

FOLK KNOWLEDGE IN SOUTHERN SIBERIA IN THE 1770S: JOHAN PETER FALCK'S ETHNOBIOLOGICAL OBSERVATIONS

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The southern Siberian Turkic groups were mostly unknown to outsiders when the Swedish scientist Johan Peter Falck (1732–1774) visited their settlements in the early 1770s. Falck led one of the expeditions dispatched between 1768 and 1774 by the Russian Academy of Sciences to different parts of the Russian Empire. As a botanist, zoologist, ethnographer and linguist, during his journeys he recorded information not only about the environment but also about the peoples he met and their political and social organisation, as well as ethnographic data. Falck's rich and detailed travelogue was published posthumously and soon forgotten, while the rich data remained unattended for almost two centuries. In recent years, mainly biologists have rediscovered the materials, yet ethnobiological data is also plentiful. Knowledge about the environment is crucial for survival, and the complex relationship between humans and their environment is often reflected in names given to living organisms and places or in perceptions of the surroundings. This article focuses on Siberian Turkic folk knowledge among the Chulym Tatars, Kacha, Soyan, and Teleut, based on the observations by Johan Peter Falck in the 1770s. Ethnobiological and linguistic materials are used in an effort to at least partly reconstruct the cognitive world in which these peoples lived and created their concepts of the environment. The article is a preliminary contribution to the study of historical ethnoecology and ethnobiology.

INTRODUCTION

The Khanate of Sibir came under Russian rule at the end of the seventeenth century. Only after the establishment of the Imperial Academy of Sciences and Arts in Saint Petersburg in 1724 did systematic exploration of this enormous area begin (Forsyth 1992: 28–34). Expeditions were dispatched several times by the Academy, renamed the Russian Academy of Sciences in 1747, but the journeys between 1768 and 1774 were especially extensive and fruitful in terms of discoveries and publications. The main aim of the explorers was to survey the geographical conditions and natural resources, but also to document demographic, ethnographic, economic, cultural, social, and other population-related data (Berg 1954: 258–262; Moon 2010: 209–210). Through their reports, the scientific world came into contact with several hitherto unknown or barely known peoples.

The Enlightenment Period in the eighteenth century was a time of discoveries, when the human and natural worlds were explored and understood in new ways. The Swedish naturalist

Carl Linnaeus (1707–1778) contributed significantly to the scientific development and the advancement of universal knowledge (see Broberg 2019). Sending his disciples or “apostles” to document life in many regions and on almost all the continents, he published an important manual for explorers, which served as a model for their documentation work (Linnaeus 1759). His international network was extremely vast, and it should not perhaps be surprising that one of his students, the Swede Johan Peter Falck (1732–1774, in German and Russian sources spelled Falk), was elected as an expedition leader in Russia. During his journey to the Ural Mountains and southern Siberia, Falck collected and recorded animals, plants, and several kinds of geographic and human-related data among Russians as well as Turkic and Finno-Ugric peoples (for an overview, see Svanberg 1987; 1998; 2007; Larsson 1999).

A pioneer in the field now called ethnobiology, Johan Peter Falck was remarkable among the Linnaean disciples. He was a meticulous and prolific researcher: after six years in the field, Falck’s work comprised more than 1,400 pages in three published volumes in German, edited by another of Linnaeus’ students and a member of Falck’s expedition, Johann Gottlieb Georgi (1729–1802). Falck’s work is almost unknown today, being the focus of only a handful of modern studies (Rowell 1980: 18–19; Svanberg 1998; Martinsson & Svanberg 2010; see Ståhlberg & Svanberg 2014). His published volumes (Falk 1785: I, 1786: II and III) contain rich data on languages, ethnology, the use of natural resources and other information on folk biology, including records of local names and data on the use of and beliefs about various animals and plants. Falck’s handwritten notes and travel diaries in Russian archives have not yet been studied and could yield an even greater wealth of information (Fries 1912: 32; Valeria Kolosova, pers. comm.).

Although many ethnobiological studies emphasise the utilitarian aspects of biodiversity, most pre-industrial societies stressed – which Falck’s observations also confirm – cultural, social, and cognitive approaches to the use of surrounding animals and vegetation. Human relationships with the biodiversity were very complex (see Taube 2001). Plants were not just edible or non-edible, and animals not only satisfied the need for blood, fat and meat. They included emotions, knowledge about their characteristics, habits and behaviour, myths, personal stories and experiences, sensorial aspects such as colour or smell, and awareness about their seasonal presence in the landscape. Naming was also an important aspect of the intricate set of relationships (Anderson 2011: 2–3; Nolan 2007: 2; Cunningham 2001: 1–9; Svanberg & Ståhlberg 2020).

Johan Peter Falck’s ethnographic and linguistic observations are still important today, partly because of their historical value, but through them we also get a rare insight into the situation and human perceptions of the environment in Siberia 250 years ago (Moon 2010: 209–210; Vermeulen 2015: 209, 234). The amount of plant and animal names from a wide range of languages, descriptions of biological resources and their use, and the detailed ethnographic data are too valuable to be ignored (see Doerfer 1965: 15; Svanberg 1987: 56). For linguists and historians, this kind of historical data collected by natural historians is of particular interest (see Károly 2008; Vermeulen 2013).

PREVIOUS RESEARCH AND AIMS

Information on local knowledge and beliefs about the environment and surrounding biota among the Turkic groups in southern Siberia is scanty even today. The peoples are not well documented and even in the overall picture several pieces are missing. Johann Gottlieb Georgi’s (1776) and Peter Simon Pallas’ (1773–1776) works are usually quoted about these peoples in older ethnographic literature (see Byhan 1923), but Falck’s data include much more ethno-

biological information. Despite their quality and richness, Falck's materials were forgotten or ignored by later generations of ethnographers and linguists. From the official Russian point of view, the Siberian peoples were subjects of the state and taxpayers to the empire in the eighteenth century. There is not much contemporary information about their relationship with their environment in Russian or other sources. In the nineteenth and early twentieth centuries, a handful of scholars from Russia and the Grand Duchy of Finland studied the Siberian Turkic and Finno-Ugric peoples, mainly documenting languages and ethnographic details. Notable travellers were Matthias Castrén, Kai Donner, Gustaf John Ramstedt, Johannes Gabriel Granö, Axel O. Heikel, Uno Harva-Holmberg, Piotr Ostrovskikh, Gennadiy Potanin, Innokentiy Karatanov, Nikolay Popov, and Nikolay Martianov (Aalto 1971; Halén 1986; Juntunen & Schlyter 2009; Ippolitova & Svanberg 2014: 132–133).

