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Two Types of Large-Scale Reindeer Breeding in North Eurasian Tundra —The Nenets and The Chukchi—

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ツンドラのトナカイ多頭飼育の二つの様相 —ネネツとチュクチの比較—

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§ 1. The aim of this paper

The study of reindeer breeding in the North Eurasian tundra from the point of view of adaptation strategy is very important in the field of anthropological studies of the peoples of the circumpolar region, because large-scale reindeer breeding is the final and best strategy of the peoples of the inner tundra. Many researchers have studied various problems of reindeer breeding, such as the method of keeping large herds, migration patterns, the food supply of the breeders, the usage of reindeer for transportation, and so on. Some researchers have engaged in the problem of the establishment of large-scale breeding in the Siberian tundra.

However, their points of view were limited to the problems of adaptation to the natural environment or survival strategies in the extremely cold climate. Most of them think the economic system of the tundra peoples self-sufficient. However, it is inadequate to think that the reindeer breeders have lived only by herding deer or that their subsistence have been dependent only on the natural environment. Since the establishment of large-scale breeding (in the second half of the 18th century), some of them have kept contact with sea mammal hunters to exchange food and other materials, or others have traded with traders from Russia. The military and economic power of the Russian empire and the Soviet Union also had great influence on their economic systems.

In this paper I would like to compare and analyze the political, economic, and social conditions of two representative reindeer breeding groups in Siberia, the Nenets and the Chukchi, and to construct a theoretical model of the conditions of establishment and survival of large-scale reindeer breeding.

§ 2. Food supply of the reindeer breeders — Difference between the Nenets and the Chukchi

From the point of view of food supply, the importance of reindeer breeding is different between the Nenets and the Chukchi. According to statistical data from the 1920s and 1930s, the percentage of products of reindeer breeding (reindeer meat) in their overall food resources was about 30% for the Nenets and from 60% to 80% for the Chukchi (in average). On

the contrary, the Nenets depended on purchased food materials, such as bread, flour, and other meat, for more than 40% of their food, while the Chukchi needed only a few percent (Table II).

It can be said that the ratio of dietary self-sufficiency among reindeer breeders was higher in the Chukchi than in the Nenets. What does this mean? Was the productivity of the Chukchi reindeer breeding higher than that of the Nenets?

In fact the whole number of the tamed reindeer of the Chukchi was larger than that of the Nenets. According to statistical data for 1927, 1527 Chukchi households took care of 589,826 reindeer at the end of that year, while 2194 Nenets households kept 439,842 head (Table I). Though the number of households of the Nenets reindeer breeders was larger than that of the Chukchi, the number of reindeer was smaller. It was true that the Chukchi were the breeders with the largest herd in the world. Until the 1920s there were two Chukchi households that possessed more than 10,000 reindeer, 5 households that kept 5,000 to 10,000 head, 18 households that kept 3,000 to 5,000, and 36 households that kept 2,000 to 3,000 [Борогас 1932:45]. However, the difference between the rich and the poor was so large in the Chukchi that less than 10% rich people possessed about 60% of the tamed reindeer in Chukotka. Many people had only a few animals to pull their sledges and had to get reindeer meat from rich people as a salary for their work tending the rich men's herd. The large herd owners usually divided their herd into several groups, employed many herdsmen, and had them take care of the reindeer.

Such cases were also seen among the Nenets. But the difference of the number of the tamed animals was not so large as among the Chukchi. Some hundreds of households possessed more than 100 animals.

Which reindeer breeding method was more productive, the Nenets' or the Chukchi's?

It is difficult to answer this question. From the point of view of dietary self-sufficiency, the Chukchi's breeding was more successful than the Nenets'. However, another answer can be given from another point of view.

According to statistical data for 1926 and 1927 which were rearranged by W. Bogoras, the sum of the products of reindeer breeding was 998,687 rubles for the Nenets and 650,212 rubles for the Chukchi, though the Chukchi possessed more tamed animals (Table III). In connection with that, the value of products from one Chukchi reindeer was only a little more than a ruble, while that of one Nenets reindeer was more than two rubles. Bogoras explained this difference as follows: the value of products of the half-commercialized Nenets reindeer breeding tended to be estimated more highly than those of the Chukchi reindeer breeding of natural economy [Борогас 1932:43]. In fact the sum of sold reindeer products was much different between the Nenets and the Chukchi; 228,228 rubles in the former and 89,636 in the latter. The Nenets offered 22% of their reindeer products for sale, while the Chukchi offered only 13% (Table III). From the point of view of the monetary economy, the Nenets' reindeer breeding was more productive than the Chukchi's.

