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## Frozen graves of Yakutia, a chronological sequence

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## ПОГРЕБЕНИЯ ЯКУТОВ XVII — НАЧАЛА XIX в. В ВЕЧНОМЕРЗЛЫХ ГРУНТАХ: КУЛЬТУРНО-ХРОНОЛОГИЧЕСКАЯ АТРИБУЦИЯ

За 15 лет Саха-французской археологической экспедицией (фр. Mission Archéologique Française en Sibérie Orientale, MAFSO) раскопано 179 погребений, замороженных в грунтово-ледяных массах в условиях вечной мерзлоты. Статья посвящена проблеме культурно-хронологической атрибуции погребальных памятников якутов XVII — начала XIX в. на основе анализа внутримогильных конструкций и предметного набора погребально-инвентаря с выделением ритуального и социально-дифференцирующего назначения вещей, а также данных генетического тестирования родства останков погребенных. Хронологическая последовательность и преемственность культурных традиций в материалах погребений рассматриваются в сопоставлении с историческими событиями, оказавшими существенное влияние на хозяйство, материальную и духовную культуру якутов. Всестороннее их изучение позволяет разделить весь комплекс полученных данных на четыре культурно-хронологических этапа: до 1700 г.; с 1700 по 1750 г.; с 1750 по 1800 г.; после 1800 г., что соотносится с историческими процессами и событиями, имевшими место в Ленском крае. Так, колонизация Якутии Россией привела к интенсивным миграциям якутов как по всей территории края, так и за его пределы, в результате чего на протяжении XVIII в. формируется одна из своеобразных этнографических групп якутов — северные якуты. Развитие товарно-денежных отношений, появление торговых пунктов и ярмарок способствовало появлению в быту и хозяйстве аборигенного населения российских и импортных товаров. Вторая половина XVIII и начало XIX в. были ознаменованы массовой христианизацией коренного населения. Консервация архаичных элементов или присутствие местных вариаций инноваций затрудняет хронологическую атрибуцию некоторых артефактов, что обуславливает необходимость датирования естественнонаучными методами.

**Ключевые слова:** Якутия, якуты, грунтовые погребения, современный период, хронология, артефакты, погребальный обряд, христианизация.

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## FROZEN GRAVES OF YAKUTIA, A CHRONOLOGICAL SEQUENCE

*Distribution, cultural and chronological attribution of frozen graves of Yakutia between the beginning of 17th and end of 19th century. The funerary rites and the artefacts allow to differentiate four chrono-cultural periods (before 1700 AD, from 1700 to 1750 AD, from 1750 to 1800 AD and after 1800 AD) which could be associated with historical events: opening of the trading post of Nertchinsk, expansion of the Kangalasky clan, economic collapse, generalization of Christianization.*

**Key words:** Yakutia, Yakuts, soil burial, modern period, chronology, artefacts, funeral practices, Christianization.

## Introduction

From 2002 to 2016, the French-Yakut missions excavated 179 tombs considered as «Yakuts», because of the places of their discovery, the funerary practices and artefacts uncovered. Before 2002, such tombs were dated on the basis of comparative typology [Okladnikov, 1949; Konstantinov, 1971; Gogolev, 2004; Bravina, Popov, 2008]. As early as 2007, from the study of about fifty tombs in Central Yakutia, we carried out a first chronological synthesis taking into account the first dendrochronological and radiometric dating [Crubézy, Alexeev, 2007] and we extended in 2012 this synthesis to the Vilyuy region [Crubézy, Alexeev, 2012]. Since 2012, other regions have been searched (see [Crubézy et al., this issue]) and the study of tokens of English, French and Nuremberg origin allowed sometimes refined this chronology. The first historical studies (2007, 2012) made it possible to propose correspondences between certain chronological sequences and historical events. Historical studies have considerably refined these data, especially for the 18<sup>th</sup> and 19<sup>th</sup> centuries [Nikolaeva, 2016; Crubézy, Nikolaeva, 2017]. Today, it appears that if the chronological sequence defined for central Yakutia can date the tombs of other areas of Yakutia, because of the associated artefacts, new dendrochronological studies are however necessary in order to refine them. Indeed, the correspondences are still not systematic, especially for the 18<sup>th</sup> century when differences of two to three decades for the same artefact can be demonstrated between Central Yakutia and Vilyuy for example.