The Ostyak (Selkup) linguistic materials collected by Falck have been studied by Lieselotte Schiefer (1973), while Lars-Gunnar Larsson (1999) discussed Finno-Ugric bird glosses. Gerhard Doerfer (1965) published a Kalmyk word list, noting that many of the terms documented by Falck are especially valuable. The significantly greater number of Falck's Turkic and Finno-Ugric terms have not been analysed in detail but should provide material for many studies (Svanberg 1987). Some zoological nomenclature questions have been analysed by the zoologist Jiří Mlíkovský (2006). Linguists Gregory D.S. Anderson and K. David Harrison (2006) made use of Falck's Chulym glosses in their research. Ethnologist Elena Nechvaloda (2019) has recently analysed Udmurt costumes depicted on a couple of engravings in Falck's published volumes. Only one early scholar used Falck's data about utilisation of wild plants among the peoples in Russia; the Finnish ethnologist Ilmari Manninen (1931) however provided few examples of the many records available. In more recent years, ethnobiological research using several aspects of Falck's materials has been carried out mainly by Sabira Ståhlberg and Ingvar Svanberg (Ståhlberg & Svanberg 2006; 2010; 2012a; 2012b; 2014; 2017; Svanberg 2010).

Falck's aim was to gather as much data as possible about everything. In his time, universal knowledge was the fashion. Exploring the regions of southern Russia and Siberia, Falck stopped for shorter or longer periods in villages and settlements, where he and his team gathered information about and from the local peoples mainly by talking with them and interviewing their leaders, documenting by writing and drawing or simply observing and taking notes. Depending on the circumstances and the length of time the expedition spent in a settlement, Falck could gather a great deal of data about some groups, while for others the information remained fragmented. Furthermore, the local Russian administration provided certain kinds of data, especially on population statistics and taxation, and non-local traders and travellers also shared their experiences with Falck. A second survey for validation of his data is not possible (see Reyes-García et al. 2007: 185–189), as the lifestyle of these peoples is distant history. A broader comparison with sources from the same period also does not yield much in terms of new aspects, because most other observers were not very interested in this specific kind of data.

During his journeys in European Russia and Siberia, Falck met with a great diversity of Turkic and Finno-Ugric peoples. Many different groups lived in neighbouring settlements or even together within the same village. On the way from Yekaterinburg to Kungur, for instance, there were Russian, Tatar, Bashkir, and Cheremiss (today Mari) villages, which “gave much entertainment to the traveller” (Falck 1785: I: 41). If he had already documented a group, Falck preferred to focus on the less-known peoples in the region. Therefore, among the Tatar, Russian, and Teleut villages near Kuznetsk in southern Siberia, the Teleut provided the greatest interest

for him. Falck also visited the western Chulym River area, where he became acquainted with a Turkic-speaking group of so-called Chulym Tatars. The almost unknown Kacha and Soyan horse nomads roamed around the Yenisei River and on the steppe on the southern border of Siberia with the Qing Empire (Fig. 1). Many of the peoples Falck studied were nomads who lived in portable dwellings or *yurts*. They were difficult to document, as the meeting could depend on being in the right place at the right time (Ståhlberg & Svanberg 2014: 77).

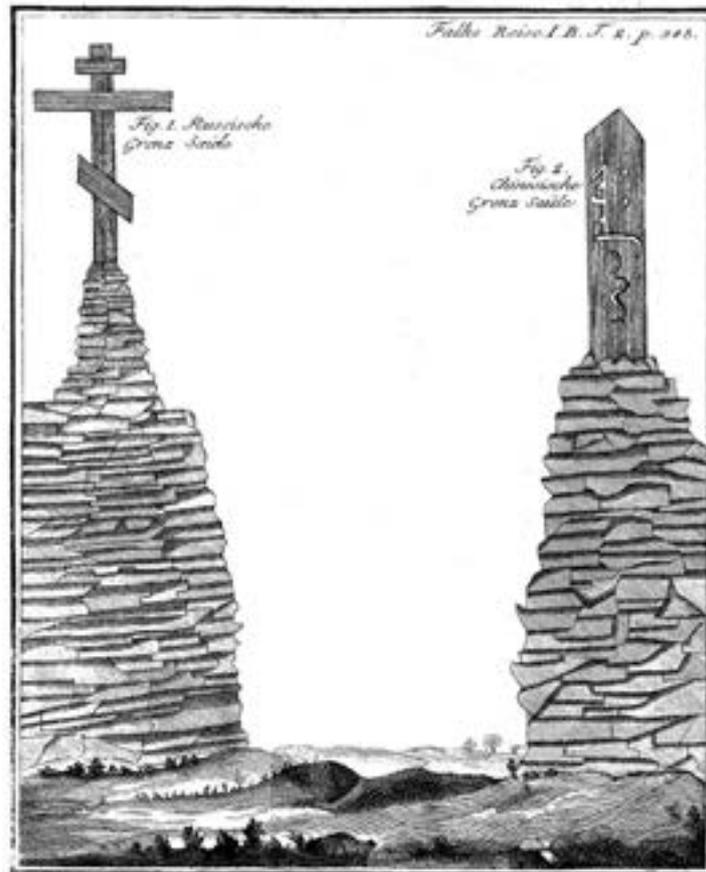


Figure 1 Russian and Qing (Manchu China) border posts. The writing on the right post is in Manchu language, *jecen* 'border'. Documented by Johan Peter Falck's expedition. Source: Falck 1785: I: 348.

The historical ethnobiological data extracted from Falck's notes is important for our understanding about changing relationships between humans and other species, as well as between humans and the physical environment. Local knowledge about the environment and its biota is an ongoing interaction between ecology and cognition, under constant modification from shifting cultural beliefs about edibility, usefulness and sensory appeal (Nolan 2007: 75). Research on the effects of Russian colonialism and the ecological consequences of increased migration for previously sparsely populated habitats, as well as the following political and economic changes are topics that could highlight the social and cognitive processes and challenges the Siberian peoples were dealing with already in the 1770s. These changes eventually modified their attitudes to the environment and the surrounding landscape (see Sherstova 2005).

The purpose of the present article is to make accessible and to discuss and reconstruct at least in part the human-environment relationship of four southern Siberian Turkic peoples – the Chulym Tatar, Teleut, Soyan, and Kacha – based on Falck’s observations in the early 1770s. This format is classified as a preliminary contribution to the study of historical ethnecology and ethnobiology (Balée 1994: 1–2; Nolan 2006: 847). The article also contributes to linguistics, ethnology and history of research. Falck’s data offers the possibility to map out several aspects of how these peoples perceived, utilised, and related to the surrounding biodiversity. The Chulym Tatars, Kacha, Soyan and Teleut lived as hunter-fishermen and nomads. Understanding their relationship with the environment and especially the forest, steppe and rivers is still important today. Comparative studies about these relations among several Siberian peoples have been published earlier by Ståhlberg and Svanberg (2006; 2010; 2012a; 2012b; 2014).

