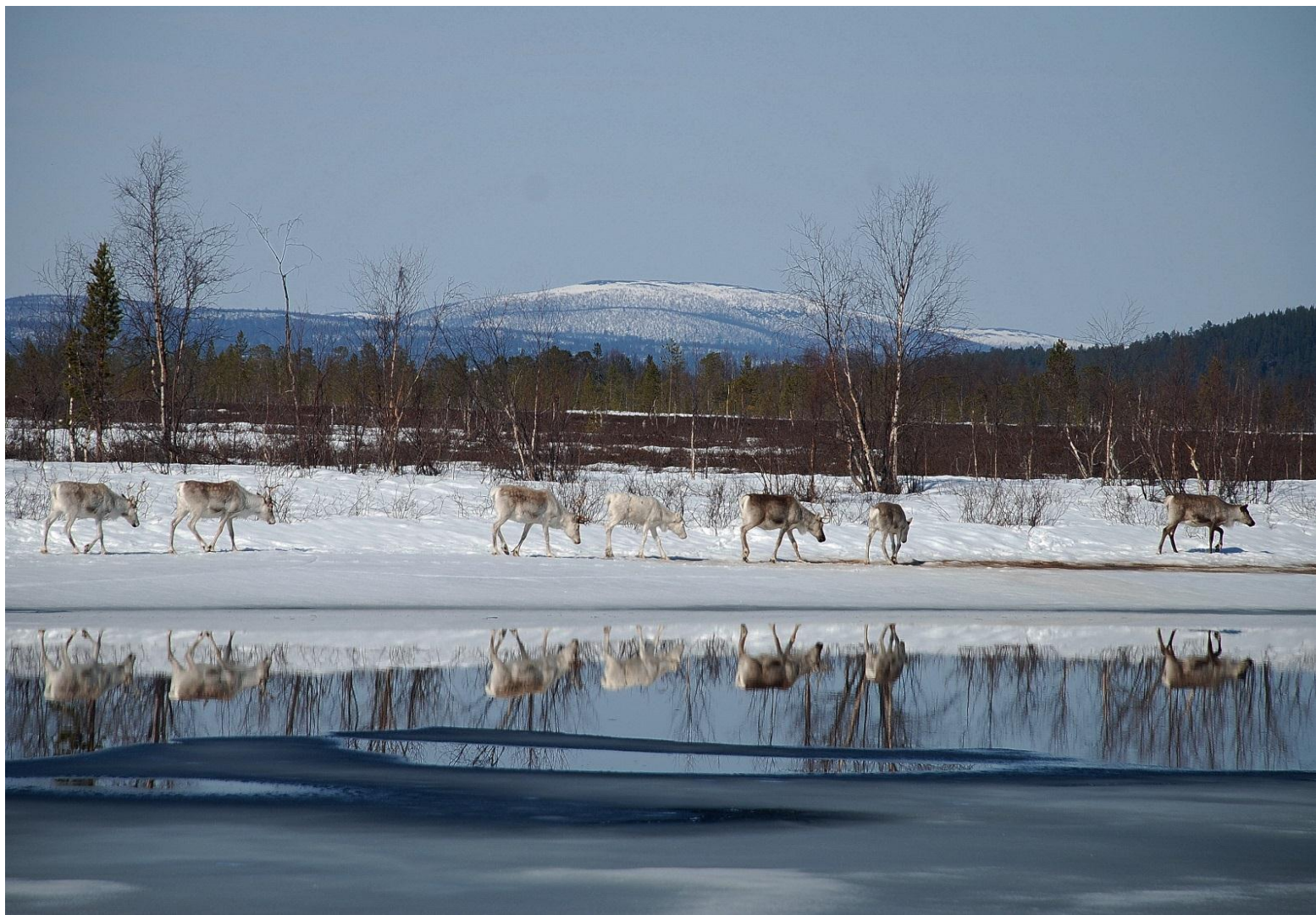
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Keväällä ankarastakin talvesta selviytyneet porot tulevat toimeen jo lähes pelkällä auringon lämmöllä ja energialla./Semi-domestic reindeer and spring season in Inari.

