

Ötzi

the Iceman



TRAVEL REPORT BY



Südtiroler Archäologiemuseum
Museo Archeologico dell'Alto Adige
South Tyrol Museum of Archaeology

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TRAVEL DESTINATION

South Tyrol

Museum of Archaeology

ÖTZI THE ICEMAN IS ONE
OF THE MOST FAMOUS MUMMIES
IN THE WORLD.

The discovery of the mummy and objects on Tisenjoch in September 1991 caused a huge sensation. It proved to be the oldest wet mummy in the world.

1998

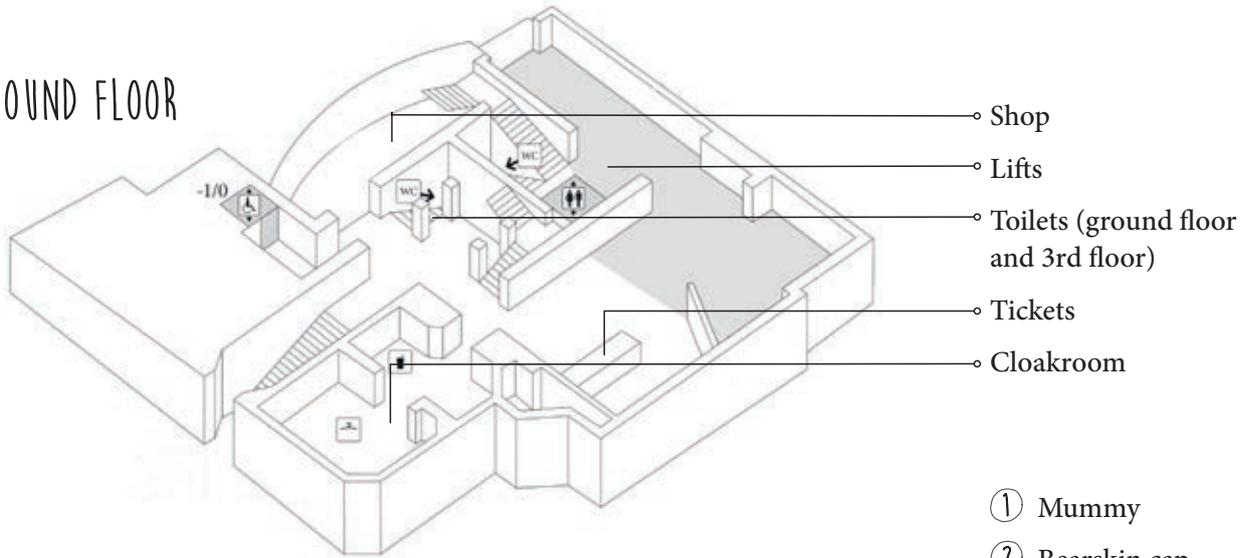
The unique cultural heritage was put on public display in the South Tyrol Museum of Archaeology.

NEVER-
ENDING
FASCINATION

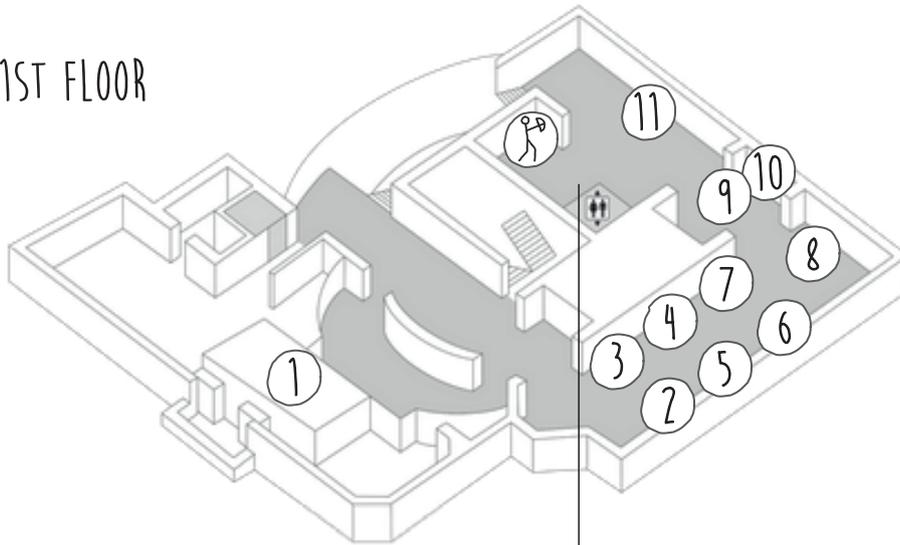
Every year the museum attracts over 250,000 visitors!

GETTING AROUND IN THE MUSEUM

GROUND FLOOR

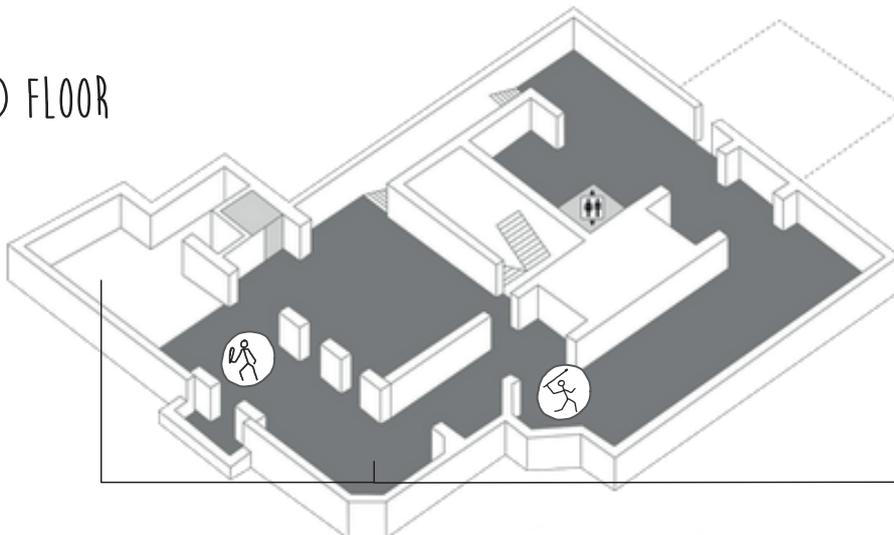


1ST FLOOR



- ① Mummy
- ② Bearskin cap
- ③ Grass mat
- ④ Hide coat
- ⑤ Leggings
- ⑥ Shoes
- ⑦ Loincloth
- ⑧ Bow
- ⑨ Axe
- ⑩ Dagger
- ⑪ High Alpine hike
- 🧑 Menhirs
- 🐇 Deer hunt (distributed around the 1st floor)

