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Preservation of Primitive
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From the Curator...

***Dear members of PADS and
readers of our Journal,***

We apologize for the delay in publishing our Journal. We will now resume our journey around the world with vanishing aboriginal dogs. In this 34th issue, we publish the third part of an article by Dr. Anna Laukner about the coat color variation and genetics of the German Spitz and an article by Andrey Samar about the Nanai people's unique way of using dogs for pulling boats. Imagine this: "One peculiarity of the Ainu method of pulling boats was in the fact that the lead dog was running loose. It was not tied to the gangline at all, but left to run free ahead of all the dogs, responding to the commands of a human sitting in the boat and the whole dog team in harness followed it" (A. Samar).

Sincerely yours,

Vladimir Beregovoy
Curator of PADS, International

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Coat Colour in the Spitz

By Dr. Anna Laukner

translation by Gabriele Schröter

Part 3

In the first part of this series we reported the diversity of colours in the Spitz. In the second part you learnt about the attempts of the Club to preserve or eliminate certain colours. Please read now about the genetics and certain coat colours.

Colour genetics

To explain the basics of colour inheritance in the dog would go beyond the bounds of this article by far. Therefore we recommend the following series of articles on this subject to readers who want to enter this subject for the first time: ‘Coat Colours in Schweizer Hunde Magazin 9/08 to 2/10. (Can be downloaded free of charge from www.hundemagazin.ch).

Classical Spitz Colours

White is a traditionally popular and common Spitz colour in all size varieties. The white Spitz owes its coat colour mainly to two hereditary factors: to the factor e at the extension locus E that sees to it that no dark pigment (eumelanin that is black, liver and slate coloured) can be incorporated into the hair. Only skin and mucous membranes (skin, claws, nose, eye lids and flews) can show this dark pigment. The second

important factor is the dilution factor that causes the lighter coloured pigment pheomelanin (causing yellow to reddish coats) to become extremely diluted. Some white Spitz can show a slight yellowish shading of the hair, this is no ordinary yellowing but rather a not completely diluted pigment. Such a yellowed white can be seen especially in the occasionally occurring white Wolf Spitz. (You can compare this to the White Swiss Shepherd Dog that is related to the Spitz via his ancestors, the Old German Shepherd Dogs.) Some white Spitz also carry the pie-bald factor. In former times black-and-white pie-bald Spitz were considered suitable partners for white Spitz as they would intensify the dark pigmentation of nose and eye-lids. And the actual white pie-bald spots would not come into sight because you cannot see white on white. In principle a white Spitz should have an especially clear white without any yellow shimmer: under the pie-bald factor no pigments are sent into the hair in the pie-bald areas, so there cannot be any shade of yellow; the white hair of pie-bald dogs are 'empty' so to speak. Apart from these hereditary factors that are relevant for white every white Spitz also has other colour genes, of course, which are, however, covered up by those named above. If you breed such a dog to a non-white partner rather colourful litters can result.

The black Spitz owes its plain black coat either to the factor KB at the K-locus (this is a dominant factor that distributes the eumelanin uniformly across

the whole coat) or on the recessive allele a at the A-locus. This makes for a recessive black when it comes in homozygous form. This allele makes the black band cover the complete individual hair; or rather the change from eumelanin to pheomelanin in the enclosure of pigment in the individual hair is suppressed. Of course there are also Spitz that carry both 'black factors' together. In the blacks that sometimes occur with diluted 'pants', plumes and collars we are not quite sure which type of gene is responsible. A well established breeders' view is that such blacks are heterozygous dominant blacks (genotype KBky).

The B-locus is then decisive whether a dog will be uniformly black or uniformly brown. A black and a brown Spitz differ in colour only by this one single gene (or better by its allele: the dominant allele B leads to black pigment, the recessive allele b to brown pigment. A black Spitz therefore can be a covered carrier of brown, but a brown Spitz can only ever pass on brown. Of course Spitz in other colours also have genetic information on the B-locus. Most of them carry B – they have black noses +and eye-lids. But now and then a white or coloured Spitz is born with a brown nose and light coloured eye-lids. Such dogs have two b-alleles. Their brown noses must not be confused with the so-called changing nose that many dogs develop in their life time, especially in the winter months (more on the subject of nose pigment see

Schweizer Hunde Magazin 6/11). The FCI standard recognizes only uniformly brown Spitz – with all other colours the brown pigmentation counts as undesirable. That is different in England.

Black and brown Spitz can be covered carriers of other coat colours (e.g. all alleles of the agouti locus A, for the shaded coat or for agouti coloured markings). Shaded grey Spitz (e.g. the Wolf Spitz) have a coat that consists of banded individual hairs. Light and dark bands alternate, the dark bands usually consist of black pigment, the light bands of diluted pheomelanin. The colour of these lighter bands varies with the dog between a light cream and a substantial yellow. This banding is caused by an allele of the A-locus (A for Agouti, named after a South American rodent with this coat colour). This locus houses alleles that have effect on the banding of the individual hair. It is assumed that an allele called aW is responsible for colours like that of the Wolf Spitz (W for wild type colour). A dark face mask is also typical for the Wolf Spitz. It is caused by the gene EM on the E-locus. This mask, by the way, can appear in combination with all the other colours of the A-locus (wild-type colour, sable, dominant orange and black & tan), and also in brindle dogs.

Agouti Marking and Mask

Formerly many Wolf Spitz had distinct so-called agouti marking (light marks on the cheeks,

throat and legs). Today these markings are rare and do not count as particularly desirable. The inheritance of these agouti markings has not been explored in its final details, the observations of experienced breeders point to an inheritance of the agouti markings that is independent of the basic colour. So the agouti markings are in principle no more than marks as you get them in a black & tan dog (the typical marking of a Doberman or Rottweiler). As the colours in the Giant Spitz are bred strictly separately markings are unknown here. In the other Spitz varieties, however, there are several patterns with markings, for instance black & tan, shaded grey with lighter markings or orange with markings (this colour is very common in Japanese Spitz breeds like Akita Inu or Shiba Inu and is called Urachiro there). For decades experience has been contradicting the prevalent doctrine: to this very day research presumes that the allele for agouti markings is to be found at the A-locus (at). This refers to the classic black & tan, that is black with agouti markings. But this does not explain any other basic colour with agouti markings. For it is obvious that the agouti markings, the so-called marks, are inherited independently of the basic colour. That is the only way to explain that every possible colour (including agouti) can come with or without marks. So there must be a separate gene for the formation of marks – this is also what the experience of many breeders has shown.