LUKIJALLE

Poro on poro mutta erikoinen ja mielenkiintoinen hirvieläin. Siinä on mystiikkaa ja Lapin taikaa. Vastasyntynyt, pitkäkoipinen ja siro vasa on kauneimpia eläimiämme. Poro on matkailuvaltti houkuttellen Joulupukin kanssa vuosittain tuhansia turisteja Pohjolan lumiseen talveen ja kaamokseen. Kesällä turistit pysäyttävät autonsa jopa keskelle tietä kuvatakseen vain kuumuutta ja räkkää paossa olevia poroja. Syksyllä sienten perässä ja omissa mietteissään vaeltavat "shamaanien" valkkoporot kiinnittävät "lapinhullujenkin" huomion. Kovin kiinnostavat teurasaikaan ja talvella pyöreät poronpaistit, käristykset, kovat sarvet ja koristetaljat Lapin kävijöitä.

Poron liikkeissä on vielä luonnonrytmi. Kevyesti juostessa kilpaporot näyttäisivät jopa lentävän ilmassa. Onhan noita lentäviä poroja meilläkin, ei vain jouluna kaukana Amerikoissa!

Poro on villipeuran tapaan selviytymisen mestari luonnossa, ja se pärjää parhaiten vaikeissa oloissa. Poro tulee toimeen arktisissa oloissakin talvella pelkällä jäkälällä, kun sitä vain on tarpeeksi kaivettavissa lu-

men alta. Pakkasta saa olla jopa -78 °C, kuten joskus on ollut Siperiassa. Porot pitävät syrjäiset pohjoiset alueet yhä asuttuina ja lämpiminä. Lihan lisäksi poroista on saatu lämpöisiä taljoja, nahkoja ja monia muita tarveaineita. Ne ovat olleet turvallisia veto- ja kantoeläimiä. Poro on aina ennen ruokkinut poromiehen, tosin viime vuosina Lapis-
sa jo poromies ruokkii poron!



Joitakin vuosia sitten saamelaiskirjailija Kerttu Vuolab kertoi puhelimesta minulle erikoisen ja opettavaisen tarinan porosta ja sen monista erikoispiirteistä suurin piirtein näin:

"Metsäneläimet olivat seuranneet hyvin tarkkaan, miten ihminen am-

pui villipeuroja ja kesytti poroja. Ne päättivätkin alkaa kilpasille siitä, kuka heistä pystyisi tappamaan myös poron. Kilpailijoita oli neljä: peura-hiiri eli sopuli, susi, karhu ja sivullisena sammakko. Vain sopuli, susi ja karhu olivat kukin löytäneet metsästäjän jäljiltä jousen ja kolme nuolta.

Sopuli ampui ensimmäisenä, koska se oli pienin. Mutta koska se ampui nuolensa alhaalta, maanrajasta, se osui vain poroa koparaan, mutta sen keskelle. Takajalassa on siinä kohdassa nykyäänkin porolla sorkanvälirauhanen eli voidesutti. Poro jatkoi juoksuaan.

Seuraavana oli vuorossa susi, joka uhosi, että hän pystyy vaikka juosta jolkutellessa ampumaan juoksevan poron. Susi jännitti jousensa ja laukaisi, mutta nuoli osui paistiin ja paikkaan, jossa porolla on pallopaisti. Poro jatkoi edelleen juoksuaan.

Viimeisenä oli vuorossa karhu. Karhu ilmoitti, että hän ei pelkää poroa ja uskaltaa ampua nuolensa suoraan sen päähän. Poro lähestyi, karhu laukaisi jousensa ja nuoli osui keskelle poron otsaa. Poron otsassa näemme tänäänkin selvän kuopan, karhun nuolen jäljen. Mutta poro puisti vain päätänsä ja lähti taas juoksuun.

Koska sopuli, susi ja karhu eivät pystyneet tappamaan jousellaan poroa, uskalsi jouseton sammakkokin koettaa onneaan. Se asettui poropolun vierelle, ruohikkoon odottamaan poroa. Kohta poro tolvasikin pölyävällä polulla. Sammakko sinkosi kielensä, ja se osui suoraan poron sydämeen. Poro tuupertui maahan, potkaisi kerran ja kuoli. Sammakko oli voittaja. Tänäänkin löydämme poron sydäimestä, sydäntukusta, todella kovan kohdan kammioiden seinämästä, johon sammakon kieli osui.