2ND FLOOR



- 🍷 Food and drink (distributed around the 1st and 2nd floor)
- 🧑 Ötzi as a patient
- 🧑 Murder case
- Quied places

THE LAND AND PEOPLE

Ages

The Neolithic Age was followed by the Copper Age, which in the Alpine region spanned the period between 3500 and 2200 BC. The Copper Age takes its name from the fact that – alongside stone tools that were still being made – weapons, equipment and jewellery were increasingly made from copper during this period. The use of and trade in the new material led to the first concentrations of wealth and power. Graves containing an especially rich collection of burial goods reflect a developing social hierarchy.

Economy

People were self-sufficient, living from cultivated and wild plants, as well as from domestic and wild animals. Specialised occupations such as miners, coppersmiths and merchants emerged. Agricultural practices improved with the invention of the wheel, the wagon and the plough, leading to more efficient forms of farming.

Climate

During Ötzi's lifetime, average temperatures fell significantly, while the amount of precipitation increased. It was a little colder and wetter than it is now.

Settlements

The choice of settlement locations in South Tyrol during the Copper Age varied from cone-shaped sites in the valleys and on hilltops to terraces at mid-elevations. Such exposed sites provided protection from landslides and floods as well as from marauders.

Customs

The custom of erecting large stone blocks was common across Europe during the Copper Age. The stones were engraved with images of people complete with clothing, weapons and jewellery. These standing stones, called menhirs, were erected in honour of important ancestors. Ten of these stone monuments have been found in South Tyrol alone.

Festival culture

Sacrificial offerings were made at natural holy sites such as clifftops, groves, lakes, springs and moors. The offerings were burnt or buried. The offerings were made communally. It is possible that the people celebrated after the offerings.

DETOUR

Ötzi, a stroke of luck for research:

The glacier preserved Ötzi along with important clues for researchers.

Very little is generally known about Neolithic society or the people themselves. Sources of information being scarce, graves provide valuable insights into the burial practices and beliefs of the time. In the Alpine region, burials with or without grave goods have been found in small caves, under rock overhangs, in stone burial chambers and in urns. Many are communal graves.

Tests on skeletons have shown that people in the Neolithic were around 150 to 165 cm tall (4' 11" to 5' 5") and rarely lived past the age of 40. There was also a high child mortality rate, and the average life expectancy was only 20 to 25 years.



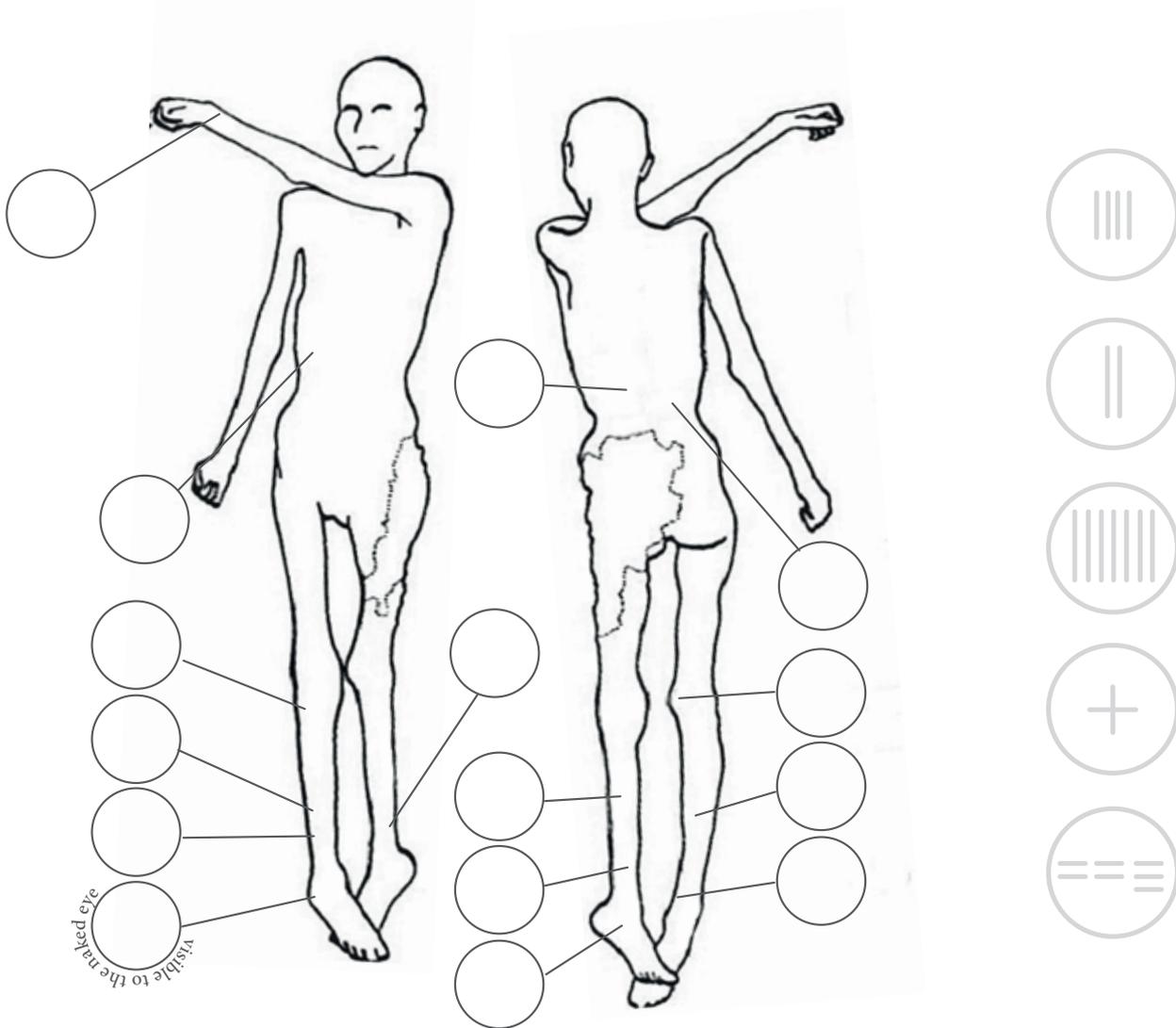
THE MUMMY: TATTOOS

MYSTERIOUS SIGNS

Ötzi's body was adorned with 61 tattoos in the form of line patterns and crosses. Powdered charcoal was used as a pigment.

