

## OBJECT



Pic. 1: object photo

## FACTS

<b>Altitude:</b>	1500m above sea level
<b>Building Age:</b>	approx. 3 years
<b>Dimensions:</b>	ca. 3.5x3.5x2,6m
<b>Built surface:</b>	ca. 12.5m <sup>2</sup>
<b>No. of stories:</b>	1
<b>Typology:</b>	yurt (Mongolian: ger)
<b>Climate:</b>	continental, dry, cold winters, short summers
<b>Topography:</b>	flat grassy steppe, partly steep hills
<b>Used Materials:</b>	felt, canvas, wood, synthetic/leather ropes

## INTRODUCTION

The yurt is the traditional tent of the pastoral nomadic population of Mongolia. Its existence can be traced back about 2000 years in which it scarcely changed its shape. It can be built up in some hours and easily transported. The circulation area stretches from central Asia to Turkey, and several different forms that vary in the height of and the shape of the roof, the height of the wall elements and the covering canvas. After the communist era of the Mongolian Peoples Republic, the kolkhoz system collapsed and lots of now unemployed people decided to move with their family in the countryside and live a nomadic life.

## SITE / LOCATION

The family moves its five yurts about 6 times a year. They move every time over a distance of 40-50km. In the winter, they always stay at a certain point that provides some protection from the cold north winds and where they meet other families, which gives the herd a further protection.

## INFRASTRUCTURE

In the Mongolian steppe, almost no paved roads are to be found. Near to the capital Ulaanbaatar, a relatively dense fabric of dirt roads or paths, which aren't used any more draw through the barren flats. The most common vehicles are big Russian trucks, jeeps and motocross motorcycles. Water is taken from rivers or wells and often transported in a big tank over long distances. A generator provides electricity for electric light, the televisions and radios of the family. Small trading posts and moving salesmen sell luxury goods and the basic supplies for daily living. The food is mostly based on meat, which is produced by the family's herd.



Pic. 2: horses are an important part of Mongolian culture | Pic. 3: horse rider in traditional clothes

## SETTLEMENT STRUCTURE

The family builds up their camp always in the same way. The yurts stand in a row, the yurt of the head of the family next to the place where the mares and their fillies are tied. The doors always face south which protects the entrance from the north wind. The mares are used for milk production and tied to a

square of ropes on the ground in the west of the yurt row.

## SOCIAL STRUCTURE

Traditionally, the head of a kinship or the herding community is the oldest male member. Although, in the time of the com-



Pic. 4: horse herd

Pic. 5: lamaistic sanctuary

munist government, the role of the women in the Mongolian society changed drastically, when it comes to settle arguments he is still the one to be asked. A herding community can consist of several families. The herd is the property of each family. Traditionally, the youngest son of the family stays with his parents and takes over the herd when his father dies. The older brothers can decide to leave and take a part of the herd with them. If a male member of the family marries, the family of the bride has to give a yurt. The young family can decide whether to stay with the family of the groom or make up their own herding community.

## USE

Every yurt has just one room in which the whole family life takes place. The furnishing and even the places, on which the furniture stands are almost the same in every yurt, which allows the Mongolians to know the time by the beam of light coming through the hole in the roof hitting the furniture. The door of the yurt always faces south which protects it against the cold and heavy winds coming from north in the winter. There are even no differences in Mongolian language between the words for left, right, back and front and west, east, south and north.

The square piece of felt, which covers the hole in the roof, can be adjusted to the actual wind direction by four ropes coming down to the walls.

The space in the yurt is distributed by gender, by honorability of the family members or guests and by traditional rites. The northern side traditionally is the place for the family altar. Today the television or radio is usually to be found there. The food for the next days is stored in leather bags, which are han-

CONTINENT: Asia > LAND: Mongolia > REGION: Tuv (central) Aimag > SUBREGION: Nomadic > OBJECT: **Mongolian Yurt**

ging at the door. This is also the place for the big leather bag in which the Mongolian national drink, airag (fermented mares milk) is stored and produced.

To touch ropes or step on the threshold of the door is considered very impolite, because it could have an effect on the durability of the construction, like loosening the ropes or pushing the door in the ground. To step over the ropes, on which the mares are tied is also not allowed.

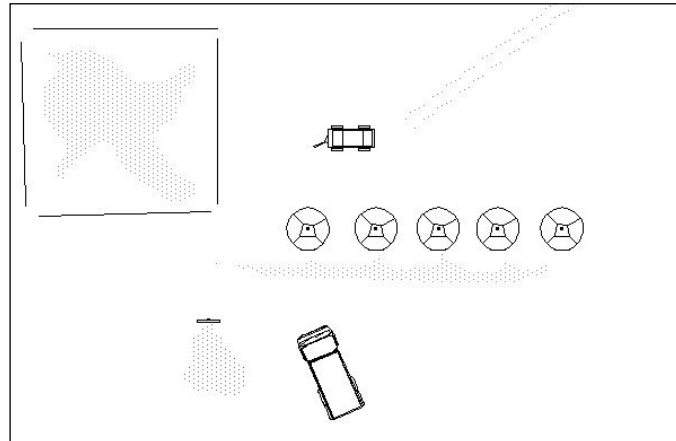
When it gets hot in the summer, the felt pieces on the walls can be folded up to let the wind blow through the yurt. In the cold winters, up to seven layers of felt can be put around the yurt. To prevent the wind to blow through under the walls, a small embankment is put around the foot of the walls.