New “Old” Colours

All Spitz that have a more or less strong and uniform orange coat are called orange. This can have two different genetic causes: one is the factor e at the locus E. This factor that we have already met in the white Spitz, inhibits the inclusion of dark pigment (eumelanin) in hair. Only the lighter pheomelanin can be included and depending on the intensity of this pigment the coat is either intensively orange or more or less diluted (cream) or completely diluted (white). Dogs with the allele constellation ee (dogs that are homozygous for e) are born without a single black hair. Most orange Spitz are born with a rather washed colour and black tips to the hairs (e.g. on the tip of the tail). Optically they can hardly be distinguished from the first orange variety mentioned above – genetically, however, they are clearly different. Their coat is formed by the factor ay of the A-locus (y for yellow). This factor pushes the dark pigment in the individual hair into the extreme end of the hair tips. At birth the dark hair tips can still be plainly seen, in the course of the first few months the dark pigment is pushed back more and more until, in the grown-up dog, you can hardly see a few dark points. At the E-locus such dogs always have at least one allele E that, in contrast to e does not in principle suppress the inclusion of dark pigment. At the K-locus they have the allele constellation kyky that allow the development of the

alleles of the A-locus – in contrast to dogs with KB that are uniformly dark (in the Spitz that normally means black). The orange/yellow/cream that is produced by ay is called dominant yellow as opposed to the recessive yellow produced by ee.

An optical intermediate stage between orange (or cream) and shaded Spitz are the so-called sables. These dogs have more distinctly developed dark hair tips than the orange or cream ones, but the dark bands are not quite so distinctly developed as in the shaded ones. The genetic classification is not completely clear: according to the present state of molecular genetics the dominant yellow (orange/cream) as well as the sable should be produced by ay - as opposed to the shaded coat that is caused by aW. In practice drawing the borderline is not always that easy, normally appearance inspection decides. A differentiation between dominant and recessive yellow (orange/cream) is not made by the Club (e.g. in stud books). On the other hand we are still waiting for a molecular genetic serial survey of the breed. So we definitively do not know whether sable and shaded coats, e.g. differ only optically or genetically, too.

All pie-bald Spitz have pied-colouring alleles (s) at the S-locus (S for pied-colouring – in German). In the Giant Spitz there can be s-alleles hidden in white dogs (s. above), and of course a plain coloured Spitz can be carrier of a hidden pied-colouring, because pied-colouring is inherited recessively. That

means that the pied-colouring only comes into sight when a dog has two pied-colouring alleles. A heterozygous genotype (Ss) can at most have a white chest mark or maybe a white mark on a toe. Such a minimal pied-colouring is naturally easily hidden in a shaded grey coat than in a pitch black coat. Therefore you would sooner suspect concealed pied-colouring carriers among the shaded grey Spitz population than among the black ones.

The colour intensity of the pheomelanin (causing a dog to be orange, yellow, cream or white) has not been molecular genetically researched yet. But it is supposed that intensive pigment (orange) is dominant over diluted pigment (cream and finally white). In favour of this thesis is the fact that two orange coloured dogs can produce cream coloured ones, but two creams or white dogs cannot have orange coloured progeny. This also explains that the intensive fox red that was mainly popular in former Eastern Germany can hardly be found any more today.

Blue Spitz are born very rarely. These genetically correspond to the black Spitz with the sole exception that they are homozygous for d at the D-locus (D for dilute), that dilutes the black eumelanin to blue. In a magazine of the Club for the German Spitz dating from 1954 there is a picture of such a slate blue Small Spitz bitch. I also have the photo of a Giant Spitz litter with black and blue puppies, but unfortunately I could not get the permission to have it

printed. In England there is also a diluted variety of brown, called lilac.

Of course the dilution factor can occur in all colour combinations but is more difficult to detect in some.

Brindle is also very rare and is caused by the allele Kbr at the K-locus.

Some pie-bald Spitz show a ticking in the white areas, especially visible on the distinctly more short-haired front of the legs. This is caused by the allele T at the T-locus (T for ticking). Ticking is dominant over non-ticking.

Please read a comment on the present situation and a glimpse into the future in the fourth and last part of this series in the next edition.

Coat Colour in the Spitz, Part 4

In the first part of this series we wrote about the diversity of colours in the Spitz. In the second part you learnt about the attempts of the clubs to protect or suppress certain colours. The third part explained the genetics of the coat colours. Here follows a comment on the present situation and a prospect of the future.

Text: Dr. Anna Laukner, translation Gabriele Schröter

To begin with I will once more give a résumé of the colour genes that occur in the Spitz and that were mentioned in detail in the last part:

A-locus: ay (dominant yellow), aw (shaded coat), at (black & tan), a (recessive black)

B-locus: B (eumelanin black), b (eumelanin liver coloured)

C-locus: C (intensive pheomelanin, equating orange), cch (diluted pheomelanin, equating cream), cW (extremely diluted pheomelanin, equating white). This locus with its alleles has not been proven by molecular genetics, so relies on experience that makes a locus in this form conjecturable

D-locus: D (eumelanin strong – black or brown), d (eumelanin diluted – blue or lilac, very rare!)

E-locus: E (inclusion of black pigment possible), EM (black mask), e (no inclusion of black pigment into hair possible)

G-locus: irrelevant for the Spitz

K-locus: KB (dominant black), Kbr (brindle, very rare!), ky (allows expression of the alleles of the A-locus)

M-locus: merle, is bred in the Pomeranian in the USA outside the official Club, not a typical Spitz colour and with a view to health should not find its way into the breeding of the Spitz!

S-locus: S (no pied colouring), s (white pied colouring)

T-locus: T (ticking), t (no ticking)

Commentary/Future Prospects

Every Spitz has two alleles on each of these loci. Depending on the combination there is a multitude of possible colours and marking patterns. Because of the separate colour breeding many of the possible combinations hardly appear any more or occur only by accident once in awhile. Why was this colour diversity narrowed so strictly?

The foreword to the 1966 Studbook of the Club for the German Spitz mentions that cross-breeding of Wolf Spitz and black Giant Spitz can no longer be registered. As a consequence that even less dogs were registered than in the years before. In the years before the forewords of the studbooks had bemoaned the lack of quality in the Spitz time and again. In the 1950ies you can find colours like ‘black with grey marking’ or ‘brown-beige’ appearing in the parents several times. After the colour separation the number of mixed coloured litters diminished rapidly. The separation in the Giant Spitz between white and black/brown can be abrogated any time by the meeting of the delegates if there are enough supporters. In principle the colour palette in standard is also expandable.

Like everything in the world dog breeds, too, are subject to fashion. What seemed beautiful and sensible may no longer be up to date today – seen from a genetic and veterinary view, too. In the

1920ies the white Spitz (see part 1 of this article) was very popular – more than 75 % of the registered Spitz in the Club for the German Spitz were white. But times change ... and so do fashions. Today the Spitz unfortunately can no longer be counted among the most numerous breeds (especially the Giant Spitz). The Eurasier formed strong competition. This breed, among whose ancestors we find, among others, the Wolf Spitz, captivates not least by his extremely attractive colour palette. Many dog-fanciers who might have decided on a coloured Giant Spitz chose the more ‘modern’ Eurasier. Another subject is the consequences for the health of the breed. It is being discussed fiercely by fanciers and breeders of the Giant Spitz. How endangered is the vitality of the Giant Spitz by the present breeding practice of limiting the number of colours to two (or rather three, if you include brown) and breeding colours separately?

