

Diversity in Saami terminology for reindeer, snow, and ice

Ole Henrik Magga

Introduction

The physical environment leaves its mark on every culture. The Saami culture bears evidence of a long, intimate relationship with the Arctic environment and Saami languages have a rich terminology for reindeer, snow, and ice. The classification of reindeer is mainly taxonomic, based on sex, age, colour, and appearance of different body parts, including the antlers. But other distinctive or characteristic attributes may also be used. Snow terminology is more complicated. The physical condition of different layers is essential, but the relation to changes of weather and temperature conditions is often integrated in the meanings.

In both cases function is central: the degree of domestication, reproduction properties, and relative size are crucial for reindeer. Snow and ice may be classified according to transportation needs and food availability for reindeer on snow-covered ground.

In the following, I will present data from Northern Saami in order to illustrate the richness of the terminology from these two fields. I shall draw heavily on three sources: Konrad Nielsen's Lapp dictionary (Nielsen 1932–1962) and the works by Nils Isak Eira (1984) and Nils Jernsletten (1994). All the translations are taken from Nielsen's dictionary if no other source is indicated. In addition, I

myself grew up with reindeer as the only means of transportation in the winter in my childhood. Of most of the concepts presented here and the realities behind them, I therefore have personal practical experience. The presentation is meant only as a sketch and illustration of the variety of terminology and I will not go into details. Some of the terms may also be used of animals other than reindeer and physical phenomena other than ice and snow, but the bulk of the terminology in these fields is in fact very specific.

Reindeer terminology

The need for terminology for reindeer comes from the fact that in good reindeer herding practices there is a need to identify and describe animals for various purposes. One obvious need is the selection

of animals for slaughtering, which in turn affects the structure of the herd. Meat quality and reproduction qualities depend on many factors, age and sex being central. Then there is the size, weight, and condition of each individual animal. The need to identify individual animals also derives from the fact that herds often get mixed together and the herders need information about which reindeer may have gone into neighbouring herds. Terminology on reindeer is based on sex, age, and appearance: the body, the head, the antlers, and the feet. In addition, the animal's

Ole Henrik Magga is Professor of Saami linguistics at the Saami University College in Guovdageaidnu (Kautokeino), Norway. He has a broad experience of research in Saami and indigenous peoples' issues. He was the first president of the Saami Parliament in Norway (1989–1997) and served as a member of the World Commission on Culture and Development (1993–1995) chaired by Javier Perez de Cuéllar. He was the first chairman of the UN Permanent Forum on Indigenous Issues (2002–2004).
Email: ole-henrik.magga@samiskhs.no

mental characteristics and other properties may be used. Ownership, which is of course an important distinctive mark also, can be read from the shape of the ears.

The terms are either nouns or adjectives. In linguistic terms, this difference is not significant, because an adjective may as a rule be used as a noun to denote an animal with the characteristic expressed by the adjective. As an example, *gabba* means “quite white” and is an adjective, but it may also mean “a white one, a white reindeer”. This is a general rule. In addition, a corresponding noun may easily be derived from an adjective, or an adjective from a noun, as I will demonstrate below.

Sex and age

The life span of a reindeer is up to 15–20 years. The first years are the most important. This is the time when the owner decides the future function of each individual animal. The age, sex, and individual qualities of each animal in this period provides the basis for the strategic planning of herd structure and economic dispositions. The basic terminology for the first seven years of a reindeer’s age is given in Table 1.

Njinnelas simply means a “female (reindeer)”. *Aldu* is the overall term for a fertile female animal. But in the time immediately

before the birth of the calves, a female animal carrying a calf is often referred to as *čöavjjet*, “pregnant female reindeer” (derived from *čöavji*, “stomach, abdomen, belly”), and only after the birth of the calf is it referred to as *áldu*. A female reindeer may lose her calf and will then, during the calving season and immediately after, be referred to as *čöavččis*, “a female reindeer who has lost her calf late in spring, in summer, or as late as autumn”. The term *rotnu* refers to an animal that has not given birth to a calf that year, and may even be used later of animals that became *čöavččis* in the spring. If an animal cannot have a calf, then she is a *stáinnat*, a “female reindeer which never calves”. A female reindeer which has lost its calf of the same year but is accompanied by the previous year’s calf, is called *čearpmat-eadni* (*eadni* meaning “mother”).