Poroon kannattaa tutustua jo tämän tarinan perusteella. Löytyyhän siitä tutkijallekin vielä uutta ja ihmeellistä. Tosin jo vuosia sitten silloin 4-vuotias tyttäreni Inker-Maaria ihmetteli, että mikähän se isää, porotutkijaa tuossa porossa oikein ja jatkuvasti kiinnostaa? Hänen mielestään poro oli vain neliskulmainen eläin, jonka joka kulmalla oli yksi jalka! Poroja kannattaa silti silmäillä tarkemminkin. Huomasihan Alatornion kirkkoherra Johannes Tornaeus poroista jo 1600-

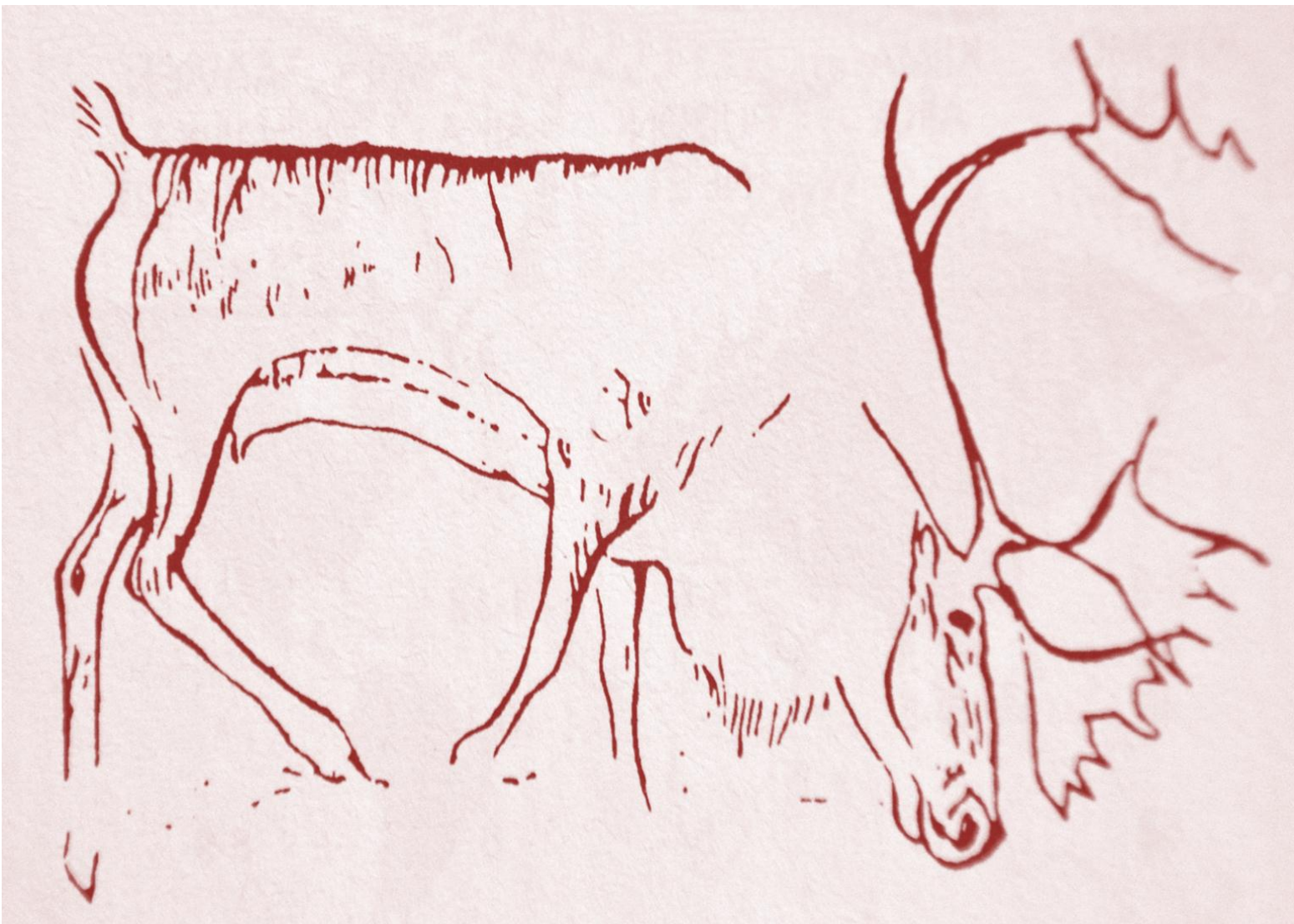
luvulla, että "niillä ei ole sappirakkoa, vaan musta juova maksassa, eikä siinä ole sellaista kitkeryyttä kuin sapessa tavallisesti". Poron ravinnossa ja lihassakin rasvaa on vähän. Poroa ei juuri "sapeta".