There are two differing points of view on this subject: one side sees no danger for the breed and no need for any change to the present colour and breeding regulations.

The other side wish for an expansion of the colour palette for orange and other colours (in analogy to the smaller Spitz varieties) and a removal or at least a liberalisation of the colour breeding regulations – especially in order to avoid the menacing effects of the so-called genetic bottle neck.¹ A third group do not

want to enlarge the colour palette for the Giant Spitz but want to remain with ‘classics’: black, white and brown, but wish for a liberalisation

of the colour breeding regulations in order to achieve a broader genetic basis.

Within the Club for the German Spitz interbreeding of different colours may be done upon application, but this accompanied by strict conditions. From these inter-breedings of different colours you can also see rather clearly which colour genes are hidden in the ‘clear’ colours and they give you a notion what possibilities would arise if breeding back to the ‘old’ colours were possible. This fact naturally leads to a certain amount of friction between the camps of those who want to keep the Giant Spitz white, black and brown and those who open-minded about a broader colour palette.

Recently this complex of problems finally led to the formation of a syndicate of Spitz fanciers (IG) outside the VDH, the German Kennel Club. These people want to counteract the inbreeding depression caused by breeding for colours separately and instead want to conserve the Spitz in its total diversity (including coat colour). Here also dogs from eastern countries like Poland and the Czech Republic are used for breeding. In these countries white and black Giant Spitz and Wolf Spitz are interbred.

Apart from that there are other associations that have committed themselves to preserve the Giant

Spitz and a publicly available data bank where you can find the topical data and information on over 16 000 Spitz as well as various statistics.

Within the German Club for the German Spitz there is also a growing number of members who deal seriously with this subject. My personal impression: a process of rethinking has begun slowly but surely and it doesn't seem impossible that the colour barriers may fall some day and the Spitz will be as popular in all its sizes, diversity of colour, and vitality as it was in its heyday.

Excerpt from the FCI Standard Nr. 97 (original English text from the FCI homepage)

Black Spitz : In the black Spitz, the undercoat and skin must also be black and the colour on top must be a shining black without any white or other markings.

Brown Spitz : The brown Spitz should be uniformly dark brown.

White Spitz : The coat should be pure white without any trace of yellow in particular, which often occurs, specially on the ears.

Orange Spitz : The orange Spitz should be evenly coloured in the medium colour range.

1Definition according to wikipedia.org: a genetic bottleneck is a term from population genetics. It defines the high genetic reduction and connected with it the change of allele frequency caused by the reduction to a very small population often consisting of only very few individuals (founder effect). This is a central problem with endangered species as a defect in one allele cannot be balanced by a second, healthy allele. This can lead to inbreeding depression.

Grey-shaded Spitz Keeshond / Keeshond : Grey-shaded is a silver grey with black hair-tips. Muzzle and ears dark in colour; round the eyes well defined « spectacles » shown as a delicately pencilled black line slanting from outer corner of eye to lower corner of ear, coupled with distinct markings and shading forming expressive short eyebrow; mane and ring on shoulder lighter; fore- and hindlegs without any black marking under the elbows or stifles, except slight pencilling on the toes; black tip of tail; underside of tail and trousers pale silver grey.

Other coloured Spitz : The term « other colours » covers all shades of colour, such as : cream, cream-sable, orange-sable, black and tan, and particolour (with white always as main colour). The black, brown, grey or orange patches must be distributed over the whole body.

TRADITIONAL DOG BREEDING OF THE NANAI PEOPLE

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Introduction

In the traditional culture of the Nanai people, dog breeding is one of the most important activities and using dogs in commercial hunting and fishing is indispensable economically. Commercial hunting has been based on extensive use of dogs as a form of transportation. This is how people traveled from home to hunting or to fishing areas or to trading fairs. In their spiritual culture, the image of a dog occurs in cults as a sacrificial animal, in shamanism as an assistant spirit, and as an intermediary between the worlds.

In the late 19th – early 20th centuries, Nanai people settled regions of the middle parts of the Amur River and its tributaries: the Kur, Gorin, Anyui, Hungary, Bikin, Ussury and Sungary Rivers in the area of Sansin (China). Later, because of several factors, territories populated by Nanai were significantly reduced. The number of Nanai in the early 20th century, according to different sources, varies from 3,531 to 4,920. In 2002, in the Russian Federation, lived 12,160 Nanai.

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At the present time, the Nanai are subdivided into four territorial groups: the Amur, the Kur-Urmian, the Gorin and the Bikin. The Amur group is most numerous and it includes different tribes of Nanai living in the middle part of the Amur River Basin. The Upper Amur and the Lower Amur groups are distinguished by cultural peculiarities. The Kur-Urmian Nanai differ from the rest of the Nanai in language and economical activities.

The name Gold came in to use for Nanai people in 19th century, although people neighboring to Nanai used it at an earlier time as well. The shaved frontal part of the scalp and plaited hair has been one important cultural feature of the Nanai until the 20th century.

Geographic, climatic, biological and historical conditions in the Amur River region helped to develop the Amur-Sakhalin type of dog breeding. The Amur River, with its tributaries, is a system of natural trading waterways with rich fishery resources. This, as well as other factors, helped the domestication of the dog in this region and, subsequently, the development of one of the largest centers of dog breeding. In Medieval Manchurian and Chinese chronicles the Amur River region is called the country of the dog breeders and the people were summarily called “yui-pi-da-tzy” – fish-skinned natives and “shi—tsuyanbu” – people who use dogs. Thus, in the past, dog

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To preserve through education.....

breeding was one identifying factor of the Nanai and other ethnic groups of the region.

The name “people who use dogs” emphasizes an important feature of the traditional economy of the Nanai, which is based precisely on dog breeding. Some of the Evenk tribe even called themselves “Hundyshal,” which stands for owners of dogs. This is how hunters on foot with dogs distinguished themselves from other Evenks, who were reindeer breeders. Dog breeding of the Nanai belongs to the Amur-Sakhalin type culture. However, in regions bordering different groups, certain differences are observed in the construction of dog sleds and harnesses, the names and hunting methods with dogs, dog training, etc.

According to the classification suggested by L. Ya. Sternberg in the 19th century, Nanai were settled fishermen and hunters, for whom dogs served as a means of transportation. In winter, dogs were working hardest, both at sledding and at hunting. In the summer, dogs were used for towing boats. Nivkhs and Ainu also used dogs for both sledding and hunting, but they also ate dog meat and they ate it not only during rituals, but also as a regular table meal.

Despite the availability of numerous ethnographic studies from the 19th - 20th centuries, the dog breeding of the Nanai people did not attract much scientific interest. Knowledge about Nanai dog breeding is necessary for understanding the specifics

of Nanai culture, methods of using dogs in the household, in commercial hunting and in their spiritual culture. This kind of research is particularly timely, because of the current accelerating changes in the life of the ethnic groups of the Lower Amur River region and the loss of its traditional features. This is the last chance of recording the still remaining cultural peculiarities of dog breeding and the very changes are interesting as well. The changes include modernization of the Nanai culture and economy and the very attitude of the Nanai people to the dogs and to the rest of the world.