For selecting animals for breeding, it is possible only to keep any record of the mothers – not the fathers. The term *váža* meaning, “full-grown female reindeer (which already has or has had a calf), spoken of as the daughter of such-and-such a female reindeer, especially when such a reindeer still goes about with the mother”, is central for this purpose.

The term *čöarvedahkki* is a transition term for mostly male animals and is not used regularly. It means the “maker of antlers” of the type characteristic for the age they are entering.

TABLE 1. Reindeer terminology

Age in years	Female		Male	
	Basic terms	Alternative designations based on whether the female is <i>with</i> or <i>without</i> a calf	Basic terms	Alternative designations after castration
0–0.5	Miessi		miessi	
0.5–1	čearpmat		čearpmat	
1–1.5	(vuonjal-čöarvedahkki)		(varit-čöarvedahkki)	
1.5–2	vuonjal	vuonjal-áldu	varit	
2–2.5	njinnelas	áldu/rotnu	(vuobirs-čöarvedahkki)	
2.5–3	njinnelas	áldu/rotnu	vuobirs, vuorsu	
3–3.5	njinnelas	áldu/rotnu	(gottos-čöarvedahkki)	spáillit
3.5–4	njinnelas	áldu/rotnu	gottos	heargi/spáillit
4–4.5	njinnelas	áldu/rotnu	(goasohas-čöarvedahkki)	heargi/spáillit
4.5–5	njinnelas	áldu/rotnu	goasohas	heargi/spáillit
5–5.5	njinnelas	áldu/rotnu	(máhkanaš-čöarve-dahkki)	heargi/spáillit
5.5–6	njinnelas	áldu/rotnu	máhkanaš	heargi/spáillit
6–6.5	njinnelas	áldu/rotnu		heargi/spáillit
6.5–	njinnelas	áldu/rotnu	nammaláhpát	heargi/spáillit

Spáillit is a castrated male that has not yet been tamed and trained for work, while *heargi* (a draught reindeer) is the opposite term. *Nammaláhpát* (literally meaning: “losing its name”) is used both of an uncastrated animal at the age of 6.5 to 7 years and of a *spáillit* that has not been tamed or trained.

Body size, body shape, and condition

The basic features of the body are the size and shape of the body itself and its parts, and the colour and quality of the coat. The size and shape of the body and its parts (head and feet) can be characterised in many ways. Very often the characteristics are combined with other features like the condition of an individual. Different terms, both nouns and adjectives, may be used for males and females. Table 2 gives some of the most central terms for describing the body shape, size and condition of the animal.

While many terms describe a permanent characteristic, there is a sliding transition to terms that characterise a temporary condition. *Buoidi* means “fat”. The common term for “good condition” or “middling fatness”, especially with regard to slaughtering, is *jolli*, often used in the expression *joliin leat* (= good condition+to be), meaning “to be in good condition”. The opposite condition can be described in several ways: *ruoinnas* “lean”, *guoirras* “thin, lean and dry (stronger than *ruoinnas*) and *silli* “very lean”, which may also mean “not perse-

vering, not showing endurance in work”. With reference to work and physical activity, *vuonjis* is used of a “well rested” animal, while an exhausted animal is *livat* “a draught reindeer that has worked so hard that it cannot be used for long journeys” or *váibbat* “an exhausted animal; especially used of reindeer, often in the compounds *váibbat-miessi- váibbat-čearpmat-* of reindeer calves which cannot keep up”. A male reindeer is exhausted after the rutting season and is then described as *golggot* (cf. *golggot-mánnu*, “October”).

Colour

The most advanced system for describing the appearance of the body is doubtless the colour terminology. The basic dimension is the scale from white to black. These are the main grades on this scale:

gabba altogether white
jievja very light, nearly white
čuoivvat yellowish grey
čáhppat black
muzet brownish-black

Girjjat, “mottled, spotted, speckled animal (esp. reindeer)” (derived from *girji*, “spot of another colour (on an animal)”) stands in opposition to the basic colours.