Toivotan miellyttäviä lukuhetkiä ja löytöjä kirjani poropoluilta.

Siggavuonossa huhtikuussa 2014
Mauri Nieminen



Poromies Martti Tervaniemi, poronvasa ja Inker-Maaria Nieminen.



Suurisarvinen peurahiroas kiima-aikana. Sveitsin Thayngenista löydetyllä peuransarveen tehdyllä taidokkaalla piirroksella on ikää yli 12 000 vuotta. / A wild reindeer male during rutting season. Over 12 000 years old drawing is from the reindeer antler bone found in Thayngen, Switzerland.

REINDEER – *Wild and semi-domestic*

Wild reindeer. Many finds of antlers indicate that the wild reindeer (*Rangifer tarandus*) appeared among the fauna of the north during the first glaciation of the Ice Age. Thus it is at least 650,000 years old as a species. For thousands of years, the wild reindeer was one of the most important preys of human hunters in the northern hemisphere. In Eurasia, the common history of the wild reindeer and man goes back 300,000 years. It was an excellent catch for man. As a gregarious animal using the same routes year after year it was easy to hunt, and it provided good, nourishing meat as well as warm furs, skins and other materials.

A number of interesting archaeological finds have been made in the French Pyrenees and a little further north in the Périgord region which indicate that the wild reindeer was an important prey in that area at the end of the Ice Age over 20,000 years ago. In

fact, this period has often been called the Age of the Reindeer.

The first humans arrived in the northern regions early in the wake of the large, constantly moving herds of wild reindeer. Here, at the edge of the old continental ice sheet, there apparently lived a community of fairly experienced hunters who gradually migrated towards the north. Wild reindeer were being hunted in the oldest hunting grounds in the mountains of the southern Norway

5000-6000 B.C., about a thousand years after the reindeer hunters of the Hamburg area had followed the herds to new unfrozen tracts. Wild reindeer hunting was very intense in prehistoric times in the north in the Varanger Peninsula on the coast of



the Arctic Ocean and in the mountains of southern Norway. The lines of piles of stones form clearly visible corridors along which the hunters drove the wild reindeer over a cliff edge or into water.

The use of pits seems to have come to Norway from the east, probably from Sweden and Finland, and it became the most common way of hunting wild reindeer throughout Fennoscandia. Several dozen pits were dug in one or more rows along the

routes normally taken by the reindeer. The size of a reindeer pit was 0.6 x 1.8 meters and it was about two meters deep. In the Snøhetta area in southern Norway, over 1200 such pits have been found. The pits were covered with branches and camouflaged with moss and lichen. Sometimes the pit also had a rotating cover and the base had a number of sharpened and tarred stags. Numerous remains of these pits have been found in Finland, not only in Lapland but also in the Kainuu region, in the environs of Lake Oulujärvi and in the Suomenselkä area.

The decrease in the number of wild reindeer and intensified hunting brought along new, active hunting methods to supplement also pit trapping. Tapering fenced corridors that were sometimes dozens kilometers long were built in the forests. Nooses, spikes and spring traps were fixed to the gates of the corridor fences. The wild reindeer were also stalked, often using a tamed female reindeer as a decoy. A wild reindeer stag that approached it was shot with a bow, a crossbow or a hunting gun.

The time when hunting began and the method that was used were, however, in practice often determined by the habits and behaviour of the wild reindeer themselves. On the border of the forest zone in Finnish Lapland, the hunters would set out in the autumn as early as 24 August, but usually later in September. Tracking with bows and arrows or rifles usually started in the late

winter and early spring, around the fourth week in February.