This project includes field materials collected by the author during expeditions in 1993 - 2004 and materials from archives and museums. Information about dog breeding of the Nanai, Tungus-Manchu and other ethnic groups was used.

The specifics of dog breeding by Nanai people are determined by the natural features of the Amur River region. At the time, when Nanai people met Europeans, their economy and culture were associated with their way of life as hunters, fishermen and gatherers. However, there were differences between certain territorial groups. Thus, among the Nanai of the Kura, Gorin, Ussury and Bikin Rivers hunting prevailed over fishing and it was a major source of their income. The Nanai of the Amur River were mainly fishermen. During the salmon run, every family was busy preparing their fish supply for the

whole year for themselves and for their numerous dogs.

Dog breeding became an important part of the material and spiritual culture of the Nanai since the time when they obtained their dogs. Dogs have been used for transportation, hunting and fishing. The image of the dog is present in their mythology, beliefs and cosmology: dogs play a role in rituals and cults. This research includes the Amuro-Sakhalin ethnographic region, including the Amur River, the Ussury River, Amur Bay and Sakhalin Island.

The research includes the period from the late 19th century and until the late 20th century. This period was chosen because in the middle of the 19th century ethnographic material on dog breeding of the Nanai began to appear in publications. Concurrently, powerful influences of Slav culture on the economy, and the way of life of Nanai took place. Slav influence had a considerably greater impact than the influence of Chinese, Manchu and other ethnic groups. The obtained information can help to optimize cultural dialogue, including the social, cultural and political relationships of the Nanai and other closely related ethnic groups.

Chapter I

Dogs in the economy of the Nanai

1. Origin of using dogs as draft animals

A vast region in Eastern Siberia and the Far East is one of the oldest centers of domestication and breeding of dogs. Here, dog breeding goes as far back as the Stone Age. To a human of that time, the dog was one of the hunted animals. With time, dogs came through a period of domestication and in the process they became assistants at hunting. The next stage of involvement of the dog in human activities was its use as a draft animal.

The use of dogs for transportation by Nanai people is subdivided into two independent forms: dog sledding and pulling loads. They both have one origin, but pulling was first, and with time, dog sledding grew up into an independent form of transportation. The breeding of sled dogs requires the availability of dogs trained to work with certain type of sleds and harness. However, it is necessary to define the conditions necessary for the development of dog sledding. In Siberia, the major centers of origin are in the basins of large rivers and seas of the Arctic and Pacific Oceans rich in fish and marine mammals. Rivers suitable for salmon runs are associated with sled dog breeding, because the availability of huge fishing resources provided the native people with a sufficient amount of food for their dogs. Dog sledding is a characteristic of the native cultures of hunters, fishermen and gatherers of the taiga forest zones. Fishing in the Amur River region, where the salmon (*Oncorhynchus keta* and *Oncorhynchus gorbuscha*) run, occurs in the summer-

fall season and provides a plentiful food supply for both humans and their dogs. At the same time, in the summer and winter seasons, rivers serve as natural ways for transportation.

The dog sledding of the peoples of the Amur River and Sakhalin Island have many common traits and, therefore, it is united in a single Amuro-Sakhalin type of dog sledding. It is defined primarily by the construction of the dog sleds. The Amur sleds have runners curved at both ends, in the front and rear, and straight stanchions. These sleds are rather narrow, allowing the mushers driving it like on horseback (Fig. 1, 2). One important trait of this type is the construction of the Amur dog collar, which is made in the shape of a leather loop; in this kind of collar the dog pulls with its neck (Fig. 3).

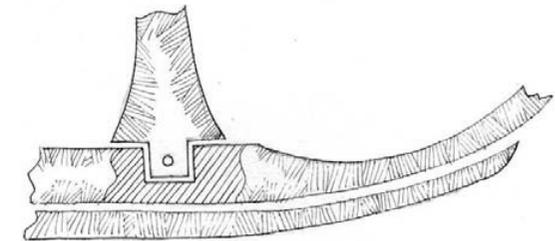
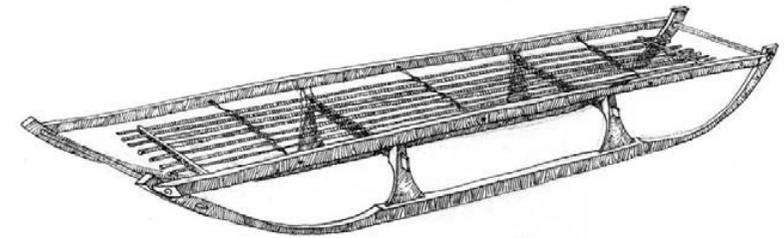


Fig. 1. Amur type of sleds and attachment of stanchion to runner.

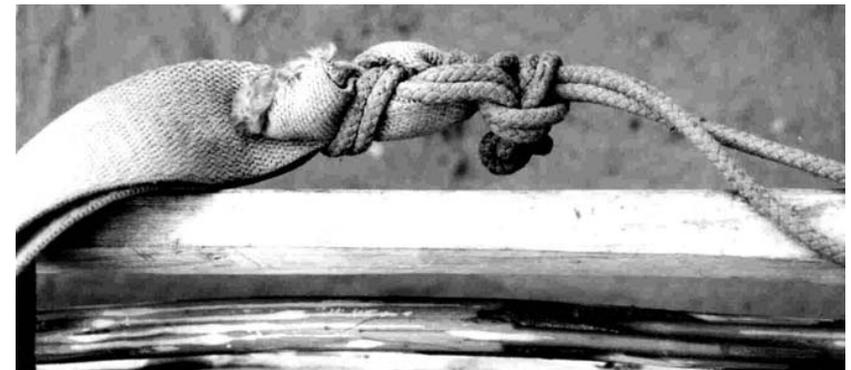


Fig. 2. Belt (iropon). Nanai of Naikhin. Photo by author, 2004.