All the basic colours and *girjjat* may be modified in several ways. They may be combined

TABLE 2. Reindeer body size and shape

baggi, one who is small and fat, a small animal (esp. a reindeer) with a large belly
beavrrit reindeer with longer legs and a slimmer build than usual
busat with large testicles or (of reindeer) with only one, very large, testicle
čálggat young animal who is so far advanced that he can accompany his mother even in difficult conditions
čeaŋŋi short-legged animal
darsi fatty, a short fat person etc. (esp. of a fat reindeer with short, branchy antlers)
jáhniit, julsu big fat male reindeer
goanzi a tall, ungainly creature (also of a long-legged animal)
gissor small draught reindeer
leaggán hollow-backed

leamši short, fat female reindeer
njoalppas with sloping hind quarters
rávnmot draught or pack reindeer which remains in good condition for a long time
rávža miserable, emaciated reindeer without a proper coat
roaibu reindeer which is so emaciated that its bones protrude
roaivi thin old reindeer
roanžžas tall, thin and emaciated
roašku big thin reindeer
rieppi reindeer calf or lamb with a disproportionately large belly
silan a lean feeble one that soon tires
skaoldu reindeer with a big head and a long nose
spoairu long-legged, thin reindeer

to describe certain kinds of variations:

čuoivvat-gabba white reindeer with a yellowish grey colour over its back

muzet-čuoivvat (relatively dark) yellowish grey with a dark belly

muzet-jievja light coloured reindeer with a dark belly

girjjat-gabba spotted, altogether white

girjjat-čuoivvat spotted, yellowish grey

Vielgat, the ordinary word for “white”, is never used on its own of animals, and the derivation *vielggut* means a “white or light, pale quadruped”. The derivation *čáhput*, “black quadruped” comes from *čáhppat* “black”. *Ruškkut* is a “generally brownish animal”. All three terms are used to form a kind of colour scale of their own and may occasionally be combined with the basic colours.

The most flexible combinations are represented by many modifying adjectives and nouns used together with the basic colour terms, with *girjjat* and with combinations of them (see Table 3).

Other modifications may be more specific. A special characteristic of reindeer hair colour is *luosti*, defined by Nielsen as a “streak of lighter hair along the side of a reindeer (with thicker, more even hair than on the rest of its body)”. The corresponding adjective is *luosttat* “[reindeer] with a streak of lighter hair along its side”. This modifier can be combined with all darker colours than *gabba*: *luosttat-muzet*, *luosttat-čuoivvat* and *luosttat-jievja* denoting animals with the basic colours *muzet*, *čuoivvat* and *jievja* with a *luosti*.

By combining the basic terms with each other and with other modifying elements, one may easily arrive at hundreds of descriptions based on the colours of the body.

Nature of the coat

The skin of a live animal is called *náhkki*. After slaughter, it is termed *duollji* in general, but may also have a name indicating the animal it came from: *miessadat* “skin of a calf (*miessi*)”, *heargádat* “skin of a draught male reindeer (*heargi*)”. The hair coat varies individually and according to season:

borgi half-grown state of reindeer’s hair (the best condition for skin clothing, at end of August)

borggas which has changed its hair (or coat)

guorba with a bad growth of hair or coat (of animals)

lurvi long-haired, shaggy, animal

muovjá in the compound *muovjá-miessi*, a reindeer calf which is changing its first coat

njárbe short haired-animal (especially of reindeer and dog)

njavgi animal (especially reindeer or dog) with a smooth coat

snávvgut short-haired animal

šnilži reindeer with quite short hair (just after changing its coat)

The head

The different parts of the head (*oaivi*) have three names. In addition to the ordinary parts like eyes, ears, nostrils and mouth, there some special terms: *ginal* is “either of the two corners of the skin off an animal’s chin and cheeks” (may also be used of the head of a live animal) and *njávvi*, “the long hair, or beard, under the throat of a male reindeer or he-goat”. The shape of the head may be used for descriptions:

skaalbmi reindeer with a long hooked nose

skaaldu reindeer with a big head and a long nose

steažži reindeer when its head is “flat”