The method of this hunting involved exhausting tracking on skies. The hunter wore a long grooved ski of pine or birch wood for sliding on his left foot, and on his right a short ski with the pelt of a wild reindeer shank attached to the base for pushing. In his left hand he held a bow, which had a small basket at the bottom end and served as ski pole, and in his right a spear, which he likewise used as a ski pole. In late winter and early spring, the ankles of wild reindeer tended to break on the hard-frozen crust of the snow, and in the forests they were easy to prey for hunters with spears.

Dogs and semi-domesticated draught reindeer were also used in the hunt. When there was a crust on the snow, the wild reindeer were also shot from sledges drawn by semi-domesticated reindeer.

The winter hunting season usually ended with big tracking hunt on the fells in April. This last large-scale hunt of the season was a veritable "massacre". Before they set off, the hunters would usually visit their gods, the reindeer spirits, *sieidi*. The reindeer *sieidi* shrine was often located on the fells. It could be in the form of some special stone or rock or even a whole fell.

They also sometimes carved a statue in honour of a successful hunt. It was a couple of cubits (about three feet) high and it had a neck and a knob for a head. The year and the marks of the hunters were cut into its

side. The wild reindeer have always been a widely dispersed species that has thrived in numerous different habitats. The caribou of North America are generally larger than the wild reindeer of the Old World. Previously, it was thought that the wild reindeer and the caribou were different species. However, they have the same chromosome number ($2n=70$), which proves that there is only one species involved, that which Carl von Linné called *tarandus*.

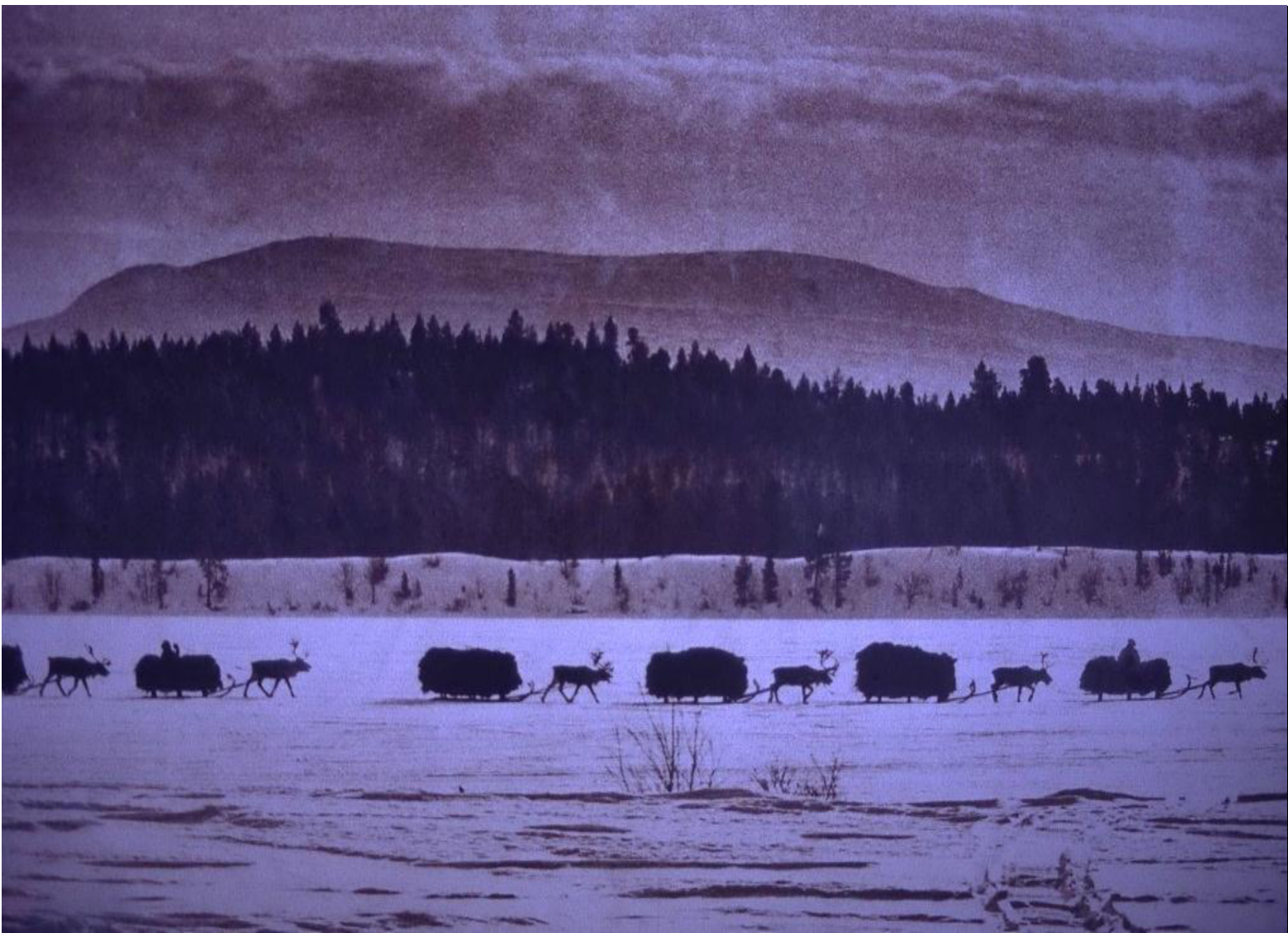
Today only seven subspecies of reindeer and caribou are distinguished: the Eurasian tundra or mountain reindeer (*R. t. tarandus*), the Eurasian forest reindeer (*R. t. fennicus*), the Spitsbergen reindeer (*R. t. platyrhynchus*), the Peary caribou (*R. t. peary*), the Alaskan caribou (*R. t. grantii*), the tundra caribou (*R. t. groenlandicus*), and the woodland caribou (*R. t. caribou*). The latest DNA research supports the classical view, which is based on history and morphology of wild reindeer. In fact, the whole taxonomy forest reindeer of Palearctic taiga zone still remains to be elucidated. Previously, the wild reindeer of the Siberian forests were thought to belong to separate subspecies, *R. t. valentinae* and *R. t. phylarchus*.