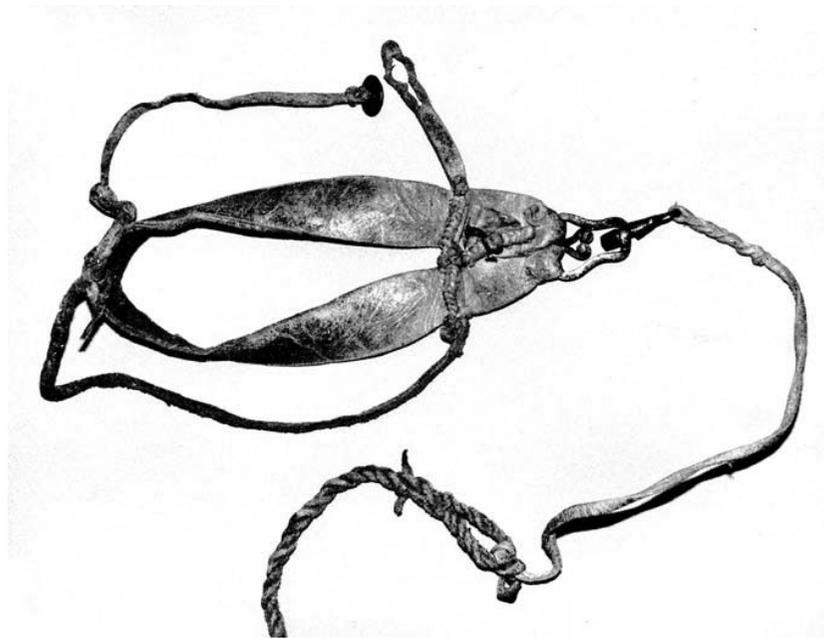


Fig. 3. Dog collar of the Amur dyambo type. (Nanai, collection of МАЭ.)

Concurrently with the Amur dog sledding, the East Siberian type of sled is commonly used. Its runners are curved only at the front and it has a broad and spacious basket. Its stanchions are tied to the runners with leather cords. The presence of the driving bow distinguishes it from the Amur sleds (Fig. 4). It became used more often in the early 20th century, when people could earn extra money by shipping more loads. There were up to 15 dogs harnessed in tandem with a lead dog in the front (Fig. 5, 6). There is a common opinion that the East Siberian type sleds

became used by the Nanai only in the late 19th - early 20th centuries. A. V. Smolyak wrote that the Nanai learned about using this type of sled from the Nivkhs and Ulchy. The evidence in favor of this is in the term “hedien tokini,” which the Nanai apply to the East Siberian sled. However, a correct translation of this term stands for “low river sled.” Besides, the Nanai called this sled “para”. According to Smolyak, on one occasion, this term serves as a dialect name for the Amur sled, but on another occasion it is applied to a sled pulled by a horse. Small sleds used in households and in children’s play were called “paraka,” transferred from big sleds to small ones (Fig. 7, 8). Possibly, the use of the East Siberian type dog sledding in the Amur River region became common with a wave of migration of Evenk reindeer breeders into the region. Evenks, who merged with Nanai, Ulchy, Orochy and other Tungus-Manchu ethnic groups abandoned reindeer keeping, but they adapted their reindeer sled to be pulled by dogs.

Dogs were used as draft animals before the invention of sleds. They were pulling travois. All kinds of travois are still used by the Nanai to this day. A. V. Smolyak came to the conclusion that travois were a prototype of modern dog sled. In the traditional way of life of the Nanai, different types of travois were made for use in commercial hunting. Travois were made out of animal skins, carved logs and other kinds of materials available at hand.

Where homes were not far from the winter hunting cabin and when hunters did not have more reliable means of transportation, they used travois made of animal skin. However, travois made of skin were used only once and were never for multiple uses.

The Nanai of the Gorin River still use this method for shipping meat of hunted animals, such as bear, roe deer and moose. The meat is placed on the skin and the skin's margins are sewn together with threads made of bark. The tug line with a loop at the end was made of bark as well. The Evenks of Karga and Kulcha on the Amur River used moose skin in the same way. The Amur River Nanai, living in Naikhin, Dada and Verkhnyaya Ekon, ship meat in skin travois in the same way.

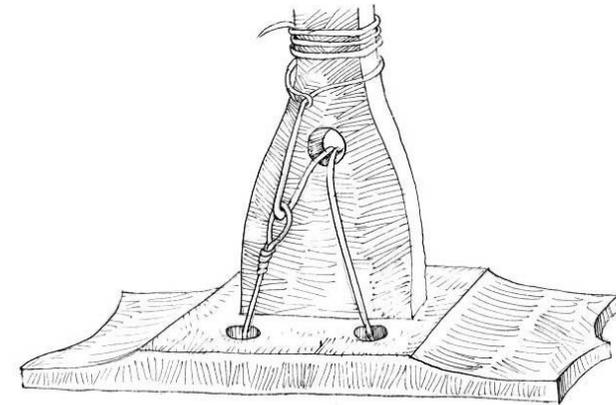
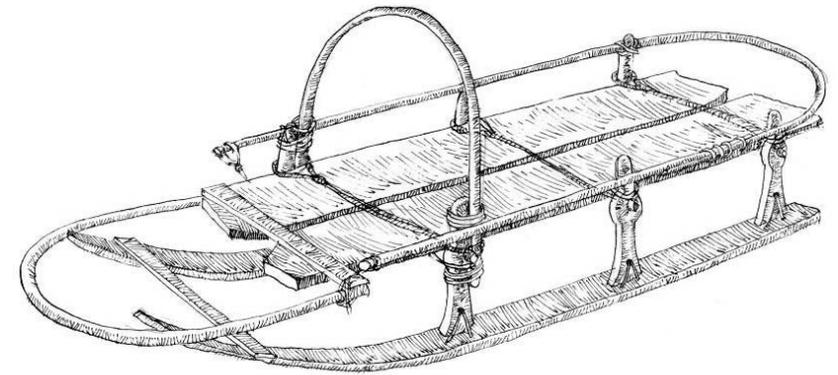


Fig. 4. East Siberian sleds, attachment of station with runner (ИЭА).



Fig. 5. Dog hitch of the Amur type (Nanai). Archive of ЭЭА ИИАЭ ДВО, Russian Academy of Sciences.

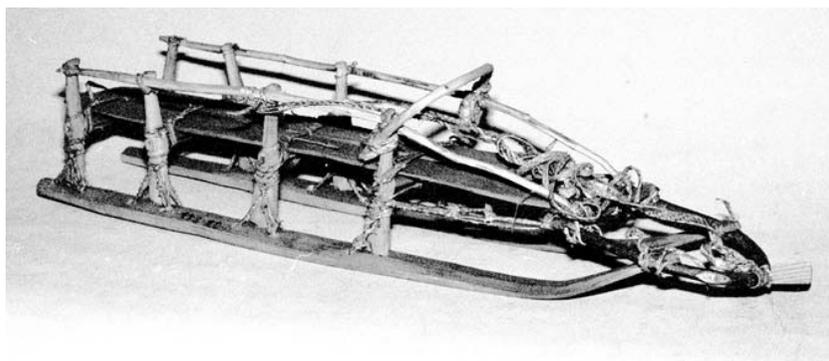


Fig. 6. Model of East Siberian sleds. Collection of МАЭ).