TRAVEL OBSERVATION

What line patterns does Ötzi have and where are they located on his body?



Art or therapy?

DETOUR

The custom of decorating the skin with tattoos or signs can be found in every age and in nearly all cultures in the world. The use of tattoos to show group affiliation has also been a common practice in various societies and at various times.

1. TATTOOS AND THE TATTOOED

Auschwitz Birkenau

Tattooing prisoners was part of the inhuman system of National Socialism in Germany.



2. BODY ART

Egypt

In ancient Egypt, point patterns produced by pricking the skin adorned the abdomen, breasts, arms and legs of some women, as shown by the mummies of the priestess of the goddess of love, Hathor, as well as drawings of dancers and statuettes.



3. STATUS AND CLASS SYMBOL

New Zealand

Until well into the 20th century, only selected persons, such as high-ranking chiefs and women, sported facial tattoos (ta moko). By undergoing the painful procedure of tattooing, they signalled their willingness to accept responsibility for society.



4. PAINTED OUTSIDE - PROTECTED INSIDE

Central Brazil

Painting and coating the skin to strengthen the body's shell and protect it against diseases and dangers is common in many cultures and was probably practised even by Stone Age people. The **Kayapó Indians** of central Brazil, for example, believe that painting the body black protects the inside of the body and stops negative forces from entering.



5. INGROUP-OUTGROUP

Guinea, Africa

In Guinea (West Africa), girls from the **Loma tribe** leave their childhood behind them by withdrawing into a "bush school", where female knowledge is imparted to them. Adorned with podai paintings as a sign of their new personality, they return to their villages in a festive procession.



THE BEARSKIN CAP

A MUST FOR THE FASHIONABLE MAN



**REAL
BEARSKIN
CAP!**

Naturally tanned and made by hand!
Local raw materials. Biodegradable.

The fashionable accessory for the stylish man.



TRAVEL OBSERVATION

What would have remained of Ötzi's equipment if it had not been embedded in the glacier ice?

DETOUR

It all began with Ötzi

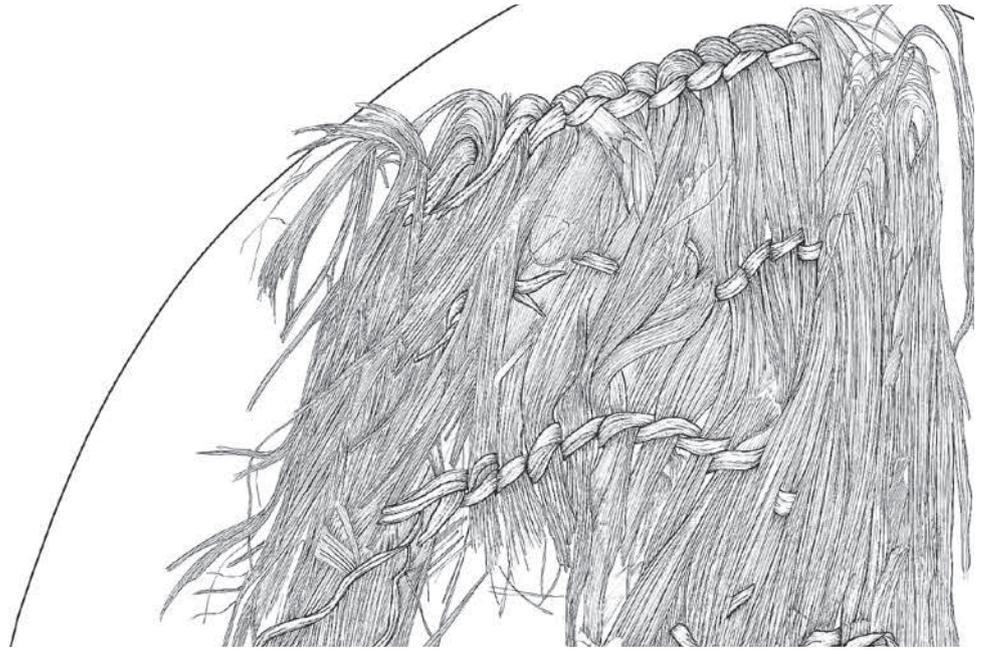
It all began with the discovery of Ötzi in 1991. Until then, scientists had believed that prehistoric people never visited sites higher than 2000 metres above sea level. Ötzi's discovery meant that researchers had to revise their thinking. Ongoing climate change and the rapid melting of glaciers called for urgent action. A new branch of science emerged: **glacier archaeology.**

THE GRASS MAT

BASIC EQUIPMENT FOR FANS OF THE GREAT OUTDOORS

Imagine you have to travel through the forest against a cold wind and lashing rain. You would be grateful to have a water-repellent cape made of grass or an insulating mat to sit or lie on.

Some of the finds are still a mystery for archaeologists, this grass mat being one of them.



DIY CHALLENGE

You're an expert in textiles and manufacturing techniques and have been asked to replicate the woven mat. How would you go about it?