Falck travelled in Siberia during the so-called Little Ice Age, which roughly spanned from the end of the fifteenth century to the nineteenth century, with one of the coldest peaks around 1770, exactly the time of Falck’s journeys (see Fagan 2019). Today, climate change – along with one of its severe consequences, drought – affects the whole area of Central Asia and Siberia. The deserts are expanding and Siberia’s large taiga belt has been ravaged by enormous fires. Together with political and economic changes, global warming has modified the natural conditions and challenged the traditional way of life of nomads, hunters and fishermen. Our interdisciplinary study can therefore be categorised as a contribution to the reconstruction of Siberian cultural history. It also raises important global questions of how we humans use the environment and natural resources, how climate change affects fragile environments, and last but not least, how we adapt to new conditions for the sake of survival.

ETHNOBIOLOGY AND LOCAL KNOWLEDGE

Ethnobiological research deals with human knowledge about and relationship with other organisms in a specific environment. The study of the knowledge about animals and plants should always be understood in its cultural and ecological context (Balée 1994: 49–50). As French anthropologist Claude Lévi-Strauss (1962: 10) shows with several examples in *La pensée sauvage*, various peoples with subsistence economies (non-monetary, relying on natural resources to provide for basic needs) usually exhibit an exceptional familiarity with their landscape. Fishers, foragers, hunters or peoples who use animal husbandry for a living observe closely the local animals, plants and other living organisms, showing great familiarity with the surrounding geographical and biological environment and paying passionate attention to it. They also tend to possess precise knowledge of their surroundings.

Local knowledge about the environment and its biota (all organisms within a certain habitat) is an ethnobiological concept which comprises widely diverse subjects such as folklore, folk remedies, linguistic expressions, utilisation of other organisms, and also how these organisms are affected by human behaviour and management.¹ Local knowledge has both tangible and intangible aspects (Berkes, Colding & Folke 2000: 1252). The Turkic peoples of the Altai and Sayan Mountains and in the Minusinsk Depression in Siberia were examples of this kind of subsistence economy and they had a vast knowledge about their habitats (Ståhlberg & Svanberg 2014: 84–86, 89–90).

¹ We prefer the term *local knowledge* instead of *traditional ecological knowledge*. The terms *native* or *indigenous peoples* are also not appropriate. Migration and adaptation to new situations and surroundings are major elements in the life of the peoples in Central Asia and Siberia throughout history. See Svanberg & Ståhlberg 2020: 129–130.

Ethnobiology uses several methods and materials from other fields, such as demography, ethnography, human geography, linguistics and biology, and combines a broad range of data from various sources. A historical ethnobiologist often gathers just a few notes or singular data when sifting through great amounts of material, looking for information hidden between other kinds of narratives (the criteria of the rare evidence), such as historical observation, linguistic data, toponyms, material culture and so forth (Anderson 2011: 16; Svanberg et al. 2011: 200). The historical use of natural resources belongs to a field which is extremely difficult to explore; the earlier symbolic and religious significance of animals and plants is especially problematic, mostly due to a lack of sources. In historically oriented studies, a specific methodology is needed for the biocultural domains which exist between humans and other organisms. Source criticism must therefore take into account the views, values, conditions, training, environment and interpretations of the historical researcher, too (Svanberg et al. 2011: 194).

Analysing linguistic and ethnographic materials from travel reports is one way of studying historical conditions. Local hydro- and toponyms can be important witnesses of social, environmental and even ongoing climate change in the landscape, because they constitute historical landmarks and records. Information on climate change and natural resources and their use can in turn supply clues to human adaptation processes. Human perception of ecosystems are of vital significance for understanding complex relations with the environment (Balée 1994: 116; Nolan 2006: 846).

As the Swedish historian Janken Myrdal (2012) asserts, ethnobiological analysis permits the use of indications and clues, and that the researcher may accept different degrees of uncertainty in their analysis and conclusions. Myrdal calls this *source pluralism*, and it is often used for difficult or complex topics in sources, especially for descriptions of everyday life far from urban and state power centres. The point in time for our study is before industrialisation, when local knowledge was an important if not essential part of survival for the peoples living in the harsh conditions of Siberia. It is not a question of a “lost paradise”, as some like to see the world before industrialisation; survival was extremely difficult in the local conditions and harsh weather. Ancient rock art, documented by Falck’s expedition, shows that hunting was a major occupation already for the early Siberian settlers (Fig. 2). The four cases of mobile or semi-mobile Turkic peoples – fishers, hunters, foragers, and horse nomads – in southern Siberia presented here, revealing their relations with the surrounding biota, show the significance of historical studies as sources for understanding the management of natural resources, change and destruction of habitats. This study also opens a window onto the background of the present situation in Siberia.

CHULYM FISHERMEN

In the eighteenth century, the Chulym Tatars were thought to be the ancient inhabitants of Siberia. The ethnonym (Russian Chulymtsi, known also by exonyms such as Chulym Karagas, Chulym Hakas or Chulym Turk; endonym Ös Kizhi) originates from the almost 1,800 km-long Chulym River (Chulymian Ös), a tributary to the Ob River along which they lived. Chulym Tatars also lived along the Cherny and Bely Iyus (now in Khakassia) and other tributaries of the Chulym River; for instance the Kemschuk (Keme) and Kija (Kysu). The Chulym River is a meandering, slow-moving river without waterfalls or rocks. It was rich with fish, but the water was not of very good quality, Johan Peter Falck noted. The soil around the river was on average usable for agriculture, but not very rich (Falk 1785: I: 342–343).



Figure 2 Ancient rock art with elk, wild sheep (?) and a dog on the bank of the Cherny Iyus River, southern Siberia. Documented by Johan Peter Falck's expedition. Source: Falk 1785: I: plate VI.

The Chulyum Tatars were divided into settlements called (*djon* in Falck's and Georgi's Swedish- and German-based transcriptions). The Russian administration divided them according to county (*volost*). One county could consist of several *auls* or villages or only a few mobile households of huts or *yurts*. The Russian Empire counted only "bows", or certain categories of men who were taxable, who had to bring to Russian stations or towns a yearly tribute (paid to more powerful parties as a sign of allegiance) of furs, mainly sable, or money. Each county had its own leader, who "usually was the richest and wisest in the whole settlement" (Falk 1786: III: 554). The data provided by Falck (1786: III: 554–556) about the Chulyum Tatar settlements show that the population was much larger than today: at 1,700 "bows", it was several times bigger. The area of Chulyum Tatar settlements spread much further along the Chulyum River and its tributaries (Table 1) than the areas inhabited today by Chulyumians. According to the latest Russian census from 2010, only 355 persons, primarily in the Tomsk and Krasnoyarsk districts, still knew some Chulyum Turkic; they did not necessarily speak it but they understood (Federal State Statistic Service 2010).