## Study area

Our study area, Yakutia or the Sakha Republic, is the largest autonomous republic in the Russian Federation, with a surface of over 3,000,000 km<sup>2</sup>. During the last 15 years, we explored four regions within this vast territory: Central Yakutia, between the Lena river and one of its tributaries the Aldan; the Vilyuy region, between the towns of Nyurba and Suntar; the Verkhoyansk region, between the Dulgalaakh and Adytcha rivers; and the Indigirka region, around the town of Oymyakon (see [Crubezy et al., this issue]).

In total 179 tombs were excavated, containing the remains of 197 individuals. The distribution between regions is however very uneven, as 60 % of the tombs and subjects were found in the Central Yakutia region. The other regions are isolated during the summer, due to lack of a road network, or roads that are impracticable under summer meteorological conditions.

Central Yakutia, closest to the capital Yakutsk, is easily accessible by road, crossing the Lena river if necessary. This region revealed close to two thirds of the individuals included in our study: 17 subjects dated to before 1700, 46 from 1700 to 1750, 29 from 1750 to 1800 and 27 after 1800, that is 119 individuals in 107 tombs. Four of these were multiple tombs. One contained 5 members of the same family: a woman, her son, her adult daughter, and two of her grandsons aged 1–4 years and approximately 5 years (Shamanic Tree 1, dated from the first half of the 18<sup>th</sup> century) [Zvéniyorosky et al., 2016, p. 58, 60; Zvéniyorosky et al., 2017, p. 5]. The other contained 7 individuals: a man and his 6 children aged approximately 1 year, approximately 3 years (2 children), 5–6 years, and approximately 12 years (Okktiom, dated from the first half of the 18<sup>th</sup> century, currently under investigation). Two other tombs contained 2 individuals each: 2 men in one and 2 boys aged less than 1 year in the other, without parental relationships (respectively At Daban 3 and SRT1, dated from the 19<sup>th</sup> century).

The Vilyuy region revealed 23 tombs containing 25 individuals (3 before 1700, 6 from 1700 to 1750, 4 from 1750 to 1800 and 12 after 1800). Only one was a multiple tomb associating a woman and her daughter aged 7–8 years, and another woman related to the first one (Oyogosse tumula 2, dated from the 19<sup>th</sup> century). The Verkhoyansk region revealed 33 tombs containing 37 subjects (2 before 1700, 11 from 1700 to 1750, 9 from 1750 to 1800 and 15 after 1800). Three graves were multiple tombs [Zvéniyorosky et al., 2016, p. 57, 59, 60]. The first associated an adolescent girl aged 15–17 years, and her younger brother aged 12–14 years (Ieralaakh, dated from the first half of the 18<sup>th</sup> century). The second associated a woman and a young boy aged 4–6 years, without parental relationships (Tysarastaakh 2, dated from the first half of the 18<sup>th</sup> century). The last associated a woman and her two sons aged 0–6 months (Lepseï 2, dated from the second half of 18<sup>th</sup> century). Finally, the Indigirka region revealed 16 individual tombs, or 16 subjects: 1 dated to before 1700, 2 from 1700 to 1750, 1 from 1750 to 1800 and 12 after 1800.

## Underground tombs: an exception in Yakutia

According to ethnographic and historical data, Yakuts rarely buried their dead. This makes sense in this particular environment where the ground is frozen most of the year. Burials are a mode of grave rarely found before the arrival of the Russians and Christianization. Traditionally the dead were

suspended in trees or placed in wooden coffers on aerial platforms called *arangas* (fig. 1), or left in houses [Sieroszewski, 1896, p. 620]. In the Vilyuy region, they may have been deposited on the ground, in coffers called *saiba*. Thus, individuals who were buried had a particular status.