These facts tell us that the characteristics of the two methods of reindeer breeding were very different. The aim of animal husbandry for the Chukchi was self-sufficiency of food and other materials for their daily life, while that of the Nenets was not only to supply themselves food and other materials like the Chukchi, but also to sell products (meat and fur) in markets to get money.

Then the next question arises. What is the cause of this difference? I think that the answer lies in the history of the methods of reindeer breeding of two peoples, especially in the process of the establishment of large-scale breeding in the tundra. In the next section I will

discuss the problem of the establishment of large scale reindeer breeding among the Nenets and the Chukchi.

§ 3. The process of the establishment of large-scale reindeer breeding in the North Eurasian tundra

It is the dominant theory now that reindeer breeding was begun along the border of the forest-steppe zone in the first millennium B.C. and that it was transmitted by the Samoyed peoples in Western Siberia and by the Tungus peoples in Eastern Siberia. In the primitive stage of breeding, people kept a few reindeer to pack luggage on its back, and later they learned to ride on their animal. When reindeer breeding was accepted by the peoples of the tundra, the sledge was adopted for transportation.

Until the 18th century the economic conditions of the reindeer breeders were still at the level of hunter-gatherers. Though the usage of the domesticated animal for transportation stimulated their traditional economic activities, they did not live on animal husbandry itself. The number of the reindeer was still small, e.g. from 10 to 50, even the rich possessed less than 100 head, and it was very rare to kill their reindeer for food or fur. The domesticated reindeer was a packing or riding animal and the herd was the wealth of hunter-gatherers.

Such conditions began to change in the middle of the 18th century. The change simultaneously took place at both ends of the North Eurasian tundra, among the European Nenets in the west and among the Chukchi in the east, though they had no contact with each other. According to a study by I. Krupnik, the simultaneous development of the reindeer breeding of the Nenets and the Chukchi was enabled by the favorable natural and social conditions of Siberia in the 18th century. The cooler it is in summer, the more comfortable it is for reindeer: the cool summer raises their reproductivity and lowers mortality. There were several epochs of cold climate after 1000 A.D., which were advantageous for the increase of domesticated reindeer, and that of the 18th century was the best, because the society of the Siberian peoples was stable under Russian control [Крупник 1989:151-152].

In the cold climate of the 18th century, both wild and domesticated reindeer rapidly increased. Some breeders were said to possess some thousands of animals. However, even such rich people did not live on their herd, because the number of wild deer was still so large that it was not necessary to change their main food resources. It is said that the taste of the meat of the wild deer is much better than that of the domesticated and even nowadays the tundra people prefer the former to the latter. Regardless of the increase of the number of domesticated deer, the economic level of tundra people was still that of the hunting-gathering economy. Large herd owners also starved in times of unsuccessful hunting [Зыев 1947:68].

The favorable conditions of the cold climate ceased in the beginning of the 19th century and at the same time the tundra people began to lose their main hunting game, because the number of the wild reindeer decreased under the bad conditions of warm climate, rivalry with domesticated reindeer, and over-hunting by human beings. Loss of the main hunting game brought drastic change to the economic system of the tundra people; from the hunting-gathering economy to the productive economy. They used the domesticated animal not only for transportation but also for food, fur, and other daily utensils and their life was largely dependent on animal husbandry. The extinction of the wild reindeer began in the European north and the eastern end of Siberia in the end of 18th century, spread over the Siberian tundra, and the new economic system has followed it.

The process of the establishment of the large scale reindeer breeding consists of 1) increase of domesticated deer, 2) appearance of large herd owners with some hundreds or

thousands of animals, 3) extinction of the wild reindeer, and 4) change of the economic system. I think that this theoretical framework, which was proposed by I. Krupnik, can be accepted as a general theory to explain the simultaneity of the development of reindeer breeding of the Nenets and the Chukchi. However, it cannot explain the particularity of each case, e.g., the difference of the food supply of the two reindeer breeding peoples. I. Krupnik, starting from analysis of particular cases, established a general theory, while I will return to the particular cases with the general theory.

As I mentioned above, the difference of the food supply between the Nenets and the Chukchi arises from the conditions of the establishment of their large scale reindeer breeding. To begin with, I will mention the case of the Nenets in the European North.

In the 18th century, when the enlargement of reindeer herds had just begun, the rule of the Russian empire had already been quite stable in the northern European tundra and western Siberia. The Nenets, who had often rebelled against the Russian administration up to the 17th century, were already subject to it and periodically paid yasak (a fur tax). However, resources of valuable fur animals were so poor in the tundra of the European North in the 18th century that the yasak or the payment for the right of hunting in church territory was often paid in reindeer fur [Долгих 1970:25-26;124-133]. The Nenets had already been accustomed to using the reindeer fur for the tax, the payment or the compensation outside their community as well as using in their daily life by the time of the enlargement of their herds. I think that such experience deprives them of any reason to resist selling the reindeer products in markets to buy other food.