## CONSTRUCTION

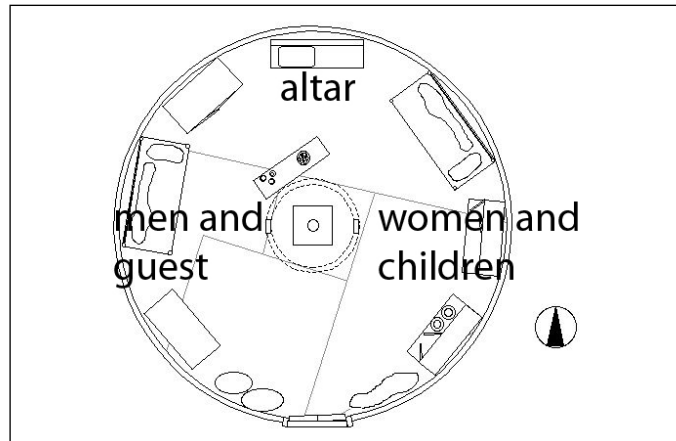
The walls of the yurt are built up by khanas, a wooden lattice that can be fold together when the yurt is to be moved. Once spread out, the lattice is kept in shape by the wooden frame of the door and a synthetic or steel rope woven around the top Vs of the lattice. The roof is erected around a central support ring, which is held by two wooden columns. From each top V of the lattice, one rafter runs to the central support ring. Together around 60 of these rafters form the roof construction. Around the wooden framework, layers of felt and canvas constitute the outer insulation. A steel oven with a long chimney running through the central ring provides heating.

## CONSTRUCTION PROCESS

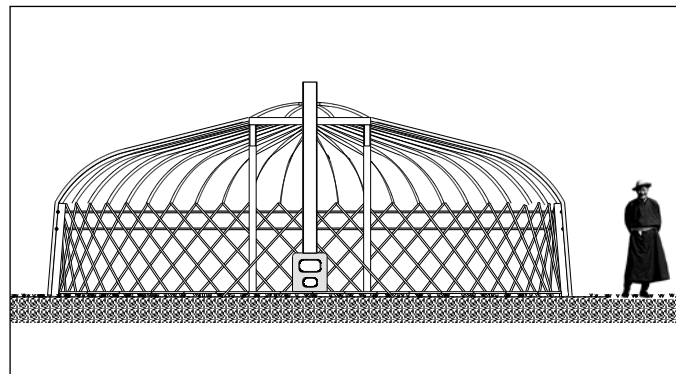
At first, the walls are erected and stabilized by connecting them to the wooden doorframe. This means, bigger furniture like beds, which won't fit through the small door have to be put on their future place at first. Then the central support ring is put on the columns and one by one, the rafters are connected with the wall and the ring. Then, the different layers of the roof and the walls are put on. On the ground one to six layers felt, depending on the season, which are covered by either linen or a synthetic tent canvas. Each layer is held by a rope, put around the wall and connected to the doorframe. At last, the square felt piece to cover the central support ring is put on and fastened with four ropes to the walls, which later allows to adjust the opening to the direction of the wind. The floor is covered with a synthetic canvas to protect against humidity.



Pic. 6: Siteplan



Pic. 7: Ground Level



Pic. 8: Section / View

## FUNDAMENT

The yurt is built on the natural ground.

## WALLS

The walls are built from a wooden lattice and covered with felt and canvas. The wall elements (khana) are 1.20m high and about 2.30 wide once folded out. They are usually prefabricated in factories, while the felt is often produced by nomadic families in the countryside and sold in the city. The lattice is build from wooden rods, 1.5cm in diameter. The diagonal rods are connected in 15cm distance with leather laces, which keeps the lattice flexible and allows folding the elements together when moving. The size of the Yurt is determined by the number of wall elements. A common size is 5 elements, which forms a round room with about 2.70m diameter. The size can vary from minimum 4 elements up to 8 or nine 9.

The covering canvas, which forms the top layer of the walls is also fabricated in factories and sold in shops. The cords, which are woven around the khanas, are the most important construction part of the yurt, as they hold the whole construction together. They are often plaited in the colors of the kin of the inhabitants.

The felt production is an important social event in the daily life. To produce the felt, a thin piece of felt, mostly a worn-down part of the yurt cover, serves as base. It is put on a wooden fabric and covered with wool. The whole thing is moistened and rolled up around a wooden stick. The role is now pulled for some time behind a horse, spinning around the center stick. To check the quality of the felt and to mend thin parts of the felt, the whole thing is unrolled and checked by experienced „felt masters“. To waste as little felt as possible, the left over edges of the round roof covering are sewed together for the covering of the roof window.