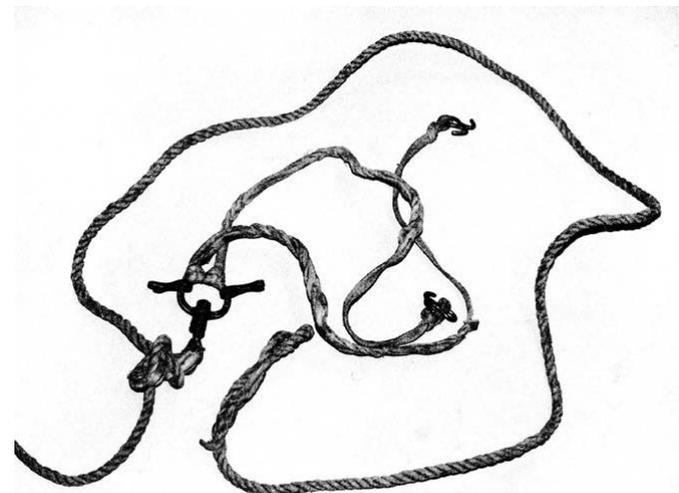


Fig. 7. Method of attachment of leads to gangline with carbine. Nanai, collection of МАЭ).



Fig. 8. Basic carbin makchikhan. Nanai, collection of МАЭ).



Fig. 9. Konda hunter Yu. K. Samar. Personal archive of author.



Fig. 10. Method of using dogs by skiing hunters. Nanai, Album of K. G. Abramov, No. 14638-30



Fig. 11. Nanai hunters travel to sable hunting grounds on the Amur River, 20th of 20 century. Reproduction from Yu. A. Sema, Archive of ЭЭА ИИАЭ ДВО Russian Academy of Sciences.



Fig. 12. Nanai hunter on his way to sable hunting region, 20th, 20 century, Archive of ЭЭА ИИАЭ ДВО, Russian Academy of Sciences.



Fig. 13. Dog sledding in the Amur sleds. Album of K. G. Abramov, No. 14638-30.



Fig. 14. Sleds braking stick kauripo. Nanai of Kondon village. Photo by author, 1998. .



Fig. 15 . Part of braking stick, Nanai of Kondon Village. Photo by author, 1998.

There are many examples of using what is available at hand during commercial hunting. Thus, ethnographer E. A. Gaer, in 1975, wrote down the following text from the words of a lower river Nanai (Verkhnyaya Ekon) about an ancient method of shipping loads of animal carcasses, etc.

«...What a human is dragging. A man is pulling a thick belt. He puts this belt over his shoulder and pulls it, fur outside, it slides well. People call it 'kutulen. This is how it is called. The 'kutulen' wraps everything, leaving no holes and only then make a cut in the middle. Make a loop of a thick belt through this cut. This belt is put over the shoulder and you pull with it on skis. This is kutulen. Here is what people call 'divon:' dig a pit in the snow, spread the skin and put the meat in the middle. Cover this meat with another half of the skin and cover it all with snow. Cover it like a grave, like you are burying a corpse. This is called 'divon.' And what is called 'kutulen' is wrapping meat in the skin and then cut openings on all

sides of the skin and then, using leather belts sew it through the openings and pull it to form a sack and tie the loop to the sack. Somewhere in the middle a longer cut is made, which is used to tie the loop. The loop is used for pulling the load on the return way. This is called 'kutulen' and what is buried in the snow is called 'divon.' This is so."

In 2004, the back pack method of shipping loads was found among the Nanai of Dada village. The back pack was tied to the dogs back with belts. Hunting dogs were very intelligent: "... Makto Beldy, a well known hunter, had big hunting dogs. When he took off to hunt, back packs were tied on their backs. Once, during such trips, the hunters noticed that one dog lagged behind. Soon they discovered that the back pack slid off the dog's back and fell on the ground. The dog stood patiently, waiting for help from the owners." Using dogs for carrying back packs is typical of western dog breeding, but its existence among the Nanai was unknown. Possibly researchers overlooked this fact. Kur-Urma and Gorin Nanai use dogs as draft animals more often. People living in areas of mountain creeks depended more on hunting than on fishing. Therefore, the use of dogs for transportation became inseparable from hunting. They all are characterized by the Amur type of dog use. For example, they harness not more than 2-3 dogs (Figs. 9, 10, 11, 12, 13).

Hand pulled hunting sleds were called ondeho, ongo and tolki. Dialect and territorial differences were insignificant; Nanai hunters used not more than three dogs for pulling sleds and every dog was both a hunting dog and a sled dog. On hunting trips, hunters did not use narrowly specialized sled dogs. Harnessing dogs, the hunter pulled the same sleds himself, helping the dogs. He used the leather belt with a loop (uropon) over the shoulder (Figs. 2). Control of heavily loaded sleds was helped by using a special shaft called yanapo, yanopu, kunyu and yanfo. The shaft was tied to the first left stanchion and attached to the end the split (hulien) (Figs. 9, 11, 12). Braking and balancing of sleds were performed by using two braking sticks (kaurino); they were tied to stanchions with belts so they could be pushed to the ground as needed (Figs. 14,15).

The dog team was controlled by the same voice commands among all Tunguso-Manchurs of the Amur River region. Among them, the most common are takh-takh-takh - straight ahead; kai-kai - to the right; tekhtekh-tekhtekh - to the left; mei duile - further from the bank; toro - stop; and mochogui - back up.

Pulling boats is another typical way of using dogs by all Amur River peoples. Pulling boats with dogs could be done, where river banks were open and even, with sand and pebbles, without big rocks and deep gulfs. To pull loaded boats upstream, the Nanai used 3-5 dogs in dog sled harnesses. Necklines were

tied to the gangline with one end and the other end was tied to the middle transom of the boat. Sakhalin Nivkhs shipped loads the same way. Ainu tied ganglines made out of seal skin to the boat, using a tandem hitch of 4-7 dogs. Such a dog team pulling a boat could travel up to 30 km per day. One peculiarity of the Ainu method of pulling boats was the fact that the lead dog was running loose. It was not tied to the gangline at all but left to run free ahead of all the other dogs, responding to the commands of someone sitting in the boat and the whole dog team in harness followed it. The lead dog was highly valued: it was kept inside the home separate from the rest of the dogs.

Another peculiar method of transportation is called elgenu (skijoring), which means to be pulled by the leash, when a man on skis is pulled by two-three dogs. Nanai hunters tied the ends of leads to the belt in the manner of a fan hitch. This method was used for travel over short distances (Fig. 10). The fan hitch was commonly used in the northeast by Eskimo and Chukchi, who harnessed dogs to pull large dog sleds. Cultural contacts between Paleo-Asian and Tungus-Manchu people were maintained over a long time and, possibly, this method of using dogs by the Nanai is a result of that influence. However, it could have been invented independently.



Fig. 16. Dog collars of the Amur type dyambo. Nanai, collection of MAЭ.