1. Take a close look at the woven grass mat!



THE HIDE COAT

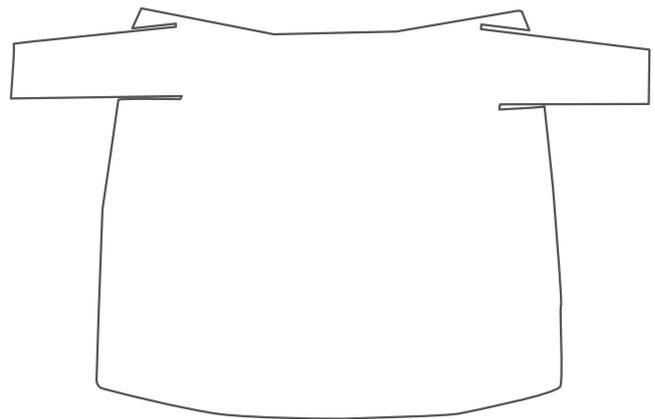
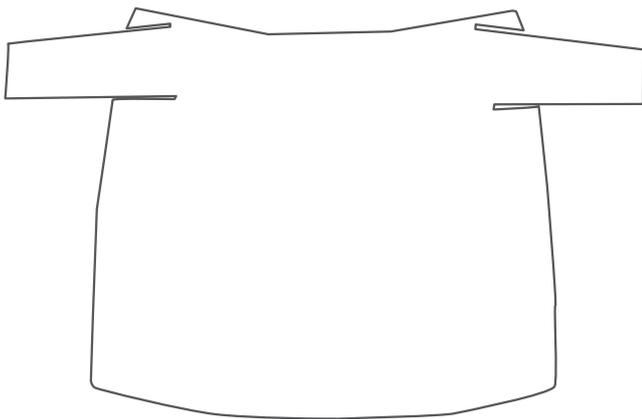
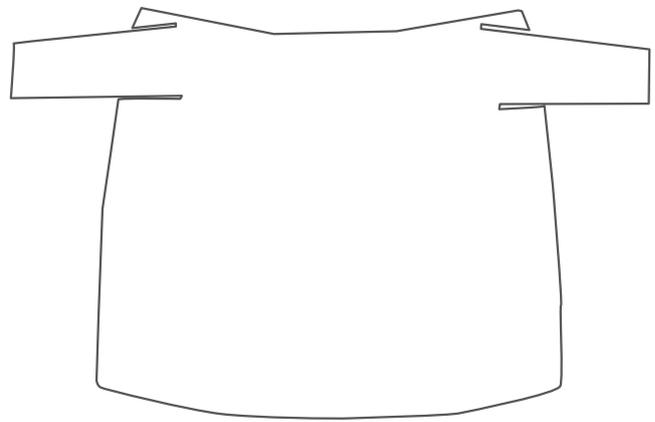
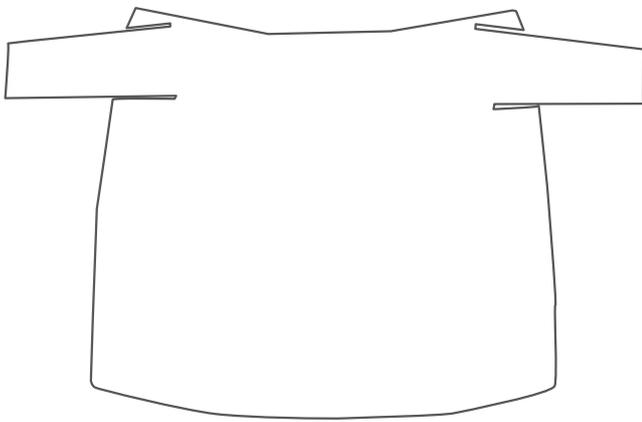
STRIPED LOOK FROM THE YEAR DOT

Ötzi's model still holds some secrets.

We don't know whether sleeves were attached or how the coat was fastened.

WHAT ARE YOUR DESIGN IDEAS?

Dotted, checked or floral: make your own pattern



ORIGINAL MEASUREMENTS
138 X 90 CM

THE LOIN CLOTH

TIMELESS FASHION

According to statistics, the average man in western Europe owns 20 pairs of underpants. Today, men's underwear can be purchased in every conceivable design. The classical briefs were invented in 1934.

Ötzi wound a kind of primitive underpants around his nether region.



100%
MICROFIBRES
INDUSTRIALLY MANUFACTURED
MADE IN BANGLADESH



COMPARISON OF UNDERWEAR

Fill in the label

DETOUR

In the 19th and 20th centuries, ethnologists visited native peoples in Africa, Australia and Asia and reported on their lifestyles. Archaeologists used their findings to better understand the objects they discovered and how they were used.

MATERIAL

MANUFACTURING METHOD

MADE IN





THE LEGGINGS

PATCHED AND RE-USED

You'll see that Ötzi wore his leggings for a long time.

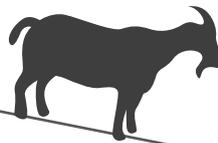
It was probably less expensive to mend his old leggings than to get new ones.



**Take a good look
at the leggings!**

TRAVEL OBSERVATION

DETOUR



A brief introduction to goats

The ancestor of our modern domestic goat was the bezoar goat, which originated in Anatolia. Neolithic people first had to find out which animals could be domesticated, meaning which animals would reproduce in captivity. For animal farming, people chose animals that are easy to look after and provide a good yield in terms of meat or other raw materials.