The appearance of the Komi reindeer breeders also played an important role in deciding characteristics of Nenets reindeer breeding.

The Komi are the Finnish-speaking people living on the western side of the Uralic Mountains. Most of them are engaged in agriculture with livestock farming, while some of them, living in the neighborhood of the Nenets, live on reindeer breeding in the Nenets style, which they borrowed at the end of the 18th century. However, they played a decisive role in the society of the latter.

At first, the northern Komi came to the European tundra as hunters, fishermen, or traders [Жеребунов 1982:159;161-162]. They made a certain contribution to the distribution of European products and exchange or monetary economy among the Nenets. Trading with the Nenets hunters or reindeer breeders, some of them successfully accumulated animals to become large herd owners. For example, according to statistical data for the 19th century, the number of reindeer possessed by the Komi exceeded that by the Nenets as early as the 1850s in the Bol'she-zemel'skaya tundra (the Nenets had 150,000 head and the Komi had 10,000 head in the end of the 18th century, 30,000 and 124,000 in the 1850s, 47,000 and 276,300 in the end of the 19th century [Васильев 1979:206]). However, originally they had little knowledge about reindeer husbandry; they did not know how to breed the reindeer or how to use it. The Komi large herd owners employed the Nenets herdsmen, who had been deprived of their reindeer by epidemics or debts to the traders, and made them take care of their animals. Inevitably the aim of breeding was not self-sufficiency of food and fur, but to sell reindeer products in markets. They brought a new style of management into reindeer breeding and changed its characteristics to those of livestock farming.

On the contrary, the case of the Chukchi was definitely different though the climate where they lived was the same as that of the North European tundra. Russian rule was still not established in Chukotka in the 18th century. Though the administration of Kamchatka often sent military forces to Chukotka, it never succeeded in subduing the resistance of the

Chukchi or suppressing the struggles between the native peoples [黒田 1992:172-181]. It is not true that the society of the Siberian natives was stable under Russian rule in the 18th century. The invasion by the Russian Cossacks of Kamchatka and Chukotka stimulated the hostility between the native peoples and mutual plundering of reindeer escalated. The Koryaks and the Yukagirs, who had been subject to the Russian administration, were often attacked by the Chukchi. Some researchers have insisted that the increase of the number of the Chukchi reindeer breeders was caused by the plundering of their hostile neighbors. According to archival materials, the number of the reindeer plundered by the Chukchi from 1725 to 1773 amounted to 240,000 head [黒田 1992:180].

The economic basis of the strong resistance of the Chukchi against the attacks of the Russian Cossacks and the neighboring peoples was their large-scale reindeer breeding and cooperation with the sea mammal hunters. Under the extraordinary conditions, it was urgent for the tundra Chukchi to establish a new production system to supply food and other daily utensils. Wild deer hunting, which had long been the main productive activity of the tundra Chukchi, could not supply stable and sufficient food because it was dangerous to hunt game at decided points in wartime. They raised their herds under the favorable condition of the cold climate of the 18th century and deprived the hostile breeders of their reindeer. Already by the end of that century some Chukchi breeders possessed more than 10,000 head. When the climate changed and wild deer began to become extinct from Chukotka in the beginning of the 19th century, they quickly switched their main productive activity from wild deer hunting to large-scale reindeer breeding.

The cooperation with the sea mammal hunters of the coastal Chukchi and the Yupiks also assisted the resistance of the tundra Chukchi. They sent reinforcements of skin boat troops in the struggles with the Russian Cossacks and provided the tundra people with food (meat of sea mammals) and fur in times of need [黒田 1992:182]. As mentioned above, the assistance of the sea mammal hunters was still indispensable for the tundra people in the 1920s. It is a matter of course that the tundra and coastal people were tied by kinship relations. The intimate relation and the economic cooperation with the sea mammal hunters prevented the Chukchi reindeer breeders from taking part in the Russian markets and monetary economy. Although the policy of the Russian administration changed in the 19th century to peaceful contact with insubordinate people, most of the Chukchi reindeer breeders did not trust the Russians. Moreover it was not necessary for them to trade with foreign traders, because they had constructed a closed economic system with the sea mammal hunters to supply themselves sufficient food and other materials. The existence of such economic systems gave rise to the situation that the Chukchi reindeer breeders were not familiar with the monetary economy even in the 1920s.