TABLE 3. Basic colour terms

riššagabba snow-white

českes-jievja quite light reindeer

ruošša-jievja brownish, light-coloured reindeer, with a comparatively long, rough coat

ruškes-ruošša-jievja brownish or pale brown light-coloured reindeer

ránat-jievja greyish light-coloured reindeer

mosat-jievja lighter brownish-black

šelges čuoivvat shiny yellowish grey

duolva čuoivvat dull yellowish grey

sevdnjes-muzet-čuoivvat dark yellowish grey reindeer with a dark belly

mosat-muzet greyish brownish-black

guyges muzet dun, brownish yellow black

smurta-muzet coal-black

The basic colours are not important for the description of the head. Instead, special details like spots in contrasting colours in different parts of the head are used:

galbbe-njunni white on the nose and (or) forehead
siekŋa-njunni reindeer with the hair nearest to its nostrils of a different colour from what one would expect in view of the colour of the rest of its hair
gierdo-čalbmi dark reindeer with a white ring around its eyes, light reindeer with a dark ring around its eyes
náste-gállu reindeer with a white spot on its forehead

Antlers

Besides the terminology for the basic colours of the body, antler terminology offers the most varied ways of identifying and describing individual animals. A first distinction is drawn between those animals with no antlers, *nulpu* (see below), animals with one antler, *čoarve-bealli*, and animals with two antlers, *čoarvvat*. Sometimes there are two antlers in the same position. *Geardu* is the term for the extra horn and the animal is characterised as *gearddo-čoarvi*. The reason for not having horns is distinguished by these terms:

nulpu reindeer which has shed its antlers
nálat reindeer with its antlers cut off
goallá poll-reindeer, reindeer which never gets antlers

ápmil reindeer (esp. female) which never grows more than one horn
norki reindeer which has both its antlers broken off

An antler is *čoarvi* and an animal with big antlers is *čoarvái* or *riepmár*. The antlers and their parts have different names:

alesgahcin a small, backward pointing tine on a reindeer antler at the point where the antler bends forward
bakŋi, čoarvemátta the thickest part of the reindeer antler, by the head
čoarvegeahči top tine of reindeer antler
čoarve-láhpa, bakŋe-mátta the root of *bakŋi*
čoarve-oaksi, -suorri tine (on an antler)
čoarvvuš part of skull together with the antlers (only of dead animals' antlers)
galba lowest portion of reindeer antler, when this part is broad and flat
liedbmá broad tip of a reindeer's antler (with a number of flat laminar branches at the same level)
ovda-giehta the branch of a reindeer's antler which projects forward, above the *galba*

When the horns are growing, they are coated with *námmi*, “the furry skin of a reindeer's antlers”. Through the process described by the verb *čallat* “rub the antlers against something to get the skin off”, the animal becomes *čal-oaivi*, a “reindeer whose skin has been rubbed off its antlers”.

The antlers are described with reference to size, form, number of tines, position, distance

TABLE 4. Terms for antlers

<i>barfi</i> a reindeer with many-branched antlers	<i>reandi</i> male reindeer with long antlers which steadily diverge upwards
<i>ceakko-čoarvi</i> a reindeer with upright antlers	<i>njárbes-oaivi</i> reindeer whose antlers have only a few branches
<i>gopmaras</i> projecting forward and with the tips curving down (of a reindeer's antlers)	<i>sággí</i> reindeer that has antlers with very few branches
<i>lábme-čoarvi</i> reindeer with its antlers pointing outward and downward	<i>snog-oaivi</i> reindeer whose antlers point forward
<i>leanzi</i> antlers which stick out in a steep slope to the side	<i>snuogg-oaivi</i> reindeer whose antlers point forward still more than those of a <i>snog-oaivi spahči, spaž-oaivi</i> reindeer with tall, slender and quivering antlers
<i>liedbmé-čoarvi</i> reindeer antler with a broad tip	<i>snarri</i> reindeer with short but very branchy and very bent antlers
<i>njáide</i> reindeer whose antlers are rather short and very much sloping backwards (almost lying on the animal's neck)	<i>stáipe-čoarvi</i> reindeer with disproportionately long antlers
<i>njabbi</i> female reindeer with delicately shaped antlers which slope back a little	<i>suhkkesoaivi</i> reindeer with many branches on its horns
<i>oakšečoarvi</i> reindeer with a tine protruding outwards on its antlers	<i>rož-oaivi</i> reindeer with its antlers close together
<i>njakči</i> reindeer with king antlers which slope backwards (but less than those of the <i>njáide</i>)	<i>ruossa-čoarvi</i> reindeer antler with one branch pointing forward and the other backward, so that it forms a cross
<i>moadjun</i> reindeer with antlers which have been broken during growth	<i>veaidnečoarvi</i> reindeer antler which is twisted inwards towards the other antler