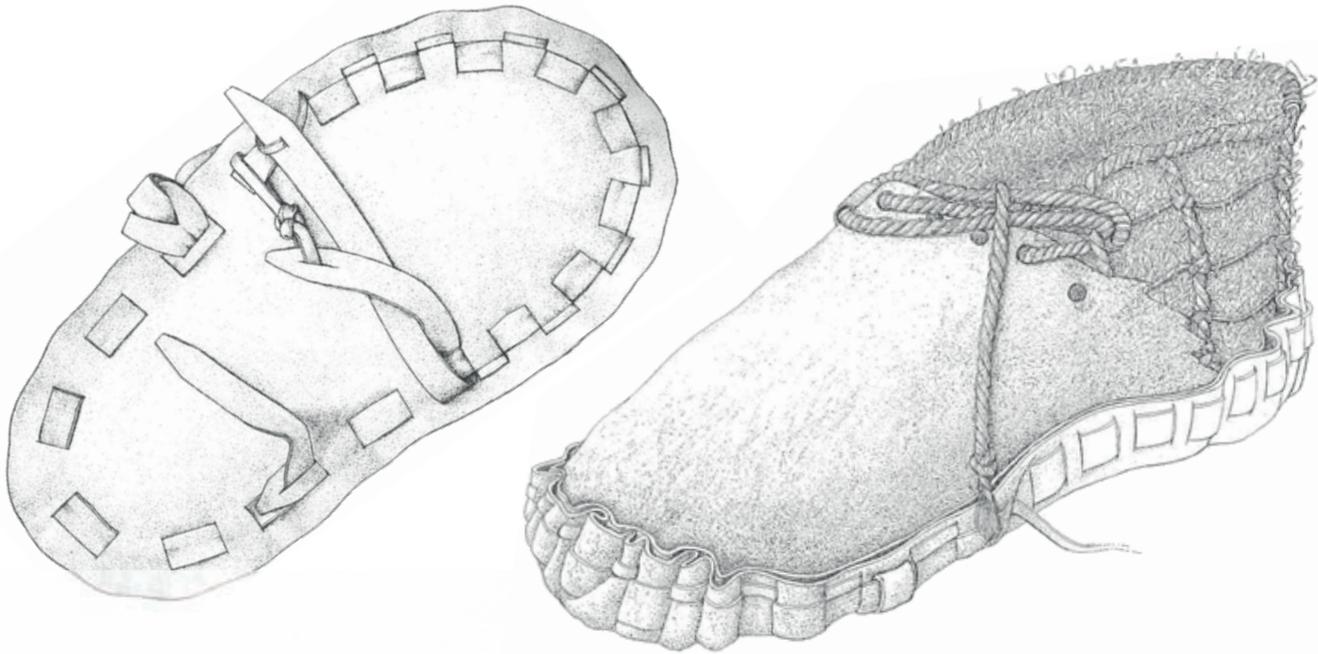


THE RIGHT SHOE

SOPHISTICATED HIGH TECH: MATERIALS

This shoe clearly shows that people were already highly skilled at making things around 5300 years ago. The clever design of the shoe became apparent during the restoration work.

This is how the right shoe may have looked:



MOUNTAIN SHOE TEST

You work as a product tester for an outdoors magazine.
Take notes for your test report based on the usual evaluation criteria:

Fit / comfort:

Laces:

Non-slip soles

Waterproof:

Weight:

Cushioning on hard ground:

Heel fit:

THE BOW

AN UNFINISHED PRODUCT OF OLYMPIC QUALITY

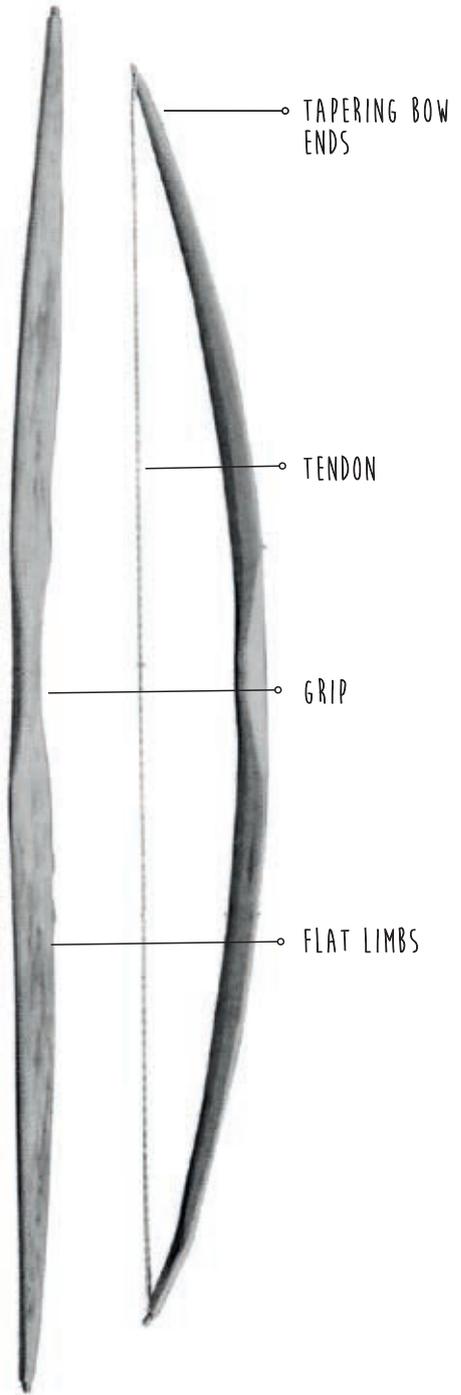
After carefully selecting a suitable piece of wood, Ötzi began to fashion a bow from a thin tree trunk or branch. The tool marks can still be clearly seen. After several hours of work, the bow was still unfinished.

TRAVEL OBSERVATIONS

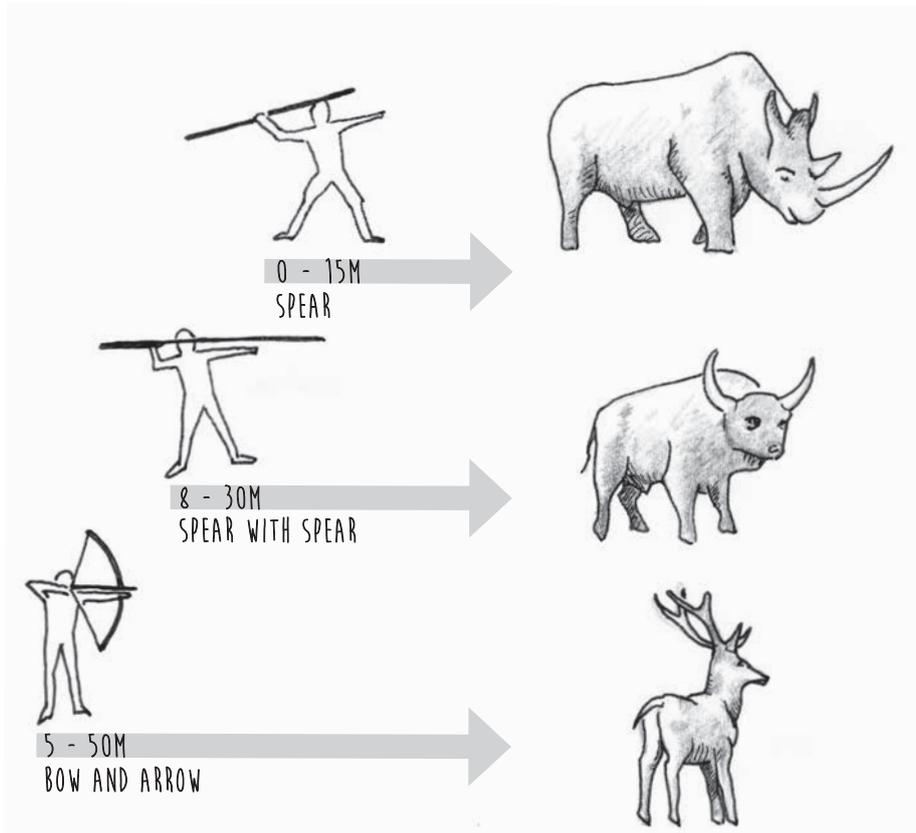
Comparison between the reconstructed bow and the original bow.