**Fig. 1.** Old photograph of arangas (left), Buguyekh 1 (Verkhoyansk) (middle) and saiba, Urung Ebe (Vilyuy) (right).

Рис. 1. Арангасное погребение Бюгойэх 1 (Верхоянье) и наземное захоронение «сайба» Урунг-Эбе (Вилуй).

### **Tomb spotting in Yakutia**

Tombs in Yakutia were not concentrated in graveyards but isolated or in small groups, which makes it difficult to localize them, especially if the signage has disappeared. Two main factors are at the origin of this loss of signage: natural causes such as wild fires during the summer season, and political factors: during the communist era, the religion was abolished, and the Komsomols may have deliberately set fire to the signs [Crubézy, Alexeev, 2007, p. 65].

Before tombs can be excavated, an exploratory mission is undertaken in the regions likely to reveal well preserved tombs and thus information on the Yakut peopling. This is followed by a phase of prospection. This consists in making contact with the local administration, individuals who are familiar with the territory (hunters, wildlife rangers, land surveyors, road workers), and people susceptible to know local lore and history (history and geography teachers, older members of the community), who may know the location of ancient burials. After these data are gathered, a team of prospectors checks their validity on the ground, while at the same time identifying the type of environment favourable to the location of ancient tombs. Certain locations were favoured, such as knolls or outcrops, as well as open views to «scenic» landscapes.

A tomb can be spotted in one of two ways. The first is obvious because a layout is still present on the ground, serving as signage, whereas the second, relying on observation of an oblong or rectangular depression in the ground evoking a grave, is more difficult. Once a tomb is identified, it is localized on a map, or a GPS reading is taken so that the excavation team can come back to study it.

### **Chronology and dating**

Tombs are classified according to four chrono-cultural periods: before 1700, 1700–1750, 1750–1800 and after 1800. These chronological periods are defined on the basis of funerary practices (structure and depth of tombs, presence of birch bark blankets or birch trees planted in the trench) and the artefacts uncovered (presence, nature, quantity of artefacts, presence of imported artefacts such as pearls, fabrics, manufactured goods).

A Correspondence Factorial Analysis (AFC) was carried out on a set of 50 tombs from Central Yakutia to explore the relationships between 27 criteria in 2006 [Crubézy, Alexeev, 2007, p. 51; Crubézy, Alexeev, 2012, p. 66].

In a second step, radiocarbon dating ( $^{14}\text{C}$ ) and dendro-chronological analyses were conducted to validate the field observations and the classification established on cultural criteria. Radiocarbon dating was conducted on bone samples, while wood samples from the coffer containing the remains and from rare surface signage were used for dendro-chronological dating. This latter method is preferred as it leads to more precise dating, however woody material is not always sufficiently well preserved to carry out the analysis. To date, eleven radiocarbon datings and nine dendro-chronological datings have been carried out, confirming the initial classifications.

### **Chronological sequence**

In this section, we describe characteristic tombs of each chronological period, although variability and local specificities exist.

#### *Tombs anterior to 1700*

During this period only male, adult or children subjects, appear to have been buried. They were preferably buried in log coffins, with various construction methods. The artefacts deposited in the grave consisted mainly of the knife and equipment of the hunter-warrior. Saddles were found in some cases, generally placed under the head. Imported artefacts were limited to a few pearls. The Ulakhan alaas tomb in Central Yakutia contained a man buried in a log coffer closed with a lid constructed of planks and covered with a birch bark blanket. The individual's head rested on a saddle, his knife was placed alongside his right leg, and his hunter-warrior equipment, was placed outside the coffin unusually for this period. This equipment consisted of a bow, a quiver containing 7 arrows (the usual number) and a batilla, the traditional Yakut weapon. In other tombs, this equipment was supplemented by the bow tensioner. A traditional vessel, the *tchoron*, was placed at the head of the deceased, on the saddle (fig. 2). This type of vessel generally contained offerings of dairy products, and is still used today to drink fermented mare's milk or *koumys* during traditional festivals, notably the summer festival, *Yssyakh*.