Reindeers at work.

Rapho/Michael Frieder

between the antlers, symmetry and abnormalities (see Table 4). Eira lists up 48 terms for the form of antlers (Eira 1984, p. 42).

Feet

Both the basic colours and other colour details may be used to describe the feet:

biddo-juolgi foot of a dark reindeer with white on it
biddo-gazza foot of a dark reindeer with a white spot near the hoof
sukka-juolgi reindeer with white feet like stockings

Other characterising features

Personality, functionality and habits may be used to further characterisation (see Table 5).

Animals with a bell are easily identified and sometimes called only *biellu*, “bell”, *áldo-biellu*, “female reindeer with a bell”, or *hearge-biellu*, “draught reindeer with a bell”.

Circumstantial facts like who has trained a draught animal may be used. The term is *luoikkas*, “lent reindeer, reindeer which has been lent” referring to the habit of exchanging services so that farmers could train draught male animals for reindeer herding Saamis. The farmer used the animal for transportation needs and the owner got a well-trained animal in return.

Ear marks

To identify the owner, a system with ear marks is used. When a reindeer is a couple of months old, small pieces of the ears are cut away. The system consists of around 20 different-sized and different-shaped cuts. In this way, every animal carries a code which can be deciphered very quickly by those who master the code. Each of the cuts is termed *sátmi*, which also means “word”. These are some of them:

gieška a long, large cut, with either a curve or an angle
skivdnji oblique cut which has taken away the tip of the ear

TABLE 5. Animal's personality and habits

biltu shy and wild (usually of female reindeer; sometimes of girls)
doalli apt to resist (esp. of reindeer; the opposite of *láiddas*)
goaisu male reindeer who keeps apart all summer and is very fat when autumn comes
jáđas obstinate, difficult to lead
láiddas easy to lead by a rope or rein
jáđas obstinate, difficult to lead
lojat very tractable driving-reindeer
lojás very tame female reindeer
láiddot reindeer which is very *láiddas*

lojat very tractable driving-reindeer
moggaraš female reindeer who slips the lasso over her head (in order to avoid being caught)
njirru female reindeer which is very unmanageable and difficult to hold when tied
šlohtur reindeer which hardly lifts its feet
stoalut reindeer which is no longer afraid of the dog
ravdaboazu, ravddat reindeer which keeps itself to the edge of the herd
sarat smallish male reindeer which chases a female reindeer out of the herd in order to mate with it

sárggaldat small cut on the edge, at the side, of the ear
guobir wide nick by which the tip of the ear is cut away

These kinds of cuts can be combined in thousands of ways.

Combining the terms

As can be understood from this, identifying and describing reindeer is a cultural skill that takes years of training. Not all the potential is usually used. There is a redundancy in the system depending on the circumstances. If there are only a few animals in a herd, you may use only a few references to identify or describe each individual. A description may be formulated like this: *mu eamida-skivdnje-mearkkat-leanze-muzet-gálbbenjun-beavrrihis-lojes-áldo-biellu* meaning, word-for-word “my wife’s – with an oblique cut-marked – with antlers which stick out sloping very much to the side, brownish-black-white on the nose and (or) forehead – with longer legs and a slimmer build than usual, good-tempered – female reindeer – with a bell”. In daily conversation the reference may be just *muzet-áldo-biellu* or even only *biellu*, if there is only one animal with a bell in a particular herd.