What work did Ötzi still have to do on the bow?

Reconstruction of a finished bow



An experimental archaeologist reconstructed and tested Ötzi's hunting weapon: Ötzi's bow certainly measures up to a modern sports bow!!



IMAGINE YOU ARE A HUNTER

What do you think is the advantage of hunting with a bow and arrow?

Unlike a spear and spear thrower, an arrow is not thrown but _____, so that it reaches a _____ acceleration and flies _____. This means that animals can be targeted with _____ accuracy and from a _____ distance. The bow and arrow is suitable for hunting both _____ and _____ animals. The bow and arrow has an important advantage for hunting in the forest: _____

DETOUR

When the climate in central Europe started to warm up 11,600 years ago, forests began to spread. Extensive steppe landscapes and large animals such as mammoths, bison and woolly rhinoceroses disappeared. They were replaced by new animal species such as deer, wild boars and beavers. These new environmental conditions radically changed people's hunting practices and methods. The most important innovation was the widespread use of the bow and arrow.



THE AXE

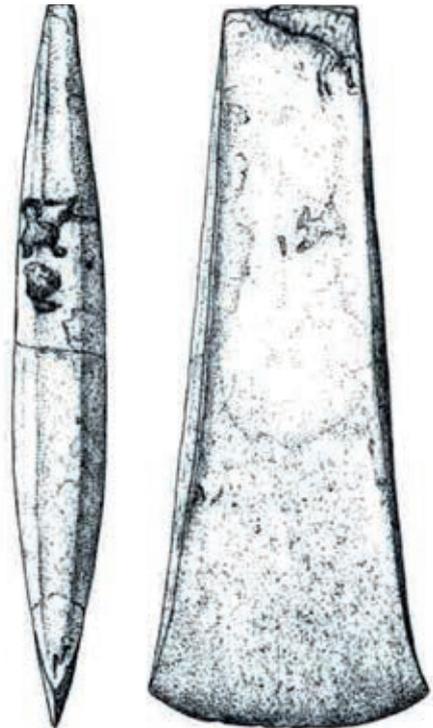
FOR SHOW-OFFS, NOT FOR THE MODEST ...

An axe with a copper blade makes a good impression – especially if the raw material, copper, is rare and comes from far away. Of course, few people were able to afford such a copper axe. Besides being a weapon and tool, it probably also served as a badge of social rank.

Drawing the objects (artefacts) they find helps archaeologists to interpret what they were used for.

TRAVEL OBSERVATIONS

What details can you see on the drawing that are not visible on the original?



DETOUR

Discovering ancient trade routes

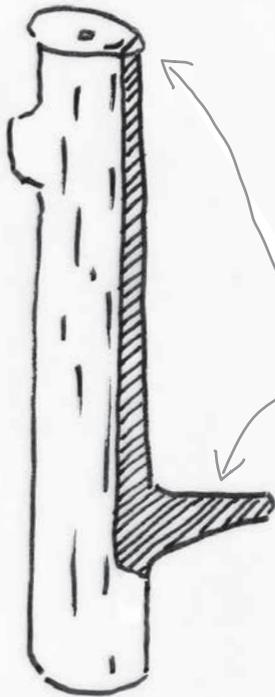
Contacts with central Italy

The identification of the origin of the ore used to make the axe head was surprising. Contrary to what had been assumed, the copper for the blade did not come from the Alpine region but from central Italy. The Archaeometallurgy Research Group headed by Professor Gilberto Artioli (University of Padua) determined that the metal ore was mined in southern Tuscany.

ACTUAL SIZE = 1:1

LENGTH: 9.5 CM

WEIGHT: 174.21 GR



TRUNK-AND-BRANCH SHAFTING

Ötzi carved the haft from a piece of trunk and the shafting for the blade from a branch which stuck out almost at right angles. The natural connection of trunk and branch gave the axe handle maximum durability.

HAFT

SHAFT

DETOUR

Ötzi was not alone

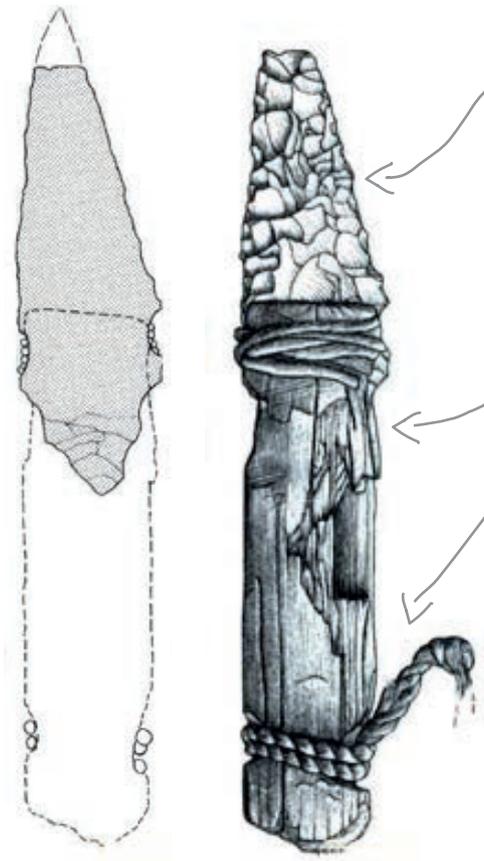
In 1998, an oak axe haft was discovered on Tisenjoch around 50 m from where the Iceman was found. This haft is several hundred years more recent than the Iceman and shows that Ötzi was not the only one to use the pass.