#### *1700–1750 tombs*

During the first half of the 18<sup>th</sup> century, adults are still preferentially buried, although nearly a quarter of tombs found were children's. Moreover, women's tombs are also found, making up half the tombs uncovered (22/45). The deceased were buried either in hollowed out tree trunks, squared off in some cases, joined with mortise and tenon. The use of log coffers disappears almost completely, and that of coffins is anecdotal. The frequency of use of an external coffer surrounding the coffer containing the deceased almost doubles compared with the previous period. Artefacts are more often deposited outside the coffer. They are more abundant and more diverse, including imported goods such as thousands of pearls, Nuremberg and Chinese coins to decorate clothes as well as other manufactured objects (bronze cauldron, axe, thimble, knife, pipe bowl). Clothing also changes, made up of imported fabrics, mainly silk from China, wool cloth called sukno and a fabric called daba from Russia, or red wool called ecarlatin from England. The clothes made with these fabrics are essentially shirts, dresses or coats. Insignias of power such as signet rings are also found, some imported but the majority reproduced locally. Finally, this period saw the development of jewellery, including belts decorated with pearls or bronze motifs for men, and torcs, bracelets and rings for women. During this period, young virgin women were buried with an «engagement belt» that could be made of thousands of pearls and pendants made of small bronze plates.

Thus, the first half of the 18<sup>th</sup> century is characterized by ostentatious displays of wealth.

The Bakhtakh 3 tomb is located in the Verkhoyansk region, along the river Dulgalaakh. It contains a man buried in an hollowed-out trunk, inside a coffer made of squared-off half tree trunks, closed by a clamping device never found outside of this region. Artefacts consist of the hunter-warrior equipment, with a bow, a quiver containing 8 arrows, the batilla and a bronze cauldron, placed in the space between the two coffers or else outside the coffers (fig. 3).

A dish made of birch burr and a *tchoron* were placed with the body inside the hollowed-out trunk. Finally, a knife was hung on the belt which is decorated with bronze motifs and rings. The man also wears his fur coat, and a second coat made of soukno trimmed with sable fur and decorated with daba bands. He wears a shirt of Indienne fabric, also imported. Leggings are decorated with pearls, which is rare for a man.

The hunter-warrior equipment tends to be associated in other tombs and other regions with the presence of an axe.





**Fig. 2.** Male tomb, anterior to 1700 (Ulakhan alaas, Central Yakutia).  
 Рис. 2. Мужское погребение Улахан Алаас (до 1700 г.), Центральная Якутия.

Outside of the Verkhoyansk region, where the environment is less conducive to horse riding, the riding equipment is more diverse, both for men and for women. In addition to the saddle and tackle, a stick called *knout*, which is also used as a whip, a currycomb, even the horse itself, can complete the equipment. It is indeed from this time that we find horse burials. Saddles, which were plain before, begin to be decorated, from a few ornaments to the totality of the pommel.

The Bulgunniakh 2 tomb is a female burial found in the Vilyuy region. A log coffer, incomplete at the end, covers the hollowed-out tree trunk containing the body. A bronze cauldron, a spoon placed on two birch wood vessels and a saddle with a fully decorated anterior seat were placed outside, while the *knout* and a wooden bowl were placed inside (fig. 3). Under her fur coat, the woman wore a leather coat richly decorated with pearls as well as pendants associating pearls, thimbles and Nuremberg coins, notably representing William II of England and his wife Mary Stuart II (minted between 1689 and 1694). She wears a belt to which is suspended a knife in a decorated sheath. Under the coat, she wears a soukno dress trimmed with sable fur, decorated with pearls and fur. Finally, her undergarment also decorated



with a large number of pearls is associated with the engagement belt. She also wears jewellery: in addition to the traditional earrings worn by all women, she wears a torc and no less than 5 rings! A horse, buried less than 20m from her tomb, is probably associated with it.



**Fig. 3.** Graves dated 1700–1750. Left, a male tomb (Bakhtakh 3, Verkhoyansk) and right, a female tomb (Bulgunniakh 2, Vilyuy).