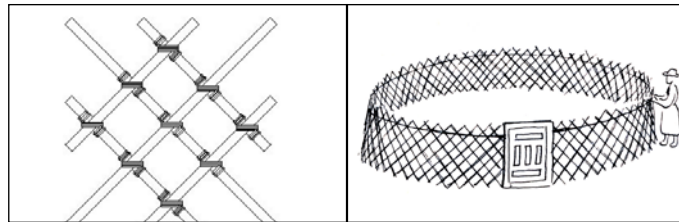
## OPENINGS

The most important opening is the door, which is also the biggest and heaviest construction part of the whole yurt. It is around 1.4m high and 1m wide. The frame is about 0.1m wide which provides the needed stability for the wall construction. The whole door is made from solid wood and decorated with carvings and paintings. The second opening is a round hole in the roof, which provides ventilation and light. The beam of light running through it and moving over the day serves the inhabitants as a sundial. Sometimes, the hole, through which the chimney of the small steel oven runs, is glassed. To cover

the hole, a square piece of felt is fastened with four ropes to the walls. It can be adjusted to the direction of the wind.

**ROOF**

The roof construction is made of around 60 rafters (depending on the size of the yurt), running from each crossing of the wall lattice to the central support ring. The rafters are made of thin wooden rods, at the lower end about 5cm in diameter, fading to about 2cm at the top end. They are formed to slight curve, which gives the yurt its characteristic and aerodynamic roof form. The height of the roof rises from 1.20 to 2.50 in the center. The rafters extend about 5-7cm over the wall construction to drain the water from the roof. The central support ring consists of several pieces of solid wood, which are put together by dowels and is supported by two wooden columns. These columns are not necessarily needed within smaller yurts up to 5 wall elements, but provide further stability. In smaller yurts, sometimes just one central column is erected. A rope, which is fastened on a metal eyelet in the center of the ring, can be used to improve the rigidity in heavy storms by fasten its loose end to a heavy stone or a trunk. The columns and the lower end of the rafters are often decorated with flower ornaments. The ground color of all wooden pieces is mostly a dark orange.

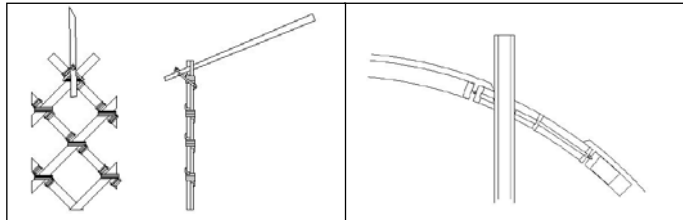


Pic. 9: Khana, detail

Pic. 10: support cord, scheme



Pic. 13: central support ring



Pic. 11: roof detail 1

Pic. 12: roof detail 2

**INNER BUILT ELEMENTS / FURNITURE**

The walls are often lined with carpets or canvas. Food is stored in leather bags, all other furniture are common beds, stools, cupboards, a trunk and a small table. The yurt consists only of one room in which all the family life takes place.

**PROBLEMS / CHANCES**

he yurt is a perfectly adapted shelter for the extreme and harsh continental climate. It is build up and down very quickly, which makes it a perfect shelter for the nomadic life of the rural population of a big part of central Asia. Nomadism as a life form is generally considered as decreasing, but in the 1990s, after the end of the communist era in Mongolia, a lot of families rediscovered the traditional way of life of their ancestors as the best strategy of surviving in the arid steppe of Mongolia. The need for a certain amount of luxury leded the „new nomads“ to a more risky selling and herding strategy, as they sold parts of their herds to buy televisions, radios or motorcycles. The smaller size of the herds which resulted from this strategy where more susceptible to the cold winters in the last 3 years, which cost a lot of families their herds. Even though the life of a nomad family is very hard, it seems to be accompanied by a higher security of living and a higher contentedness. But still, the fast increasing population (300% since 1950) can't be put back in the life of their ancestors.

**Images:**

Pic.-Nr.1-13: Paul Lambeck, 2005

**Literature:**

Bertelsmann Universal Lexikon, Das Wissen unsere Zeit von A-Z, Bertelsmann Lexikon Verlag GmbH, Gütersloh 1991  
 Die Brockhaus Völkerkunde, Bild der Völker, Band 8, Vorderasien und Nordafrika, Europaverlag, 1974  
 Der Große Coron, Das moderne Nachschlagewerk in 20 Bänden, Coron Verlag, 1993

**Websites:**

<http://www.jurte.com>  
<http://www.country-studies.com/mongolia/>  
<http://www.filzlexikon.de/found-allgemein.html?fillex/allgemein/jurte.html>  
<http://www.cia.gov/cia/publications/factbook/geos/mg.html>  
<http://www.mongolei.de>

### **Literature:**

Area Handbook for Mongolia, T. N. Dupuy/ W. Blanchard, 1970  
Tents, Architectue of the Nomads, Thorvald Faegre, Papyrus Verlag GmbH,  
Hamburg, 1980  
Räumliche Mobilität und Existenzsicherung: Fred Scholz zum 60. Geburtstag,  
Jörg Janzen (Hrsg.),  
Dietrich Reimer Verlag, Berlin, 1999