Table 1 Chulym Tatar settlements in 1771–1772. Source: Falk 1786: III: 554–556.

County (Russian)	Chulymian name	Inhabitants	Bows	Tribute
Kursukowa	Kursu Ajen Jon	8 auls	213	226 sable or other furs, or 113 roubles
Melez Kaja	Bilek Jon	50 yurts	100	250 sables or 175 roubles
Malaja Probskaja	Bura Jon	2 auls	45	52.90 roubles
Obeka Tutalskaja	Tutal Jon	4 auls, 47 yurts		107 roubles
Malaja Tegareza	Kizi Tardege Jon	3 auls, 18 yurts	35	50 roubles or 100 sables
Sorgalina	Jasen Boschi Jon	4 auls, 35 yurts	50	66 roubles
Uginskaja	Uje Jon	9 auls, 85 yurts		165 roubles
Bolschaja Probskaja	Ulu Bura Jon	10 auls, 56 yurts		220 sables or 110 roubles
Jatschinskaja	Jazi Jon	4 auls, 16 yurts	26	85 sables
Koriokowskaja	Kueruk Jon	9 auls, 40 yurts	50	80 roubles
Tutalskaja	Tutal Jon	12 auls, 91 yurts	100	175 roubles
Malaja Kartgoschina	Kitschi Puschku Jon	7 auls, 33 yurts	90	120 sables
Bolschaja Kargotschina	U[l]ju Puschku Jon	7 auls, 68 yurts	70	360 sables
Mala Argunskaja	Kitschi Argun Jon	2 auls, 8 yurts	30	100 sables
Mala Bortschuskaja	Kitschi Kurnatschi Djon	2 auls, 12 yurts	15	74 sables
Bolschaja Terena	Ulu Terena Jon	4 auls, 18 yurts	40	47.50 roubles
Kusildewa	Tschiby Djon	12 auls, 80 yurts	120	390 sables or 195 roubles
Temersinskaja	Temerzi Jon	3 auls, 7 yurts	24	15 roubles or 30 sables
Jassinskaja	Jatschin Jon	6 auls, 33 yurts	150	152 sables
Kam[m]narskaja Perwaja	Kammar Jon	6 auls, 23 yurts	30	40 roubles or 80 sables
Melezkaja Bolschaja Perwaja	Bilet Jon	9 auls, 67 yurts	130	400 sables
Basagarina	Bagasari Djon	4 auls, 22 yurts	30?	110 roubles
Bolschaia Baigulskaja	Ulu Jeschi Jon	6 auls, 48 yurts	100	315 sables
Malaja Baigulskaja	Angas Jon	5 auls, 60 yurts	17	37 roubles
Schuskaja	Schus Jon ²			170 roubles or 340 sables
Atschinskaja	Atschig Jon	9 auls, 88 yurts	130	288 sables
Kammarskaja Vtoroi	Kammar Jon	6 auls, 45 yurts		201 sables
Kisitskaja	Kisil Aschi Jon	5 auls	70	222 sables

2 “Schus Jon is located at the little river Urup, and their area is 70 versts long and 50 versts [around 75 x 54 km] broad. The prince [ruler] here is different from the other princes, he does not live in a Tatar hut or a yurt, but in a house built in Russian style. In this *jon* [county] there are the lakes Kitschi Tengis [Small Lake], 5 versts long and 1 verst wide [5.3 x 1.1 km], Akkol or Ak Tengis ‘White Lake’ 17 versts long and 6 versts [18.1 x 6.4 km] wide, Ulu Tengis ‘Big Lake’, 12 versts long and 3 versts [12.8 x 3.2 km] wide, and 15 smaller lakes” (Falk 1786: III: 555–556).

The administrative units in this area have been reformed several times and there is no trace of the *jons* today; only the town of Achinsk carries the old name. A linguistic analysis would be too broad and outside the ethnobiological scope of this study, wherefore we will only raise the question about the Chulymian county names. Some indicate size (*ulu* ‘big’ or *kitschi* ‘small’) and several are probably personal names or local names used for certain parts of the rivers. The county division was, however, introduced by the Russian administration, perhaps on the basis of some earlier Chulymian or Russian-established structure – but not necessarily. Part of the Chulymian names may be translations from Russian. For instance, ‘little Argunskaya’ or *Mala Argunskaja* could come from *Kitschi Argun Jon*, but it is also possible that the translation went in the opposite direction. Johann Gottlieb Georgi, Falck’s assistant, observed that there were “black” and “white” Chulym Tatars. He explained that they were adversaries of the colonisers and the Russian administration. Calling them “clever, honest, lazy and dirty”, Georgi noted that despite their negative attitudes, the Russification process among the Chulym Tatars had already begun. Still, many of them had “no religion at all”, despite the fact that they had been baptised as Christians (Georgi 1775: 148–153).

Falck observed that the Chulym Tatars lived in cubic *yurts* or huts similar to cottages. Inside there was a broad bench called the “Tatar bench” to sleep and sit on. A pot was built into a brick stove. The windows were covered with the skin of a freshwater fish, burbot (*Lota lota* L., 1758); in winter the Chulym Tatars used ice, like many other peoples in Siberia (see Jochelson 1975: 343). The skin placed over the window openings (*ulugui siderno*) let in as much light as oiled paper. The people slept on birch bark and covered themselves with their nettle-woven clothes during the night. Babies slept in birch-bark baskets with shredded wood as a kind of diaper (Falk 1786: III: 421, 556).

The Chulym Tatars and their neighbours the Ostyaks (presently several peoples) used different fish skins for making summer garments and bags for keeping furs. This custom of using fish skins has been recorded in several regions in Siberia (Berg 1984: 103). The Chulym Tatars made their clothes themselves from available resources. A nettle-fibre shirt (*kebyrg tschuss*) and trousers (*pama*) were worn by both men and women. In the summer they wore a short “dressing-gown” (*kundii*) and in winter a fur (*teri purga*) made of sheep or other animals. A belt (*kiu*) fastened the clothes. On the head they wore a little cap (*teri ingi*) and in their ears and on their fingers they had rings (*mungo*). Falck noted that the people dressed in general like poor Russian peasants, except for festivals, when their clothing was “similar to Yakuts” (today Sakha; Falk 1786: III: 556).