THE DAGGER

WHO INVENTED IT?

INSTRUCTIONS FOR MAKING A WORKING POCKET KNIFE



MAKE A SHARP BLADE FROM FLINT

Shaping flint is a fine skill: one false strike, and the blade will shatter into a thousand pieces. The entire process – from quarrying the flint to transporting it to the work site to shaping it – would then all be in vain.

CARVE A STURDY HAFT FROM ASH WOOD

MAKE A LENGTH OF STRONG TWINE BY TWISTING BAST FIBRE FROM A LIME TREE

Pull long strips of bast fibre from a lime tree and soften them in water for several weeks so that the fibres can be separated. After drying them, twist the fibres into a twine to attach the blade to the haft.

⇒⇒⇒ TIP:

You can make bast-fibre twine yourself in the Discovery Room.

DETOUR

Prehistoric steel

Humans have been using flint as a material for around two million years. Flint dominated all facets of everyday life from the Neolithic to the Bronze Age: hunting arrows, scrapers, sickles, axes, knives ...



HIGH ALPINE HIKE TO THE DISCOVERY SITE

A spectacular hike through the Ötz Valley Alps. The hike to the discovery site on Tisenjoch (3220 m) isn't easy, but in the end you will be richly rewarded with a spectacular view of the surrounding area.

Length of hike: about 8 km
Hiking time: about 4.5 hours steeply uphill
Ascent: around 1600 m
Recommended period: July – September

TRAVEL OBSERVATIONS

Ötzi's survival kit:

For making fire →

For punching holes →

For fine carving and cutting work →

Energy bar →

Precision tool →

First aid kit →

Backpack →

DETOUR

The border question

According to the 1919 Treaty of St.-Germain, the border between Austria and Italy follows the watershed between the Inn and Etsch valleys. However, in the Tisenjoch area, the watershed could not be precisely defined at the time of the treaty because it was covered by glacial ice.

A new land survey was ordered on 2 October 1991. The survey settled the matter once and for all: the discovery site is located 92.56 metres from the Austrian border on Italian soil.

... OBTAINING RAW MATERIALS

ÖTZI ON THE MOVE

The Iceman used copper and flint to make his weapons and tools. Both materials are hard and can be shaped.

In 2016 scientists determined the origin of the raw materials Ötzi used. The copper came from Tuscany and some of the flint from the Non Valley. The Schnall Valley is about one and a half hours from the Non Valley by car.

TRAVEL OBSERVATION

Of course, Ötzi had to cover the distance on foot. How long did it take him to obtain a stone?
To help you, here is a walking formula.

ÖTZI'S TRAVEL DETAILS:
 ⇒ ASCENT 4788 M
 ⇒ DESCENT 5484 M
 ⇔ 74.8 KM

Elevation Profile

There is a formula for calculating how long it takes to walk a certain distance. The following basic values apply:

In one hour you can climb 400 metres in elevation or descent 500 metres in elevation. In addition, you can cover a distance of 4 km in an hour. Calculate the time spent walking (= x).

$$A = \frac{\text{ASCENT IN METRES}}{400} + \frac{\text{DESCENT IN METRES}}{500} \quad A = \frac{\quad}{400} + \frac{\quad}{500} =$$

$$B = \frac{\text{KM}}{4} \quad B = \frac{\quad}{4} =$$

$$C = \frac{\text{SMALLER VALUE (A OR B)}}{2} \quad C = \frac{\quad}{2} =$$

$$X = C + \text{GREATER VALUE (A OR B)} \quad X =$$



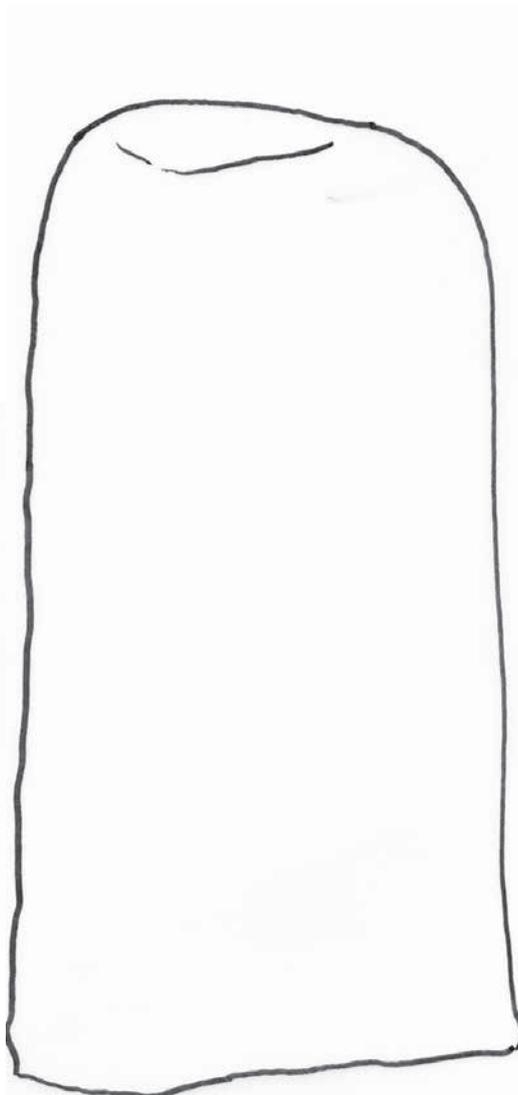
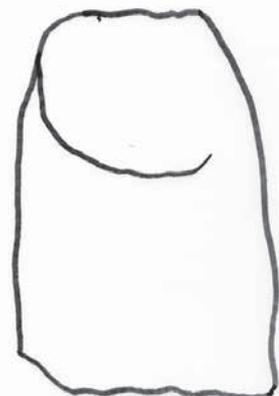
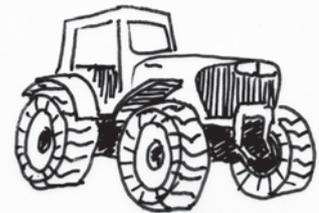
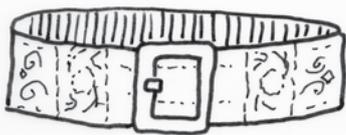
MENHIRS

STONE PEOPLE

Very little pictorial evidence from the time of the Iceman has survived – only rock drawings and figure menhirs. These are the most important witnesses to the religious world of the time and provide insights into the clothing and equipment of Copper Age men and women.