Рис. 3. Слева — мужское погребение Бахтах 3, Верхоянск (1700–1750 гг.), справа — женское погребение Булгуннах 2, Вилуюй (1700–1750 гг.).

#### 1750–1800 tombs

During the second half of the 18<sup>th</sup> century, inhumation of children progressed to a third of the tombs uncovered. There is almost parity between men's and women's tombs, with some regional variations. The mode of constructions of tombs remains similar than during the previous period, with some changes. The coffin is used more often, which can feature an indentation following the shape of the body, and the birch bark blanket can cover the coffin incompletely. Artefacts, in particular power insignias and pearls, are less common or disappear completely. Only a few wooden or birch bark vessels are found, sometimes with a spoon, knives and smoking kit (pipe, lighter, fire bag). Artefacts are generally placed inside the coffin, except in Central Yakutia where they can be placed outside. Baby feeding bottles are found in the graves of newborns. The first signs of Christianization appear, with on one hand the inhumation of younger children, sometimes in groups of graves (precursor to graveyards), and on the other hand crosses worn around the neck or sometimes candles being present in the coffers. Imported objects are now limited to fabrics used to make clothes and bronze pipe bowls as well as a few rare objects such as bells. Certain individuals however continue to be buried following older traditions.

The Okhtubut 2 tomb situated in Central Yakutia contains a child aged less than 12 years. He is buried in a coffin incomplete at the extremities, covering a coffin made of squared-off half tree trunks. The only artefacts are a wooden dish and spoon. He is wearing a soukno coat closed by a belt decorated with bronze plates, to which a knife is suspended. The newborn in the Jarama 3 tomb is buried in a hollowed-out trunk covered by a birch bark blanket. He is accompanied by a cow's horn used as a baby feeding (fig. 4).

Female tombs are less richly decorated than during the previous period when imported elements were numerous: dresses and coats were made of woven fabrics, whereas they are now made of fur or leather and only the smallest clothing elements use imported fabrics. A few pearls still decorate clothes.





**Fig. 4.** Child's tombs dated 1750–1800. Graves of Okhtubut 2 (male) (upper left) and Jarama 3 (Central Yakutia) (lower left) and female tomb (Jarama 1, Central Yakutia) (right).

Рис. 4. Детские погребения Охтубут 2 и Джарама 3, Центральная Якутия (1750–1800 гг.) (слева) и женские погребения Джарама 1 и Синигес, Центральная Якутия (1750–1800 гг.) (справа).

The Jarama 1 tomb is that of a teenage girl aged approximately 14 years, buried in a coffin of squared-off half tree trunks, covered with birch bark (fig. 4). Her clothes are mainly of fur, with a few elements of imported fabrics: a chapka in soukno decorated with silk and mittens with silk lining. Under the leather and fur coat, her leather dress only features pearl decorations on the median seam.

Finally, the female tomb of Siniges, in Central Yakutia, presents the first signs of Christianization. The woman was buried in a hollowed-out trunk partially covered with a blanket of birch bark. She is one of the exception, still wearing a few pearls on her undergarments and boots as well as jewellery: two signet rings, evidence of her status (fig. 10). She however already wears a cross around her neck and candles were placed at the four corners of the hollowed-out trunk according to the Orthodox rite, whereas her mode of inhumation and her fur clothing, except for the soukno mittens, remain traditional.

#### *Tombs posterior to 1800*

In this period, although some isolated tombs remain, graveyards appear and all the population is inhumated there: adults and children, men and women. Coffers are still present but coffins represent half of the modes of inhumation. A modification can be made to keep the head from moving: the head can be placed on a wooden cushion, or in some cases wedges are placed on either side of the head. Birch bark blankets disappear as well as artefacts placed in tombs. The only elements deposited are crosses around the neck, candles, paper crowns on which are printed psalms. The cover of the coffin can also feature engraved or painted crosses to signify the appurtenance to the Orthodox community.

In Pokos tomb, in Indigirka region, the head of the child buried in a coffin was immobilized with wooden wedges.