There are over three million wild reindeer and caribou in the world today. The hunting of wild reindeer/caribou is today very important to many people in Russia and North America. About 30,000 mountain reindeer in 23 populations live in Norway and a couple of thousand in the Kola Peninsula. The semi-

domesticated reindeer has crossbred with both, as perhaps the forest reindeer with the Kola mountain reindeer. In Norway wild reindeer are found in the mountainous areas in the south, from Sør-Trøndelag and southwards. The hunting season varies in length, starting around 20 August and lasting until the end of September. Yearly about 25 % of population is hunted.

In Finland, forest reindeer are found in the immediate vicinity of the reindeer husbandry regions of Suomussalmi, Kuhmo and Northern Karelia. There are about 2 000 forest reindeer in Finland today. In Russian Karelia there are only 2 500 forest reindeer today. In Finland, forest reindeer were transplanted in 1979 and 1980 from Kuhmo to Salamajärvi National Park in Central Finland, and there are now over 1 100 forest reindeer. Wild forest reindeer is today game animal but protected.





Heinäkuormia vetävä pororaito Hetassa Ounasjärven jäällä yli 50 vuotta sitten (PY). / Reindeer are pulling hay loads over 50 years ago on Ounasjärvi lake in Hetta, Enontekiö.

Semi-domestic reindeer. In the whole world there are today about 2.5 million semi-domestic reindeer, and about 30 different peoples (mainly indigenous) practice reindeer herding and husbandry. The total production of reindeer meat (the main product) is more than 20 million kg per year. Russian has 1.6 million reindeer, about 2/3 of the world's population of semi-domestic reindeer.

Information on domestication of reindeer has been existent for a long time. Casual remarks about tamed reindeer can be found in old Chinese annals from 499 A.D., in the Italian travels of Marco Polo, and earlier in descriptions by some Scandinavians, such as Ottar in 868 A.D.