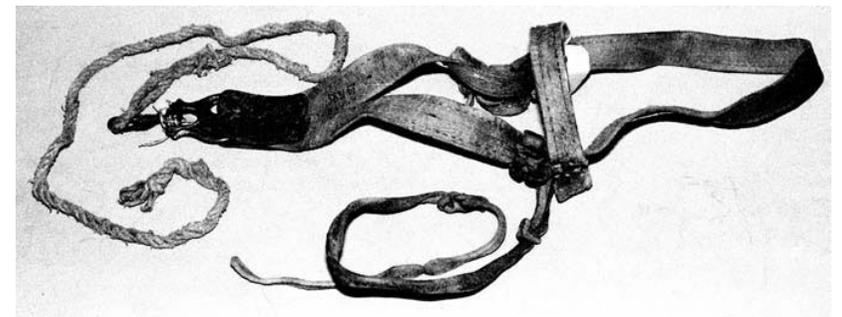


Fig. 17. Dog collar of the East Siberian type khala. Nanai, MAЭ).

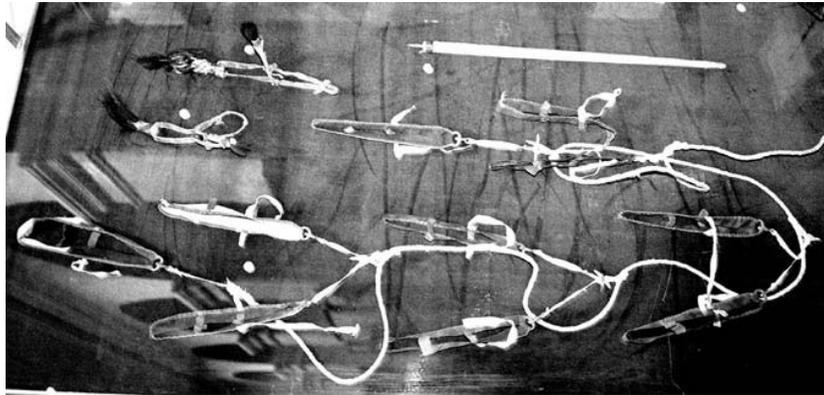


Fig. 18. Gangline loxur with collars of East Siberian type. Nanai, collection of XKKM).

One important feature, as well as sleds, is the dog harness. The Nanai used harnesses, which consisted of a collar (hal, dyambo) with ties embracing the dog on their sides. The tug line was connected to the carbineer (makchikhin) (Figs. 7, 8). The entire dog harness, the gangline, tuglines, leads, collars, belts, etc. were made of moose skin (*Alces alces*) or elk skin (*Cervus sibiricus*) (Fig. 16-18).

The Amur type and the East Siberian type of harness in the Nanai language differ only in the name of collars: the Amur type – dyambo and the East Siberian type – hala. The rest of the words for parts of the dog harnesses are the same: tuglines – selopton, lead – yaki, carbineer – makchikhin, and gangline – luksur or nuksur. Despite the same terminology, the

two types of harness differed from each other in the construction. The Amur type collar was a leather loop placed on the dog's neck. Closer to ends of the loop, there were two leads, which secured it on the dog. The collar of the East Siberian Harness is more convenient, because the dog pulls the gangline with its chest, not with the neck like in the Amur type harness. The collar was equipped with two additional strips of leather attached from above and laid on the dog's back. Besides, it had additional leads secured to the collar on the dog from below (Fig. 17). The Nanai called the collar for a young dog geldy. It was made softer; for this purpose, it was padded with canvas to prevent rubbing the neck.

The entire dog harness was called luksur indany. The gangline (nuksur or luksur) was attached to the brush bow, which was tied with two additional belts to the middle part of the transverse board. Tuglines (usi) were tied to the gangline alternating at equal intervals; each tugline was attached to dog collars (hala). Besides the collar, a carbineer was used in the gangline as well, but it was bigger than carbineers connecting tuglines with collars. The function of the big carbineer is to prevent twisting the gangline (Figs. 8).

Terminology for parts of dog harness used by Negidals is the same as Evenkian terminology. However, the Negidal have special terms: lead dog – nyaamni, shaft – tolgokhi mon, stanchion – bagdy

ilkanen, dog sleds with three pairs of stanchions – bagdy – tolgokhi; big heavy load sleds with six pairs of stanchions – ogdyna tolgokhi, runner – nana, split – ilkan, canopy for sleds – haldany sekten, sled bed – haldami hatari, braking anchor – khaurihi (up to 1.5 meters long), metal tip of the anchor – seleme modalkan, ties of stanchions – ilkan, brush bow – uipla, back of the sleds – amadan cherakhapun. In general this vocabulary for dog sledding does not differ from that of Tungus-Manchu, which indicates affinity and one origin of dog breeding of peoples of the Amur River region.

The mythology of Nanai folklore is full of archaic words for different kinds of traditional activities. Dog breeding is the oldest kind of Nanai activity and, therefore, words associated with dog harness frequently occur in mythological stories. For example, a very common story about arguments between a hunter and an owner of hunting ground (podya), in which there are words: “...just turn loose, untie dokan (end of the gangline – nuksur)”; dog next to the sleds – deken, deken inda.” In the Amur style of hitching, dogs were arranged in tandem, in alternating sequence; an uneven number of dogs was used, from 3 to 11 dogs. The first pair of dogs closest to the sled was called deken, the pair of dogs furthest from the sled was khamoroi inda and the lead dog was mioriamdi. In the language of the Evenk a special term was applied to the person who led the lead

reindeer on the leash – neramngu. The lead dog was the smartest and most experienced dog in the team. This dog knew all commands and had a strong sense of direction during travel. The musher addressed his commands to the lead dog and the lead dog listened to the commands and led the team. The lead dog was highly valued and it lived separately from the other sled dogs, in a place especially reserved for him, together with hunting dogs. The special status of the lead dog is reflected in the folklore of the Tungus-Manchu people. The Sakhalin Uilta people used both reindeer breeding and dog breeding. In 1974, E. A. Gaer recorded the following text:

“... I will tell you about this. A man was crossing the sea. There was a strong blizzard. He barely arrived. He entered the door, leaving the dogs behind. He saw four lights in the corners, one in each corner. An old man is sitting in the corner. Very old. Very big old man. He was a huge old man with a long beard. It was Chagdon village, in other words a “haunted place.” Everyone died here. Our man went in. Whatever he does, the old man repeats the same; he lifts his hand and the old man lifts his hand and he moves it in the same direction. He repeats everything. When he moves, the old man moves. He is coughing - E-khe! Ekhe! – The old man is coughing. That old man took a dagger. The rotten door of that house fell apart. The lead dog with a long bound entered the house. The dog went in, our man went out. He

continued his travel with two dogs only. He is riding, he is riding. Further and further from that place. “Oi-yei!” The fore part of his dog, ‘tr-rakh’ - fell in the sleds. That old man tossed it aside. Then, the hind part of the dog fell. Thus, the lead dog gave his life to the devil. He saved the life of his master, giving his own life.”