§ 4. Conclusion

Comparing the cases of the Nenets and the Chukchi, I have shown that there were two types of large-scale reindeer breeding up to the 1920s. They can be named "commercialized type" and "self-sufficient type". The former is the Nenets type of reindeer breeding which was born under the strong influence of commercialism of the Komi and the Russian traders. The latter is the type of the Chukchi reindeer breeding which was born under severe conditions of resistance against Russian rule and has survived with the assistance of and cooperation with the sea mammal hunters.

Under the policy of collectivization of the Soviet Union, reindeer breeding of the North Eurasian tundra took a new step in the 1930s. The egalitarian policy of the socialist govern-

ment swept out the extremely rich people, who had possessed some thousands of animals, and supported the middle class herdsmen, whom the Soviet government organized into collective reindeer farms. The collectivization aimed at the establishment of a new style of reindeer breeding, which was nearer to the Nenets type than the Chukchi type in the sense that the purpose of animal husbandry was no longer the self-sufficiency of food but the offering of meat and fur to the government. Reindeer breeders were obliged to sell a certain amount of reindeer meat and fur to the government on the state plan, while the government in turn provided them with food, daily utensils, ways of transportation, shelters, energy, medical service, education, and other materials and services they wanted.

It is true that the reindeer breeding of the North Eurasian tundra has developed under the hospitable protection of the Soviet government. However, there are many problems in the reindeer breeding or the reindeer farming of present days. For example, the policy of settlement of breeders and Soviet education let the younger people leave the tundra and abandon the traditional life style. The extremely hospitable protection fostered complete dependence on the government. Ecological problems, such as water and air pollution, reduction of pasture by the survey of oil-gas resources, and injuries of tamed reindeer from abandoned construction materials, have become more and more serious since the 1970s. These problems are handicaps for the reindeer breeders to survive under the difficult conditions of the post-socialist regime.

The North Eurasian people are already incapable of returning to a completely self-sufficient economy. It is necessary to establish a new style of breeding in which the natural economic aspect and the commercialized aspect of the reindeer breeding can coexist. Today the reindeer breeders confront the largest difficulties in their history.

Table I The Number of Tamed Reindeer in 1926 [Boropaz 1932:42]

	Number of household	Number of reindeer head of the year	Number of reindeer end the year	increasing ratio
Chukchi	1,527	530,538	589,826	11.2%
Koryaks	378	121,516	136,520	12.3%
Nenets	2,194	428,964	439,842	2.5%
Komi	410	158,718	167,964	5.8%
Evenki	2,708	128,192	124,328	-3.0%
Saami	277	18,900	20,171	6.7%
Sum	7,494	1,386,828	1,478,651	6.6%

Table II Food Supply of the Reindeer Breeders (average) [Крупник 1989:106]
 (*900,000 Calories per person in a year)

	The Nenets of Ust'Kal (1926)	The Chukchi of Kuvetsk (1926)	The Chukchi of Kchaun (1931)	The Chukchi of Ichun' (1937)
a) Number of household	30	46	30	47
b) Population	144	221	136	226
c) Number of reindeer	6,300	12,270	7,896	12,290
d) Necessary calories(Cal)*	129,600,000	198,900,000	125,100,000	203,400,000
e) Calories of all the reindeer products	157,103,000	222,252,000	135,162,000	222,698,000
Ratio of e) to d)(%)	121.2	111.7	108.0	109.5
f) Calories of the sold or exchanged meat (Cal)	6,300,000	20,486,700	41,032,800	11,515,000
g) Calories self-consumed meat (Cal)	150,803,000	201,765,300	94,129,200	211,183,000
Ratio of g) to d)(%)	116.4	101.4	75.2	103.8
The ratio of each food resource(%)	100.0	100.0	100.0	100.0
Reindeer breeding	30.2	61.6	76.7	77.8
Hunting	8.9	3.7	2.8	0.4
Sea mammal hunting	0.0	30.0	0.0	14.9
Fishing	14.1	1.4	3.1	1.3
Gathering	0.9	2.1	2.9	1.9
Purchased food	45.9	1.3	5.8	3.8
Exchange	0.0	0.0	8.6	0.0

Table III The Sum of Reindeer Products in Rouble [Бороваз 1932:42]

	Sum of reindeer products	Sum of sold products	Ratio of sold products
Whole Siberia	3,587,481	633,168	17.6%
Nomads as a whole	3,301,826	588,678	17.8%
Chukchi	650,212	89,636	13.8%
Koryaks	136,469	4,518	3.3%
Nenets	998,687	228,228	22.9%
Evenki	451,291	13,421	3.0%
Komi	477,253	202,273	42.4%
Saami	55,234	15,810	28.6%
Others	532,680	34,792	6.5%

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