New results basing on reindeer microsatellite DNA markers are in accordance with the so called evolution theory of origin of reindeer husbandry. Genetic analysis of wild and domestic reindeer across Eurasia revealed a distinct structure, strongly suggesting independent origins of semi-domestic reindeer in Russia and Fennoscandia. Several semi-domestic herds are closely related to local free-ranging populations, indicating

that backcrosses from the wild and/or semi-domestic reindeer have been common.

Reindeer in Finland is tamed from the wild Scandinavian mountain reindeer (*R. t. tarandus*). Large-scale reindeer herding originated in the mountains of Norway and Sweden in the late Middle Ages. The Lapps or Saami started to herd reindeer and they travelled nomadically with their herds in

seasonal rhythm, and also between different countries. From Norway and Sweden, large-scale reindeer herding gradually spread also to Finnish Lapland, first to Enontekiö and Utsjoki area, and later to Inari. The Finnish settlers and peasants

adopted quickly reindeer herding from Lapps, who were living in the forests of South-Western Lapland with few reindeer. The Finns started also to develop the reindeer herding for their own needs.

In Finland, reindeer husbandry is practiced in Lapland and in the northern parts of Finland. The area is situated in the northernmost and easternmost part of the European Union. The reindeer herding area (a total land area 115,500 km²) covers 36 % of



the total surface area of Finland and, in the northernmost parts reindeer husbandry is accorded official precedence as a source of livelihood on state-owned land. The private land area in the northern part is about 20 % but in the other reindeer herding area 58%.

In Finland 84% of all nature conservation areas are situated in the reindeer herding area. The amount of the protected land area (7 national parks and 10 strict nature reserves, totalling 12,610 km², 10% of reindeer herding area) increases considerably in the northern part called designated reindeer herding area, and 74% of all the national parks and strict nature reserves in Finland are there. 12 wilderness areas (totally 14,873 km²) are also there, and so level of protection is over 22%, in Fell Lapland 80%. Conservation areas are usually important winter and spring pastures for reindeer husbandry.

Reindeer husbandry in Finland has legal rights to use all these areas as pastures (not only Malla strict nature reserve in Kilpisjärvi). More than 75% of all the reindeer in Finland graze on pasture areas in the forest. The forest industry has had some impact on reindeer husbandry in Finland, but reindeer have overgrazed lichen pastures. The areas covered by different infrastructures vary today in the northern part between 0.1-1.9% of land area. Condition of reindeer summer pastures is usually good in the middle and southern husbandry areas. However, lichen pastures are heavily or very heavily worn

out in cooperatives (lichen biomass under 100-300 kg dry weight/ha).

The most heavily worn out lichen pastures are in Fell areas and in middle and western Lapland. In the protected areas the cover, height and biomass of lichens are higher than in other areas. However, the cover and biomass in the nature conservation areas classified the lichen mat as being a slowly renewing state and the height as in a heavily deteriorated state. In many national parks and outside in reindeer-herding cooperatives lichen pastures are very heavily grazed.

Today all of 56 herding-cooperatives had to supplementary feed reindeer during winters, and totally over 45 million kg food (calculated as dry hay)/year is used. Supplementary feeding of reindeer is expensive. The costs of feeding 10-30 euros, mean 19 euros/living reindeer, are totally about 30% of the value of slaughter income (15 million euros/year). The economy of reindeer husbandry is not good. Because increasing supplementary feeding of reindeer, some problems are to use private land areas for reindeer husbandry mainly in the southern reindeer husbandry area. Because very bad condition of winter pastures, the number of reindeer must be kept lower in reindeer herding cooperatives.

The number of reindeer owners has sharply declined during last years, and at present it is about 4,000. There are about 800 Saami reindeer owners in Finland. Reindeer

owners are permitted to have a maximum 300 reindeer in the southern part, and 500 reindeer in the northern part of the reindeer husbandry area. The number of living reindeer is maximally 203,700 in Finland, and meat production about 2 million kg/year.

Reindeer owners are compensated for damages caused to tame herds by traffic (mean 4,000 reindeer and 3 million euros/year) and predators (maximally 5,300 reindeer and 8 million euros/year). Reindeer husbandry shares about 2,000 km national borders with three countries. The Reindeer Herder's Association is responsible for maintaining fences along national borders. As specified by international treaties, this comprises a 1,200 km reindeer fence along the borders with Norway and Russia.