The main natural resource along the Chulym River was fish. The people fished all year round in the rivers and lakes, but in winter they also hunted. Many had small farming plots, but only a few kept some cattle or sheep. The daily food was fish, often dried in the air without salt or eaten raw. Like their Ostyak neighbours, the Chulym Tatars called the dry fish *ping*. They sometimes made fish soup, adding wild roots, for instance *sarana* (*Lilium pomponium*, here probably referring to *Lilium martagon* var. *pilosiusculum* Freyn; on the use of *sarana* among Siberian peoples, see Ståhlberg & Svanberg 2006). Fish was also crushed in wooden mortars (Ostyak and Chulymian *pors*), and “eaten almost like bread”. Also consumed was the back sinew of a sturgeon species, probably the taxon known as Siberian sturgeon (*Acipenser baerii* Brandt 1869); it was very popular among the Siberian Russians, who called it *nerta*. Caviar was mashed and cooked because there was little or no salt to preserve it (Falk 1786: III: 556–557; 1785: I: 157; Svanberg 1987: 110). Georgi added that the Chulym Tatars prepared food from Turk’s cap lily (identifying *sarana* as *Lilium martagon* L.) and hogweed (*Heracleum sphondylium* L.) in a sour dish. They also used dried fish and wild plants, such as thistles, bistort (*Persicaria bistorta* (L.) Samp.), and several kinds of berries and tree barks.

The Chulyum Tatars did not eat pork meat but they did smoke tobacco (Georgi 1775: 148–153). Avoidance of pork meat could point to some Muslim influence (raising the question of from where or whom), or the habit could have another origin which cannot be ascertained today.

The Chulyum Tatars had been baptised as Orthodox Christians in the 1720s together with many other peoples in this region, but according to Falck, their faith was still very weak in the second and third generations. They preferred their “shamanistic superstitions” and knew so little about Christianity that the only visible signs were the crosses they carried around the neck. They often did the cross sign with their fingers, however (Falk 1786: III: 556). The old lunar calendar still in use among them was recorded by Falck. The Chulyum Tatars counted New Year from the first snow in autumn, usually already in September. One year consisted of twelve months called *ai* (*ay*), like in many other Turkic languages. The spring months were named after the fox, eagle, crow, and cuckoo, and the others after the length or climatic character of the specific month (Table 2; compare Harrison 2007: 69–72).

Table 2 Chulyum Tatar calendar around 1770. Source: Falk 1786: III: 421.

Chulyumian month name	Meaning	Month
Karakal Ai	[?]	September
Garisch Ai	[?]	October
Kitscha Ai	‘Short month’	November
Ulu Ai	‘Big month’	December
Jel Serta	‘Half winter’	January
Tulg Ai	‘Fox month’	February
Kutschugen Ai	‘Eagle month’	March
Karga Ai	‘Crow month’	April
Koi Ai	‘Cuckoo month’	May
Kitschi Schilgai	‘Little summer’	June
Ulu Schelgai Ai	‘Big summer’	July
Urgai Ai	‘Long month’	August and until the first snow

The calendar provides several interesting clues about the local knowledge. Interestingly enough, mainly birds appear, but no fishes and just one fur animal (the *karakal* month could easily be read as the caracal wild cat, but the question requires more research). A reason for the differences in habitat and occupation on one hand, and month names on the other, could be that the calendar was borrowed from neighbouring steppe or forest peoples, or that the early Chulyum Tatars had lived in another kind of habitat before settling down at the river banks and turning to fishing. Their plant use indicates that they had at least some contact with peoples living on the steppe, but the use of birch bark and other materials for household items could also point to contact with Ostyaks and other neighbouring Finno-Ugric peoples.

The birds in the calendar – the eagle, crow, and cuckoo – were hardly hunted. Their presence probably has a seasonal explanation. Hunting fur animals was supposedly a less important activity for Chulyum Tatars before the Russians arrived, which is confirmed by their everyday clothing of nettle fibre and their use of fish skins for bags and windows. They themselves used furs only during the winter. However, with the never-ending demand for furs in European Russia, throughout Europe and elsewhere, and the tribute system based on fur supplies, hunting for fur animals grew exponentially among the Chulyum Tatars, similarly to many other Siberian

peoples after the Russian colonisation. Furthermore, the calendar shows that there was no fixed starting point for the New Year. The “Long month” would continue until the first snow, which around 1770 appeared early. This is probably one of the signs of the Little Ice Age, when summers were short and winters much longer than nowadays. The Chulym River flows roughly at the 54th latitude, which is not very far north (being parallel with northern Germany).

TELEUT NOMADS TURNED FARMERS

In the second half of the eighteenth century, some nomad groups in southern Siberia had already settled, but memories of animal herding and mobile life on the steppe lingered. Contrary to the usual belief that nomads were completely dependent on their animals for materials and food, Falck observed that they used a wide range of natural resources from their surroundings. The Teleut, also called Telengut, comprised at most 500 taxable men around 1770. They lived in settlements around the Ob River and in the nearby foothills. Some Teleut were settled near Tomsk and in the Kuznetsk area (Falk 1785: I: 342, 345, 559; Georgi 1775: 161).

According to Falck, the Teleut or Telengut were originally nomadic and vassals to the Dzungars (Western Mongols). They fled from conflicts and wars northwards to Siberia, came under Russian rule, and were called White Kalmyk in Russian sources. The White Kalmyk were considered to be the smallest group of the Mongolian Kalmyk, part of whom moved to southern Russia. The explanation that Falck found in Siberia and his co-traveller Georgi from contemporary literature suggested that the White Kalmyk received the name because they had retired to white or snowy mountains. However, the majority of the Dzungars were called Black Kalmyk, so this name probably influenced the creation of the other (or vice versa). It is also possible that the White Kalmyk were pushed northwards by the expansion of the Dzungar Khanate, established parallel with the Manchu Qing dynasty in China in 1634. This Khanate was destroyed by the Qing army in a prolonged war, ending in genocide from 1755 to 1758. The destruction of the Khanate and devastation of the land brought several Mongolian and most probably also Turkic groups into the Russian dominions. The Mongolian or Turkic origins of the Teleut are still being debated today, but Falck’s assistant Georgi noted that their language was mixed with many Mongolian words. Teleut is today considered a Turkic language, and the people’s nomadic origins and subsequent switch to farming are widely accepted. They live now mainly in the Kemerovo district in Siberia. According to the 2010 Russian census, there were around 2,600 Teleut (Falk 1785: I: 350, 559; Georgi 1775: 161; Wixman 1988: 189; Federal State Statistic Service 2010).