In the study by Eira, he reported over 1000 individual terms regarding reindeer, the ear marks not included. I think this number may be increased considerably by more detailed studies. And by combining these terms, the potential for description is enormous. All in all, the terminology on reindeer found in the Saami languages is probably one of the most advanced terminology systems found in natural languages.

Snow and ice terminology

Knowledge of snow and ice conditions has been a necessity for subsistence and survival in the arctic and sub-arctic areas. The general term for “snow, snow-covered ground” is *muohta*. A “patch of snow in summer or late spring” is *jassa*, while *jiehkki* means “glacier”. The opposite of snow-covered ground is *bievla*, “bare ground”, which may also be used of a bare patch when the snow is melting in the spring.

Snow quality

These are some of the terms that describe the condition and layers of snow (see Table 6).

Siivu and *ealát*

The quality and quantity of snow is usually judged according to transportation and pasture needs. *Siivu* is the term for “the going, the state of the ground etc. for travelling, the travel conditions” and *ealát* is the “snow condition when the reindeer can find food under the snow” (also: “something to live on, especially for reindeer, sufficient pasture”). There are many terms according to these needs (see Table 7).

Tracks in the snow

The term *oppas* is already mentioned above as the opposite to a track, *luodda* (the general term for track), or tracks. The snow condition with a “surface (with new-fallen snow) upon which fresh tracks are easily seen” is *áinnadat*. Different kinds of tracks have their terms (see Table 8).

TABLE 6. Condition and layers of snow

<i>čahki</i> hard lump of snow; hard snowball	<i>njáhcu</i> thaw
<i>geardni</i> thin crust of snow	<i>ruokŋa</i> thin hard crust of ice on snow
<i>gaska-geardi</i> layer of crust	<i>searjaš</i> granular snow at the bottom of the layer of snow
<i>gaska-skárta</i> hard layer of crust	<i>skárta</i> thin (more or less ice-like) layer of snow frozen on to the ground
<i>goahpálat</i> the kind of snow-storm in which the snow falls thickly and sticks to things	<i>skáva</i> very thin layer of frozen snow
<i>guoldu</i> a cloud of snow which blows up from the ground when there is a hard frost without very much wind	<i>skávvi</i> crust of ice on snow, formed in the evening after the sun has thawed the top of the snow during the day
<i>luotkku</i> loose snow	<i>soavli</i> very wet, slushy snow, snow-slush
<i>moarri</i> brittle crust of snow, thin frozen surface of snow (thicker than <i>geardni</i> ; also of frozen crust of driven snow, <i>čearga</i> , which does not quite bear weight; and <i>cuoŋu</i> which begins to soften becomes <i>moarri</i>), thin crust of ice	<i>skaavdi</i> empty space between snow and the ground
	<i>vahca</i> loose snow (especially new snow on the top of a layer of older snow or on a road with snow on it)

TABLE 7. Terms for snow according to transportation and pasture needs

<i>bearta</i> heavy going because the ground is bare (without snow) in many places	<i>njeađgga</i> ground drift (drifting snow which gets blown up from the ground) which covers roads or tracks
<i>bohkolat</i> deep snow of varying depth; small (steep) snowdrift on road or where one goes (pl. wave-like, steep little snow drifts)	<i>oavlluš</i> depression, hollow, with slushy snow in it, on land or on ice
<i>časttas</i> hard snowdrift (smaller than <i>skálvi</i>)	<i>oppas</i> untouched, untrampled, covering of snow (where no road has been made by walking or driving, or where reindeer have not grazed), deep snow, untrampled reindeer pasture in winter
<i>čearga</i> snowdrift which is so hard that it bears; crust of drift-snow	<i>rodda</i> hard going (too little snow)
<i>čimus</i> firm, even snow (but not firm enough to bear)	<i>sievlla</i> the state of things when the spring snow is so soft that one sinks in it
<i>dobádat</i> sticky snow, heavy wet snow	<i>skálvi</i> big (high, steep, and usually hard) snow-drift
<i>fáska</i> snow blown together by the wind, snowdrift (of snow blown along the ground)	<i>skaarádat</i> the kind of going in which one hears a grating noise (as the <i>kjerris</i> , sleigh, ski passes over a rough surface)
<i>gálja</i> very slippery going, frozen, slippery surface	<i>spaatna</i> hard, firm, snow to drive on (when there is little snow)
<i>girrat</i> heavy (of the going in frosty weather, especially when there has been a hard frost after a fall of snow)	<i>veadahat</i> place where snow has been blown away; (nearly) bare patch (where the wind has blown away the snow)
<i>joavggahat</i> place where the snow lies particularly deep after a fall of snow	
<i>lavki</i> slippery going: ice covered with loose, dry snow with no foothold	
<i>moarri</i> the kind of going, surface, when the frozen snow or crust of ice breaks and cuts the legs of horses or reindeer	
<i>muovllahat</i> place where people or animals have ploughed through or plunged along in deep snow or a soft bog	