Although the reindeer originated on the fells, most of semi-domestic reindeer (over 75 %) live throughout the year in the forested area of Lapland. The reindeer is a ruminant herbivore. It is a long-limbed deer whose legs end in four-toed hoofs. The nails of the front toes are long, wide and half-moon shaped. The tracks of the reindeer often only reveal the imprint of these toe nails as it moves easily over the snow. If soft snow and marshland, it spreads its extra toes, which means that the surface pressure (pressure/surface area of the sole) is extremely low (only about 100 g/cm² for standing reindeer) compared with that of a wolverine (50 g/cm²) or a wolf (about 110 g/cm²).

The head of the reindeer is relatively small, and the area between the nostrils is completely covered with fur. The eyes and ears are large and the lips fairly flexible. The hearing capacity of reindeer ranges from 70 Hz to 38 kHz at a sound pressure of 60 dB. It means that almost all anthropogenic noises and vocalizations are readily perceived by reindeer. Reindeer as other ungulates has apparently also very good day and night vision. Reindeer most likely perceive colours, but no particular colour appears to be dominant, and reindeer probably are unable to distinguish between red and green colour. For the most part, contrasts and movements betray human presence.

Because eyes of reindeer are laterally positioned, the combined visual fields of both eyes cover virtually 360°. It means that reindeer can also spot or predators and humans sneaking up from behind. Reindeer's laterally positioned eyes limit, however, the binocular visual field. In the summer, reindeer eyes are golden, but in the winter, they become a deep, rich blue. The bit that actually changes is the *tapetum lucidum*, a mirrored layer that sits behind the retina. It helps reindeer to see in dim conditions by reflecting any light that passes through the retina back onto it, allowing its light-detecting cells a second change to intercept the stray of photons. So, as reindeer spend months of darkness, their permanently dilated pupils to swollen eyes, compressing the fibres

Vanhoissa tarinoissa poroja on kutsuttu auringon karjaksi, jonka itse aurinkojumala on lahjoittanut Lapin ihmisille, jotta he eivät tuhoutuisi tunturien ankarissa oloissa. Poro onkin sopeutunut hyvin selviytymään pohjoisen talven kovista pakkasista ja kaivamaan jäkälää jopa metrisen hangen alta. Keväällä tämä ”arktinen pintaliitäjä” tulee toimeen jo lähes pelkällä auringonpaisteella, mutta kesällä kuumuus ja räkkä kiusaavat kovin poroa. Poro on edelleen tärkeä eläin lähes 30 pohjoiselle ja arktiselle kansalle. Se tuottaa lihaa, sarvia ja lämpöisiä taljoja, ja sitä voidaan käyttää tiettömillä taipaleilla myös kestäväenä kanto- ja vetoeläimenä. Porolla voidaan jopa ratsastaa. Porossa on muutakin vetovoimaa. Vuosittain jo tuhannet matkailijat tulevat Lappiin, nähdäkseen edes vilahduksen tästä Joulupukinkin mainiosta reenvetäjästä, Petteri Punakuonosta.

Yli 40 vuotta poroja työkseen tutkinut, yli 500 tieteellistä artikkelia julkaissut dosentti, tutkimuspäällikkö Mauri Nieminen kertoo hausalla ja valaisevalla tavallaan poronhoidon historiat, monet poron erikoispiirteet ja mestarilliset selviytymiskeinot. Kauniit kuvat täydentävät asiantuntevaa tekstiä. Lukijalle tulevat tutuiksi poron käyttäytyminen laitumilla ja liikenteessä sekä syksyn kiihkeänä rykimäaikana. Miten vaadin hoitaa ja puolustaa vastasyntynyttä vasaansa? Onko porolla todella ilmalämpöpumppu, turbo, pakkasnestet jaloissa, terveelliset rasvat ”pintana” nahan alla ja kuinka pitkä on poronkusema? Nämäkin tärkeät asiat selviävät porosta kiinnostuneille. Poron kasvavissa verisarvissa uskotaan yhä olevan ihmeaineita, ehkäpä siksi Lapin tarinoissa vanha jätkä kuoltuaan muuttuikin sarvipää poroksi.