The Teleut’s switch from a nomadic lifestyle on the steppe to lakes, rivers, marshes and forests does not appear to have been successful, or they were still in the process of learning and adapting to the new environment. Falck observed that they imitated Russian settlers, but the people were “lazy and dirty and lived much worse than any Russian peasant”. Previously the Teleut had lived in holes in the earth, Georgi (1775: 161) informed. Everything was miserable and unhygienic. The Teleut ate roots, blood sausages and wild animals, and they were heavy drinkers. Although they had some income, they lived in bad huts, dressed in rags and ate everything without distinction, even animals that had died a natural death or had been killed by predators – like the other Kalmyk. They cooked everything in a “dirty fashion”, Falck noted. “Their economy [livelihood] was in other ways an imitation of the Russian, but most men were hunters and paid their tax to the Russian Empire in furs. At least in this aspect they were free to choose their lifestyle” (Falk 1785: I: 350, 559). Falck was wrong, however; the Russian tribute system of providing furs probably took away considerable time from food gathering and production, and contributed to the misery of the

Teleut settlements. A man needed several wives to help him with the work, and some had up to four wives in the household. A Teleut man could buy a wife for a couple heads of cattle. If the couple divorced, the husband kept the children (Falk 1785: I: 560; Georgi 1775: 161).

Falck became especially interested in the Teleut religion and described the “wizard” or shaman (*kam*), who could be either a man or a woman. The post was inherited, and when no son could take over from the previous shaman a daughter would be the next *kam*. The Teleut believed in a kind, powerful god named Kudai and a small enemy god or devil known as Schaitan. Both were depicted as statues called *tschalu*. The figures received offerings and the shaman spoke to them through a drum called *tür*. The drum, as described by Falck, was a round, wooden ring around 1.5–2 feet [45–60 cm] large and one hand high. On one side it had a covering of horse leather and underneath a wooden handle. The upper side of the drum was painted with the sun, moon, stars, horses, trees, humans, a devil depicted as a horse with spikes on its back, a frog, a rainbow, and two snakes, “as well as the *kam* can draw them”. The drumstick was broad and clothed with rough hare fur. All kinds of small objects were fixed along the rim. The *kam*, “clothed like a jester”, beat the drum and the gods would appear and answer his questions, accepting or refusing requests; in addition, the devils would flee because they could not stand the drumming (Falk 1785: I: 559–560).

The kind god Kudai often appeared in dreams. He could ask for a horse of a certain colour and sex. A “god horse” (*kutaimi* or *ijak*) could carry a rider, but it could not be put before a cart or sold. The owner did not need to worry about the horse, because it belonged to the god. During thunderstorms, Kudai rode across the sky and his horse’s hoofs created sparks and flashes when they touched rocks. At the entrance of the Teleut huts, sacrificial animals were hung: hares, birds, deer and so forth. The Teleut calendar began with the first snow, like among the Chulym Tatars, but their month names featured the squirrel (*kanugai ai*), wind (*od ai*), ploughing (*tar ai*) and other aspects of the environment or activities related to it. Falck did not elaborate on the month names, but only mentioned that there would be no thirteenth month if the snow came early or very late (Falk 1785: I: 560).

Some Teleut animal words were recorded and compared by Falck. Kalmyk *zar* ‘oxen’ was similar to Teleut *scher* ‘bull’; a cow was *imek*, oxen *tansas*, and a calf *busa*. Falck compared the last with Armenian *buha*, but in Kalmyk a bull was called *bucha*; in Finno-Ugric Mordvinian, it was *buka*. Sheep in Teleut was *uska*, in Tatar *teka* or *kasa* (Falk 1785: I: 155). Several wild mammal names were also recorded by Falck (Table 3).

Table 3 Teleut wild mammal names. Source: Falk 1786: II: 420; Svanberg 1987: 91–98.

Teleut name	Animal species	Latin name
Aba, Schakschek	Brown bear	<i>Ursus arctos</i> L., 1758
Kakaja	Wild boar	<i>Sus scrofa</i> L., 1758
Aktuk, Ilik	Roe deer	<i>Capreolus capreolus</i> (L., 1758)
Toloi, Tabuschkan	Hare	<i>Lepus timidus</i> L., 1758
Sur	Bobak marmot	<i>Marmota bobak</i> L., 1758
Tschetschkan Kuschka	House mouse	<i>Mus musculus</i> L. 1758
Kuuruk	Siberian chipmunk	<i>Eutamias sibiricus</i> (Laxman, 1769)
Schergelak	Polecat	<i>Mustela putorius</i> L., 1758
Kanu	Wolverine	<i>Gulo gulo</i> (L., 1758)
Ys	Eurasian lynx	<i>Lynx lynx</i> (L., 1758)

The Teleut word for fish was *balik*, similarly to many other Turkic languages (Falk 1786: II: 420). Common whitefish (*Salmo lavaretus*, now *Coregonus lavaretus* (L.)) was called *Ak balik* ('white fish'; Tatar *Ak kongrala*). A thinner, less silvery variation of the fish was called *muchsun* or *urundu balik*, or in Russian *muchsun* and Tatar *urundu sugan* or *urundu aun* (Falk 1786: II: 426). Falck documented in total around a dozen Teleut fish names (Table 4).

Table 4 Teleut fish names. Source: Falk 1786: II: 426; Svanberg 1987: 110–112.

Teleut name	Fish species, translation	Latin name
Ak balik, Urundu balik	Common whitefish, 'white fish'	<i>Coregonus lavaretus</i> (L., 1758)
Fan balik	Siberian sturgeon	<i>Acipenser baerii</i> Brandt, 1869
Oska balik	Sterlet	<i>Acipenser ruthenus</i> L., 1758
Il balik	Ruffe	<i>Gymnocephalus cernua</i> (L., 1758)
Bel balik	Siberian taimen	<i>Hucho taimen</i> (Pallas, 1773)
Rusch Kutsch balik	Arctic charr	<i>Salvelinus alpinus</i> (L., 1758)
Kara balik	Grayling, 'black fish'	<i>Thymallus thymallus</i> (L., 1758)
Kara balik	Green Tench, 'black fish'	<i>Tinca tinca</i> (L., 1758)
Jesu balik	Crucian carp	<i>Carrasius carassius</i> (L., 1758)
Bora balik	Ide	<i>Leuciscus idus</i> (L., 1758)

These common animal word lists contain both predators and some animals the Teleut hunted or fished; some of the predators were only hunted for furs. The occurrence of house mouse could be an indication that the huts were infested with mice. Coupled with the words for domestic animals and month names, as well as the ethnographic data, they indicate that the Teleut were acquainted with and used natural resources of different kinds. Therefore, an important aspect to be researched further is the question if we can identify two overlapping cultures, nomadic and settled, since this group had migrated and kept some traces of their previous way of life. Teleut contacts with their neighbours also need to be studied to clarify this point.

The nomadic past was still a living memory for the Teleut in the 1770s. Their religious beliefs focused on horses, and their shamanistic practices were common also among several Turkic and Mongolian peoples. Falck managed to document more animal words with the Teleut than with the Chulym Tatars, and the list of wild animals and fish shows that they were acquainted with the animals not only along the river but also on the steppe and in mountain areas. The transition from nomadic life to a river-based livelihood was apparently still in progress; fishing was not a major occupation, but hunting may have replaced animal husbandry to a large extent. The language transition from a Mongolian to a Turkic language happened – if there was one at all (the Teleut may have been Turkic-speakers under Mongolian Dzungar rule – probably through contact with neighbouring peoples, but this is a question for linguists to solve).