All Far Eastern ethnic groups, whose economy was supported by using dog sledding, attributed peculiar qualities to the lead dog. Thus, the lead dog should have not only a good nose and ability to find the right direction in bad weather, but he also should detect the presence of evil spirits and, like in the story offered above, fight to save his master. Among the Nanai, stories about dogs are numerous, honoring their intelligence, courage and shrewdness. Thus, N. P. Beldy, a Jarin Nanai, talking about his lead dog, mentioned that his dog continued leading even at a very old age. Sled dogs pulled loaded sleds on the road for a long time. The dogs got tired soon. Beldy noticed that the lead belt of the lead dog was sagging. He stopped the dogs and came up to the lead dog to take a closer look. The dog, remaining calm until now, began breathing heavily, clearly showing how tired he was (“... even the tongue was falling out”). Slightly chastising the dog, Beldy laughed and sent the dogs ahead.

In the memory of the older generation there were no names for the other pairs of sled dogs.

Probably this is because the number of sled dogs in the Amur River region declined by the middle of the 20th century. The number of dogs in a sled team usually did not exceed 5 dogs. Ten dogs could carry a man and a 100 kg load at a speed of 10 km per hour. One important inconvenience of traveling with dog sleds was the need to take large amount of food for dogs.

For racing, special sleds were used: they were called para, pukchilesu. Remember a general name for dog sleds is toki. Racing sleds differed from hunting sleds in their lighter construction, runners were strengthened with three-five pairs of stanchions (begdilken), and the driving bow (tongman) was attached to the first pair of stanchions.

Many centuries of experience of the hunters of the Amur River region with dog breeding developed skills for controlling dog team, running with sharp turns, if sleds run out of the track, etc. They passed on through the generations the knowledge of correct packing of loads on hunting sleds, positioning of the first pair of dogs (not further than a ski's length from the sled) and actions of the musher in extreme situations. V. K. Arsenyev wrote: “...When turning, do not steer sharp. When turning to the right, press the anchor with the left arm to the right down and when turning to the left, quite opposite. The same should be done, if the right runner lost the track and sank in deep snow - press on the anchor. Dogs should not be placed

far from sleds, not further than the length of the skis of the man pulling the sled. On the sled, the load should be distributed evenly. The heaviest things are placed in the front and the lighter things on the rear part of sleds. The load should be packed tightly and tied to the sleds with ropes. The more compacted and tied the load is, the easier sleds run. Placing the load in the middle of sleds is particularly important. If it shifts to one side, the sleds will turn over. In such a case the load should be pressed by hands and knees and tied with ropes a second time and only then the knots can be tied.”.

The traditional method of loading sleds was the same among all the territorial groups of Nanai; the packing of each object was very careful and in a certain sequence.

Established opinion in ethnographic science that the Nanai used dogs only for the transportation of equipment is true only in a part. Besides using two-three dogs harnessed to traditional sleds, the Nanai used full dog teams as well. In commercial hunting, dog sledding alone occurred very rarely. There were cases when Nanai hunters, mainly from the upper Amur River regions, traveled with dog sleds to regions rich with game in the lower Amur and its tributaries, using full dog teams. This happened when hunters were late coming to the hunting grounds and they needed to cover long distances in a short time

period. Another reason for using large dog teams was the abundance of fish to feed many dogs.

The origin of dog sleds of the Amur type is associated with climatic conditions and the requirements of the Amur region peoples occupied with commercial hunting. Mountain taiga forests with fallen trees and other factors impacted on the evolution of the original construction of the Amur type sleds. The availability of two front ends allowed maneuverability; it was enough to move the gangline from one end to another. The light weight and durable structure allowed long distance travel. One peculiarity of these dog sleds is that the driver could sit on it like on horseback, keeping his feet on the runners. Therefore, the height of the stanchions should fit the length of the driver’s legs; this is why the stanchion is called begdilken – leg. When traveling with heavily loaded sleds, the hunter would pull it together with the dogs, using a special loop. The existence of the shaft, additional gangline and loop allowed the hunter to control and pull sleds, helping his 2-3 dogs (Figs. 11 and 12).

At the front of dog sleds is animal skin and in the middle is wood carved travois. This transformation continued over a long time, starting from an animal skin to crude carved wooden travois and finally to the complex construction of sleds –a perfect tool for the winter landscape of the Amur River region.

The rich vocabulary of the parts of dog sleds indicates the important role of dog breeding in the life of the Nanai.

When taking off on commercial hunting trips, the dogs were not fed much, but they were fed high calorie food. The standard diet of the Nanai dog was one fish bone (kesoakta) per working day in sleds or hunting. When hunting, hunters tried not to overfeed the dogs, because of the general belief that a well fed dog is not aggressive enough towards game animals and is heavy and lacking in stamina. After hunting, prior to going back home, the dogs were fed well. This diet included bear fat so the dogs could gain weight in a few days. This feeding was necessary so the dog could pull heavy loaded sleds for a long time. Nanai dogs preferred eating fish to meat. Hunters cooked meat, entrails and bones of big animals for the dogs. P. P. Shimkevich wrote: "...even a hungry dog does not eat meat of sable." The opinion of P. P. Shimkevich is too categorical. According to my information, hunters cooked the entrails of hunted animals for dogs. Negidal fed their dogs with salmon bones collected in summer and fall. During the winter hunting season, Nanai dogs got a well balanced diet. In the summer the dogs' ration became minimal, which encouraged them to find food on their own. N. P. Beldy (Naikhin Nanai) said that one summer his dogs disappeared for several days. It was discovered that the dogs had traveled up the Anyui River, killed

an elk and ate its meat. When they finished eating the meat, they returned home, looking guilty. When they were forgiven, they disappeared again and after a short time returned with a hare; they herded the hare, directing it towards the feet of the hunter, who killed "the gift" with a stick. Such cases are many. Actually, every Nanai hunter could tell similar stories. Thus, in 2004, Ignat Andreevich Udinkan, a Nanai from Ulika-National village of the Kura River region told a story about his dog called Tuman, who hunted hares independently. The dog ate half and brought to the master the other half. When I. A. Udinkan obtained a second black dog, the dogs brought only heads of hares. During the salmon run, the dogs of the Negidal collected fish, which had completed the spawn, on the banks of small rivers, which is another example of their intelligence.

Nanai dog sledding has a very long history. This can be traced in the form of ancient travois. Lower Amur Nanai used a wood carved cradle of the Tungus type, resembling a small boat, which a mother could drag on the snow or on the dirt. Nanai boys learned hunting beginning in childhood and they started with toy sleds and figurines of dogs (vecheken), which followed anthropomorphic buchueken and mergen, different types of sleds and boats. Nanai people developed a certain style of building a hunting camp, used for storage of their food supply, fur, hunting equipment and accommodation

for the dogs. They paid much attention to the long term storage of food to avoid starvation. For this purpose they built barns, hangers, etc. for the preservation of fish and preparing food for the dogs.

Nanai hunters treated their dogs with respect and love; the intelligence and courage of the Amur Laika during hunting was particularly welcomed. Hunters eagerly shared stories about outstanding dogs at resting sites before bedtime.

To be continued.

Primitive Aboriginal Dogs Society

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