To observe and learn from tracks is *vuohttit*, translated by Nielsen as “find tracks of, find tracks showing that . . .”.

Ice on and in water

The general term for “ice” is *jiekŋa* and *jiekŋut* is the corresponding verb with the meaning “to get covered with ice”. The opposite term is *suttes-čáhci*, “water which has not frozen”. *Suddi* also means “lane, lead, hole in the ice” derived from

suddat, “thaw, melt”. The most central terms for different kinds of ice on and in water are listed in Table 9.

Other kinds of ice

When there is no coating of ice, the condition is described as *salggas*, “free from any coating of ice (of utensils)”. These terms refer to different kinds of ice-coatings or ice-layers (see Table 10).

TABLE 8. Terms for animal tracks in the snow

<i>čiegar</i> snowfield which has been trampled and dug up by reindeer (or sheep in autumn) feeding there	<i>láhttu</i> ski-track
<i>čilvi</i> ice-covered area where reindeer have been grazing in mild weather	<i>loanjis</i> tracks of the whole herd of reindeer
<i>doalli</i> winter road or track covered by snow but still distinguishable	<i>márahat</i> large, beaten winter-track
<i>doavdnji</i> snow of such a depth that skis, a <i>kjerris</i> (a boat-formed sleigh, my addition), or a sleigh will not come in contact with the ground; snow which falls upon hard going	<i>ráđnu</i> tracks of a hare (where the hare has gone frequently to and fro)
<i>fieski</i> area where a grazing herd of reindeer has been (including all kinds of tracks, not only <i>čiegar</i>)	<i>ra#tti</i> winter way made by driving reindeer (in harness) over the snow
<i>jođáhat</i> tracks in the snow left by a migrating reindeer herd	<i>suovdnji</i> grazing hole, hole dug by reindeer in the snow in order to feed
<i>jolas</i> tracks made in the snow by reindeer, dogs, or wolves which have gone in a rows	<i>šálka</i> firm, hard, winter way; hard-trodden snow on yard, marked-place etc.
	<i>ulahat</i> almost unrecognisable winter way, track, that is snowed over, or covered by drifted snow
	<i>vuojáhat</i> track or way in the snow, made by vehicles or by driving a herd of reindeer

TABLE 9. Terms for ice and snow on water

<i>áhttán</i> ice on salt-water	<i>roavku</i> portion of water (river, lake, marsh) or frozen bank, waterside (near a spring), where the ice has formed in such a way that there is a hollow space under the top layer of ice
<i>aškkas</i> rough sheet of ice	<i>rovda</i> weak ice which does not bear the reindeer (especially on bogs)
<i>baldu</i> large block of ice, ice-floe	<i>norahat</i> pack-ice (on or near a river); stretch of river ice in autumn with uneven surface due to floating bay-ice which has frozen onto it
<i>boara</i> having smooth ice on it in spring, after the snow has melted	<i>rudni</i> ice-hole
<i>bođus</i> brash ice at bottom of (shallow) river in autumn	<i>sáisa</i> mass of packed ice pressed up on or towards the shore
<i>bođus</i> ice-floes floating separately (collectively)	<i>soatma</i> ice-slush or snow-slush on the water of a river or a lake
<i>cahca</i> narrow strip of ice between two lanes	<i>spildí</i> very thin layer of ice on water or milk
<i>cuokca</i> ice-bridge or snow-bridge over a river	<i>šuo#mir</i> particle of ice in the shape of a needle
<i>gavdda</i> thin ice, bay (or young) ice	<i>suossa</i> bay ice (in river and lake)
<i>njuorra-jiekga</i> new ice, so weak that it does not bear weight	<i>vuohčči</i> smooth ice with moisture on top
<i>jie#k-gávli</i> ice along the shore of open water (the sea or rapids)	<i>vuožži</i> wet bare ice
<i>liehpa</i> hole in the ice on a lake	
<i>moalus</i> small fragments of ice which float on the water after the force of the stream has ground up the ice	
<i>moarahat</i> lane, lead, of water where the ice is broken up; place where a layer of ice on top of thicker ice is broken up	