SOYAN AND KACHA HORSE NOMADS

The Soyan (or Sayan in Falck's spelling) were nomads roaming in the Sayan Mountains, which are a continuation of the Altai Mountains. The Soyan (today Tuva) were "only partly Russian subjects" in the 1770s. They could be found also around the Yenisei River, Abakan, and higher up or closer to the mountains than the Kacha horse nomads. In the summer they migrated into the mountains and in the winter they stayed in villages or *yurts* on the Abakan steppe. The

settlement Sajanskoi Ostrog on the Yenisei River was specially built for them by the Russian administration. Through their chief (*baschlik* or ‘head’), the Soyans paid tribute in sables or other highly valued and costly furs. Falck noted that in every way the Soyans were similar to the Kacha or Kachin nomads. Both lived in felt *yurts*, kept only small herds of animals and consumed wild roots. Their food, religion, dress, and habits were also the same. They all smoked a lot of tobacco (Falk 1786: III: 558, 561).

A rich Soyans could own up to 500 horses, as many sheep and half as many cattle. The horses were “more beautiful than the Russian ones, active and easy to teach”, and their price was high in the Siberian markets. The small fat oxen were popular for meat and cattle were sold for cash, which brought the Soyans some money. The sheep were like Kazakh sheep, in other words broad-tailed, but they had thick wool like Russian sheep (Falk 1786: III: 561). Many rich Soyans dressed in very colourful silk clothes or other fine dress. They shaved their heads except for a top braid, which, according to Falck, was plaited into three tails. The poorer people made their clothes from flax and nettles and carpets from the daylily (*Hemerocallis* sp.). Georgi added that the Soyans in general were good smiths. They were “both Christians and shamanists” (Falk 1786: III: 561; Georgi 1775: 176).

These nomads had a wide range of knowledge about their habitats and available resources. They used roots, berries and farm products in addition to any meat they could find (compare Ståhlberg & Svanberg 2006: 137–144; 2012a: 344–345; Perry 2011: 243–244). Social differences in eating among horse nomads need to be researched further; the historical sources are scarce but could offer some interesting perspectives. The Soyans did not eat bread, Falck noted, but they cultivated some grain, and in winter they cooked porridge from flour. Their fields were tilled with a small Russian plough, but the climate was cold and the fields often suffered from night frosts. Where stones or roots hindered ploughing, the soil was hacked open. The largest part of the grain, however, was used for preparing spirits, a drink the Soyans were extremely fond of (Falk 1786: III: 561–562).

Falck documented very few Kacha words, but one was barley (*Hordeum vulgare* L.; in Kazan Tatar *arpah* and in Kacha *arban*). Barley was a staple cereal among the nomads (Falk 1785: I: 152). *Arpa* is a common word for barley in Turkic languages (Hauenschild 2016: 115–116). In addition to grain, the Soyans gathered and consumed common peony (*Paeonia officinalis* L.), known locally as *tscheina*. They cooked a porridge of peony or added it into a pot together with meat. The roots were gathered for the winter. Falck tasted and found them a little bitter, but after throwing away the first cooking water and then boiling them until soft, the taste turned mild. The edible roots of different peonies were used by several peoples in Siberia (Falk 1785: I: 198).

In addition to observing humans, Falck mentioned strange rocks at the Dzungar-Russian border. In addition to the usual border markers at the Abakan River in the Kuznetsk district, there were two statues close to each other called *kurtajek tasch* ‘old hag stones’ by the nomads (Figs. 3 & 4). The statues were made of red sandstone and showed relief pictures. Nobody could explain their origins. The Soyans called a human-like stone on the steppe *kasan kis tasch* ‘maiden stone’; also made of red sandstone; it had a similar picture and was of unknown origin. Two more *kurtajek tasch* were found on the Soyans steppe (Falk 1785: I: 348–349).

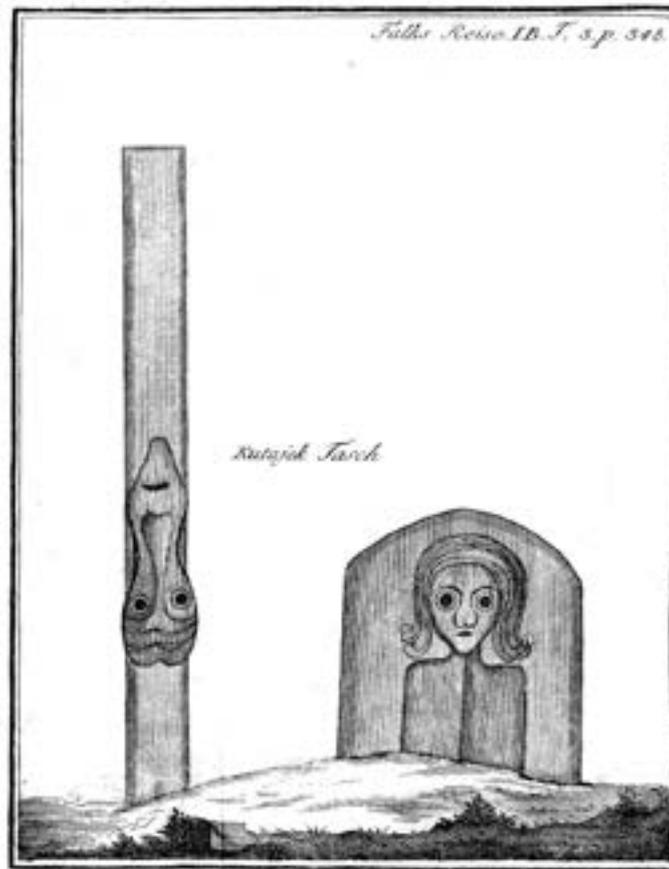


Figure 3 Two stone statues (*kurtayek tash* ‘old hag stones’) at the Abakan River in the Kuznetsk district, documented by Johan Peter Falck’s expedition. Source: Falck 1785: I: 348.