**Fig. 5.** Male tomb of Seden in Central Yakutia (left) and woman tomb of Omuk 3 in the Indigirka region, with the presence of a candle in the hand of the deceased (right) and Sobolokh 2 tomb in the Indigirka region with the presence of an icon around the legs (below).

Рис. 5. Мужское погребение Седен в Центральной Якутии и женское погребение Омук 3 в районе Индигирки со свечой в руках умершего (слева) и захоронение Соболюхское 2 в районе Индигирки с наличием иконы у ног.

The tombs of Seden in Central Yakutia containing one man in a coffer, and of Omuk 3 containing a woman in a coffer in the region of Indigirka, present the same characteristics. Although isolated, their Christianity is signalled at the surface by a cross erected near the tomb (Omuk 3 tomb) and inside the tomb by a cross worn around the neck and a candle in the hand of the deceased (fig. 5).

In the last graves of the Christian period, certainly around 1920, we discovered an icon that had obviously been hidden (fig. 5).

### Comparison of archaeological and historical data

Historical information led to tweaking the chronological sequences, by varying the ends of the phases by a few dozen years. The comparison of our archaeological data with historical data allowed us to place our discoveries in the historical context of the organization of Yakut society, and its relationship with neighbouring populations.

Before 1689, we observe an ethnogenesis of the Yakut people, then in conflict with hunter-gatherers, aiming to conquer new territories. The genetic analyzes carried out on the burials of this period demonstrate that some subjects have their male lineage very different from that of the other Yakuts [Zvéni gorosky et al., 2017, p. 7] and cultural attribution «Yakut» remains hypothetical. According to historical data, Yakuts established contacts with Russians as early as the first Russian expeditions in 1620 to conquer Siberia. In graves anterior to 1689/1700, imported artefacts are extremely rare. We do not know for now if some would be anterior to the 17<sup>th</sup> century.

Conflicts ended, between Russians and Yakuts, ended during the period between 1689–1728, relationships between the indigenous and Russian populations normalized. This context allowed a Yakut expansion and the development of trade and importations, which transited via the trading post of Nertchinsk, opened in 1689 at the eastern Russo-Chinese border. The period between 1728–1760 saw the structuring of Yakut society, initiated by the Russians. During this period, imported objects flooded the region, as evidenced by the rich clothing and objects deposited in tombs. This corresponds with a «Golden Age» in Yakut society [Crubézy, Nikoaleva, 2017, p. 42]. However, the installation of a new, more westerly trading post, at Kiakhta, distanced Yakuts from the centre of exchanges and corresponded with the end of this period. The decline of trading saw a reduction in imported objects in tombs, and the social, economic and sanitary contexts (abolition of slavery, disappearance of customs offices, epidemics) deconstructed traditional society and facilitated the establishment of Christianization [Crubézy, Nikolaeva, 2017, p. 150–152, 180–181].

From 1760, Russians strived to increase the hold of religion in Yakutia, however the place of religion remained limited even though the first signs became visible in tombs from the end of the 18<sup>th</sup> century. Christianization was progressive until 1850, then became massive. It became better accepted by the Yakuts, and intensified with the building of numerous churches, inhumation in a graveyard becoming the rule, the development of liturgy in the Yakut language, and, finally, the translation of the Bible in Yakut [Nikolaeva, 2016, p. 29, 189; Crubézy, Nikolaeva, 2017, p. 150].

### Conclusions

The structure of the coffers and the associated artefacts makes it easy to relate each new discovery made in Yakutia to one of the major phases defined. However, it is important to be wary of certain continuations of method in society or local variations. Thus, the Us sergué 1 tomb, which had all the characteristics of tombs of the beginning of the 18<sup>th</sup> century, could be attributed to the second part of the 18<sup>th</sup> century, via the coins of the diadem and part of the artefacts uncovered. This tomb of the elite of southern Yakutsk, near the capital of the time, shows a perfect respect for ancient traditions at a time when Christianity was spreading. It is therefore necessary to continue the dendrochronological datings, for some cases where the attributions with the artefacts are less precise. This chronological sequence should also allow useful comparisons with other regions of Siberia, or even Russia for Christian graves.

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