Processes and conditions

Conditions may be described by nouns and adjectives and changes of conditions by verbs. Most of the stems can easily be used alternatively as nouns, adjectives and verbs by morphological derivational processes. As an example, the noun *njeađgga*, “ground drift” is in fact a derivation of the verb *njeađgat* (about wind), “drift over (road or track; when the wind blows up enough snow to cover roads or tracks)”, which can also yield the adjective

njeađgi “apt to, extremely apt to, *njeađgat*”. Another noun, *njeađggádat*, describes the kind of weather with *njeađgga*.

In this way the number of words (lexemes) can be multiplied many times. In addition, there are a number of independent verb stems with no connection to the already mentioned terms denoting processes in snow and ice. The general term for snowing is *borgat*, while *earbm#ut* denotes the kind of weather when it snows “thinly with very small flakes . . . snows a little with very small flakes – a sign that there is going

TABLE 10. Ice-coatings or layers

<i>čodđi</i> coating of ice formed by frozen rain or sleet on stones or trees	<i>duollu, girse</i> frost (in the ground)
<i>čuohki</i> ice-crust on pasture	<i>ritni</i> (thick) rime on trees and other things
<i>bihci</i> rime (frost)	<i>skilži</i> covering of little bits of ice which hang down loosely
<i>bulži</i> compact crust, coating of ice, esp. on implements	<i>sealli</i> melting rime on the trees
<i>bulsi</i> rounded, convex, sheet of ice	<i>suhči</i> hard-frozen rime (on trees)

to be harder frost”, *muohhtálat* (a noun) is close to this with the meaning “the kind of weather when it snows now and then” and *čuorpmastit* means “hail” (of weather).

Travelling on snow may cause a break of the snow covering denoted by the verb *lávlat*, “break (intr.) for some distance, get a long break (of ice or a frozen crust of snow with air under it)” or the result may be an *udas*, “avalanche (of snow)”. In addition to a general term meaning to melt mentioned above, there are more specific terms denoting warming and freezing like *sakŋat*, “be thawed, get rid of adhering ice or snow, become ice-free”, *máizat* “get the chill off, get just tepid; throw off the ice (of fish, meat etc. which is being thawed)” and *lákcut* “become full of fine brash, begin to freeze”.

In the list presented by Jernsletten, there are 175–180 basic stems on snow and ice.

If we add other related terms (verbs and adjectives) of the type mentioned above, and if we include all possible derivations, we may probably very easily come up to something like 1,000 lexemes with connections to snow, ice, freezing and melting.

Conclusion

As can be seen from this, the North Saami language has a very rich terminology in these fields. A similar presentation can easily be based on the other Saami languages. Yngve Ryd has given a presentation of snow terminology from Lule Saami in Swedish in a popular form (Ryd 2001). All this is a manifestation of the knowledge among the Saamis acquired through generations of observation and experience. By analysing this kind of terminology, we would probably learn a lot about snow and ice conditions in the Arctic and living conditions for animals and human beings. In a deeper study of snow and ice, the whole process of how snow and ice develops through the freezing process and how the melting process transforms snow back into water should be taken into consideration in the way demonstrated by Jernsletten (1994). This could be one of the sources to more insight into this environment, which perhaps could be a valuable supplement to other kinds of knowledge sources in these times when we have had many reports on dramatic climate changes in the Arctic.

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