The Kacha or Kachintsi were nomads around the Abakan and other tributaries to the Yenisei River. Falck met them around Barnaul, Kuznetsk, and Tomsk. The Kacha were wealthy and paid double tribute in fur or money compared to for example the poor marsh-dwelling Barabin Tatars further west. The Kacha had only middle-sized herds, and the richest of them owned less than 1,000 horses and sheep and 250 heads of cattle. The Kacha were good herders, Falck commented, but they still needed to hunt and dig up wild roots for their sustenance. They ate almost all wild berries, such as sea buckthorn (*Hippophae rhamnoides* L., known as *schiderhan* in Teleut) and cranberries (*Vaccinium oxycoccos* L.). As “shamanistic pagans”, they consumed everything the hunters would bring, including predators and animals which had died a natural death. These, they said, had been slaughtered by the gods. In summer they would live on fermented milk (*kumiss*) and another milk drink called *airen* (Falck 1786: III: 558; Ståhlberg & Svanberg 2014: 93). Today kumys is a fermented dairy product made of mare’s milk, and ayran in different forms is widely consumed from the Balkans to South Asia. Both have a long tradition among nomads in Central Asia, and the words are known from most Turkic languages (Clauson 1972: 629). Friar William of Rubruck tasted and described kumys when he travelled to the Mongol court in the mid-thirteenth century (Rubruck 1990: 55).



Figure 4 Stone idols of red sandstone (*kasan kis tasch* ‘maiden stones’) documented by Johan Peter Falck’s expedition. Source: Falk 1785: I: 349.

Like the Soyan, the Kacha tilled the soil for grain, which they ground into flour and cooked into a porridge. The Kacha also farmed some hemp, but for spinning and weaving linen mostly nettle fibre was used. According to Falck, the Kacha were similar to the Turkic Bashkirs or Barabin Tatars in organisation, housekeeping, food and drink. They shared the same calendar with the Barabin Tatars. Similarly to other peoples, such as the Teleut and Soyan, their year started with the first snow. The twelve months had the same names and order as the Barabin calendar (Table 5), but Falck found their religious ceremonies to be the same as those among the Teleut. In addition, they were considered “similarly dirty” (Falk 1786: III, 558; Georgi 1775: 154). Georgi added that the Kacha were bad characters, lazy and not to be trusted. Overtone singing and a musical instrument, the *jältaga*, were popular among them (Georgi 1775: 154).

In comparison with the Chulym Tatar calendar (Table 2), the Barabin/Kacha year started only in November. This could be explained by the more southern location of the Kacha, but the Barabin lived north of the Chulymians. The eagle and crow exist in both, but the Eagle month in the Chulym area was in March and the Crow month in April, whereas the Barabin/Kacha calendar put them a month earlier. In both calendars, November is a short month and December a big month. The word *jel* is translated as ‘weather’ in Kacha and ‘winter’ in Chulymian, which could be a misunderstanding by Falck or Georgi. Among the Barabin Tatars, fishing was important and it is no surprise that there is a Fish spawning month in the spring, but this cannot

have made much sense to the Kacha nomadic steppe-dwellers and horse nomads. Ploughing and harvest were more important to the Kacha than to the Barabin Tatars in the marshes, or the Chulym Tatars along the banks of lakes and rivers. A deeper calendar comparison could reveal cultural and linguistic connections as well as migration routes.

Table 5 Barabin/Kacha calendar. Source: Falk 1786: III: 539.

Kacha month name	Meaning	Month
Katscha Ai	‘Short month’	November
Uiu [Ulu] Ai	‘Big month’	December
Jel Ai	‘Weather month’	January
Kutschigar Ai	‘Eagle month’	February
Kargai Ai	‘Crow month’	March
Tarmak Ai	‘Fish spawning month’	April
Saban Ai	‘Plough month’	May
Kitschu Ussu Ai	‘Warm month’	June
Ulu Ussu Ai	‘Hot month’	July
Otschagi Ai	‘Harvest month’	August
Sari kawak Ai	‘Yellow leaf month’	September
Jelan Agatsch Ai	‘Naked tree month’	October

CONCLUSION AND FUTURE PERSPECTIVES

Documenting a world that has now been lost, Johan Peter Falck managed to observe part of the local knowledge in southern Siberia, which now can be transmitted as a cultural heritage for future generations. Despite its many shortcomings from a modern viewpoint, his travel report offers a multitude of opportunities for studying the languages, history and lifestyles of hitherto little-known groups. During his travels in Siberia, Falck observed peoples who lived in a close relationship with the surrounding landscape. They were dependent on animals and plants in their vicinity and needed to know what the landscape could offer and where the limits of usage lay. Understanding the biological resources in the habitat was essential for survival. The various organisms also provided for cultural, economic and medicinal needs. Therefore, the fishermen, hunters, gatherers, and herdsmen in the marshlands, mountains, steppes and river valleys had to acquire a deep familiarity with the environment. In some cases, the transition from one habitat to another was apparently still in progress and this was reflected in the lifestyle and the non-visible world, religion, folk beliefs, and so forth of the peoples. As our examples show, local knowledge is not only about food or housing and survival, but extends far beyond tangible objects.

Falck’s expedition report offers a unique possibility to observe the successes, challenges, and difficulties that several transitions – climate, politics, economy, migration, culture, and others – brought to four peoples in Siberia in the eighteenth century. Our study directs the attention towards an important and little-studied topic, namely the cultural and material contact (not only linguistic) between different Siberian peoples – Turkic, Mongolian, and Finno-Ugric mainly – and their relationships with their new neighbours, Russian settlers and administrators. Not only were calendars borrowed but also lifestyles, practical techniques, and linguistic elements; in some cases, as among the Teleut, there may have been a language change. The southern

Siberian Turkic languages, closely connected with the environment and its biota, could provide a rich source of information on cultural and linguistic contact. At the moment they are under threat, however, and in the near future some of them will probably become extinct.

Life in southern Siberia is not easy today, and it was certainly not easy in the eighteenth century during the Little Ice Age. The hunter-gatherers in the forests needed to survive forest fires, floods and other natural disasters. Changes in the habitat were part of their lives. Moreover, the destruction of Siberian forests for economic purposes has been going on since at least the eighteenth century; Falck noted, for example, that the Russian colonisers cut down trees in order to reach nuts or cones. The trees grew back slowly because of the cold climate. In southern Siberia, iron and other mines had to shift their technology in order to save the surrounding forests, which were quickly becoming depleted. In addition to climate change, overharvesting of local resources and environmental destruction have also affected the landscape and the peoples.

Falck's documentation and other historical materials can open up many other perspectives: for instance, contexts of activity and human relationships with the environment. Archaeological finds and ethnographic and other historical data should complete the picture. Ethnobiological and ethnoecological research on several regions in the world are still scant, but Falck's data provide a good starting point for southern Siberia. Further study of the dynamic relationship between the peoples, their environment and its biota, as well as their knowledge about the surroundings, will also contribute to our understanding of the present time and situation. Many ethnic groups are now trying to recover their languages and cultures and regain closer contact with the environment. Eugene N. Anderson (2011: 2) has identified ethnobiology as a major contribution to these ongoing efforts to save the natural and human worlds, and historical ethnobiology is one of the ways to open up earlier local knowledge to this end.

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