TRAVEL OBSERVATIONS

Find the following things on the menhirs and draw them in:





STAG HUNT IN THE COURSE OF TIME

Deer are among the most important game animals. They provided a wealth of raw materials and helped people to survive periods of food shortage due to crop failure.

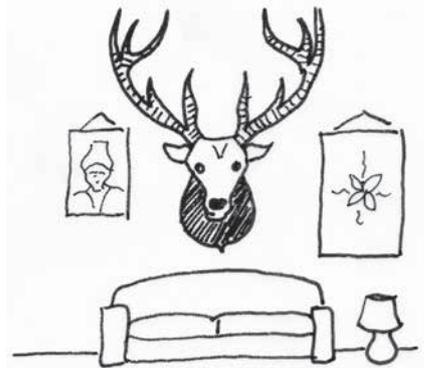
TODAY

My father died very young of rabies. I live in a nature park. I love wandering through the forests with other deers.



50 YEARS AGO

My grandfather was shot by a poacher. His hide was sold, and his antlers now hang as a trophy in the sitting room.



TRAVEL OBSERVATION



2200 YEARS AGO

My great (x 66) grandfather died near Bruneck. His antlers were sacrificed to Diana, the Roman goddess of the hunt.



5300 YEARS AGO

That is my great (x 112) grandfather He was killed by Ötzi, who ate the meat. He used the hide, the antlers and the tendons for specific purposes.

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

FOOD AND DRINK

ALPINE CULINARY DELIGHTS

How can we know what Ötzi and his contemporaries ate?

It is possible to study and reconstruct their diet with the help of various archaeological finds: objects such as hunting weapons and cooking utensils as well as the remains of game animals and wild and cultivated plants.

TRAVEL OBSERVATIONS

Get searching and note down the sources that provide information on people's diet during the Copper Age.

Meat suppliers (1st floor):

Domestic animals:

Wild game:

Plants (1st & 2nd floors):

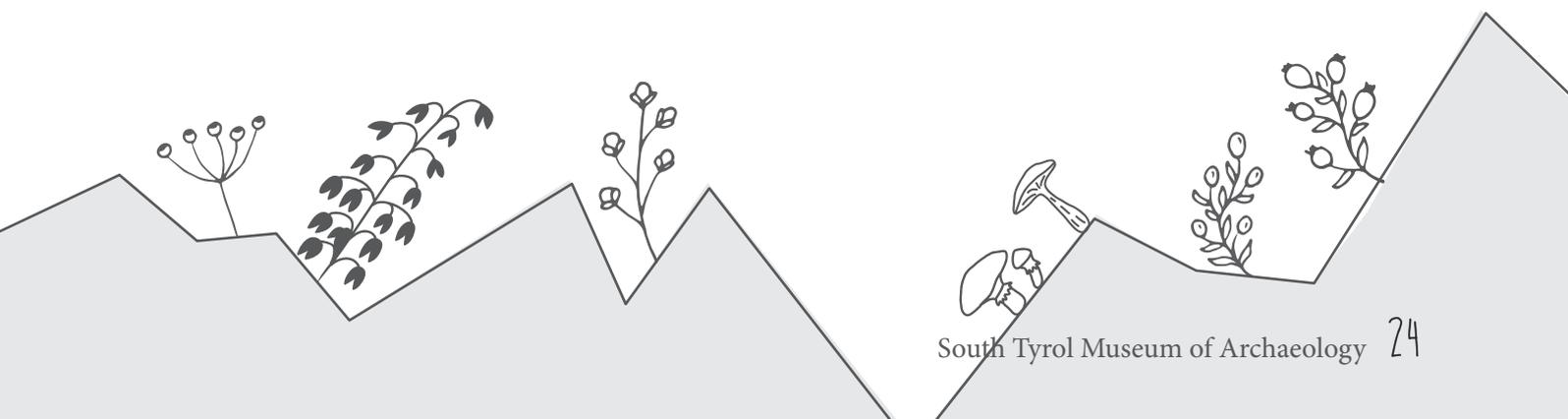
Cultivated plants:

Wild plants:

Implements for preparing food (2nd floor):

Ötzi's last meal (2nd floor):

Examination of Ötzi's stomach and intestine content provides information on the dietary customs of the time:



ÖTZI AS A PATIENT

Often you have to fill out a form before visiting a doctor to record your medical history.

MEDICAL HISTORY FORM

Please complete the form for Ötzi

Data

Name: _____ ÖTZI _____ Age: _____

Height: _____ Weight: _____

Blood group: _____

Bones / teeth:

Bone fractures: _____

Joint problems: _____

Dental problems: _____

Internal organs:

Digestive problems: _____

Intolerances / allergies: _____

Other symptoms:

Recent injuries? _____

Do you have any tattoos? _____

Do you smoke? _____

Infectious diseases? _____

Are you currently taking any medication? _____



ÖTZI AS A MURDER CASE

Ötzi was murdered. We know that from the arrowhead discovered in Ötzi's left shoulder. But what were the circumstances of the case?

INVESTIGATIONS

From a scientific point of view it is important to treat the case as a criminal investigation.

Collect concrete findings that can be used to reconstruct the circumstances of the case. Note especially the injuries to the body:

Note down the result of your investigations:

DETOUR

A settled lifestyle, farming and animal husbandry – the pillars of modern civilization – were created during the Neolithic. People therefore faced the same problems then as today: concentration of power and armed conflicts, population explosion and a shortage of resources.