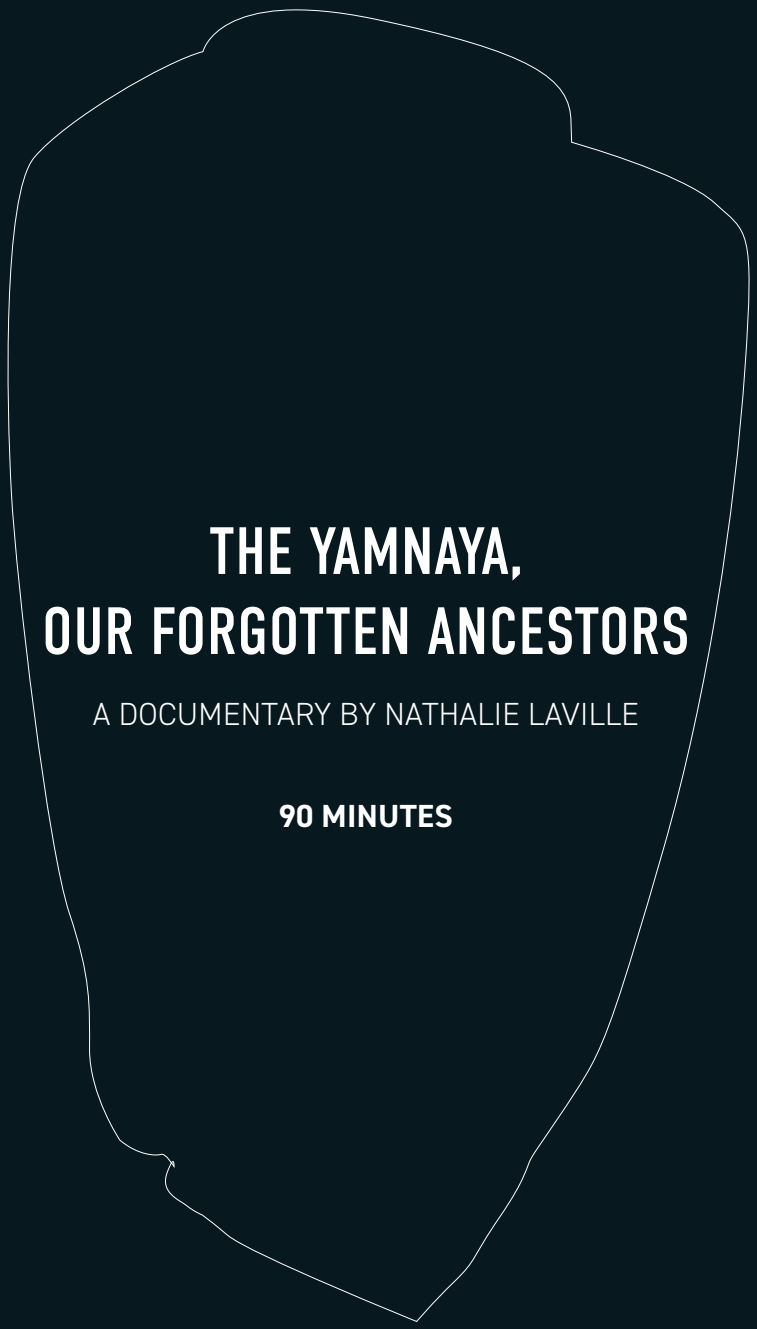
THE YAMNAYA

OUR FORGOTTEN ANCESTORS

O 2 B FILMS

A DOCUMENTARY BY NATHALIE LAVILLE

90 MINUTES



THE YAMNAYA, OUR FORGOTTEN ANCESTORS

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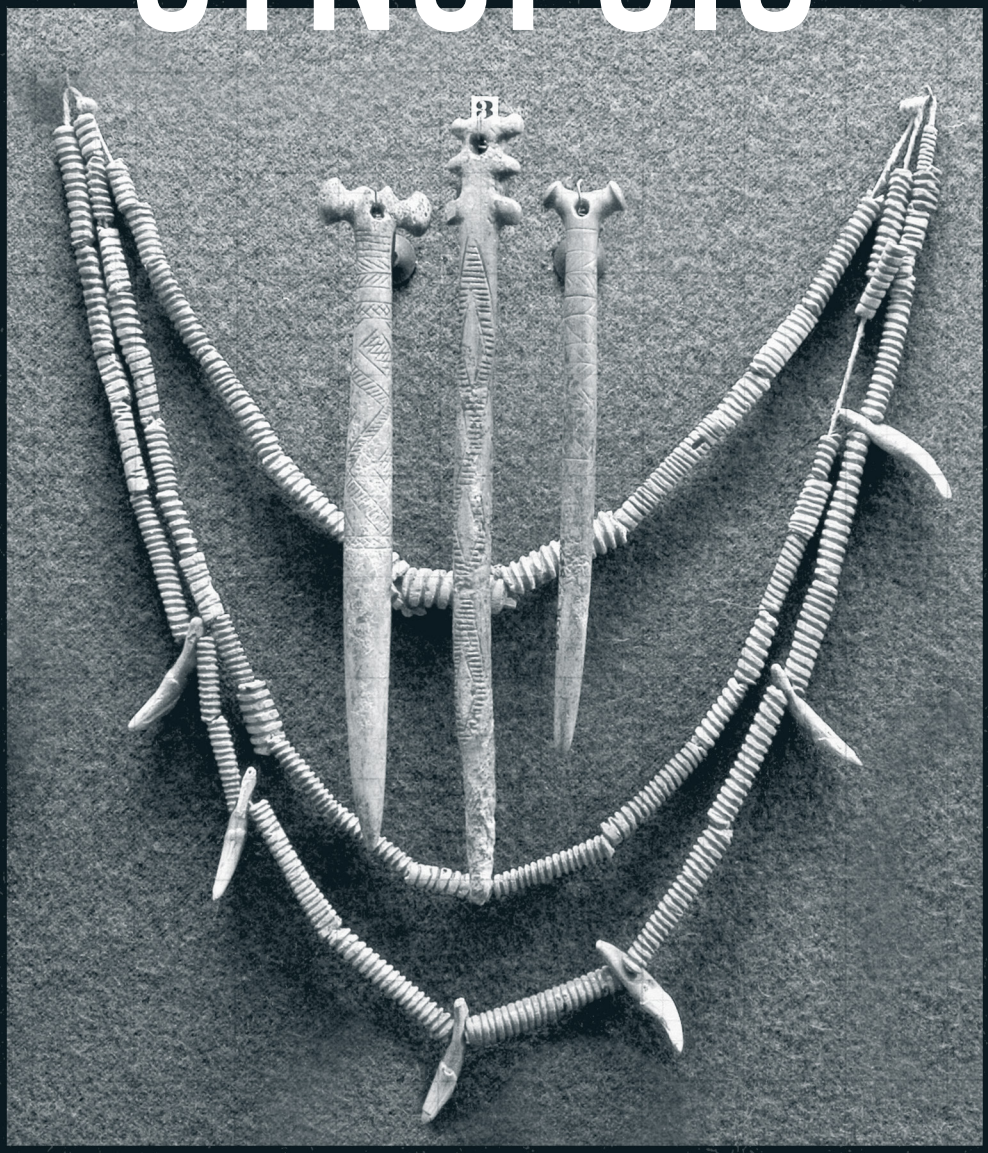
90 MINUTES

J M R Y

LOGLINE

Paleogenetics, currently undergoing a revolution, has just cast light on a major ancestor of Europeans: the Yamnaya. Five thousand years ago, this nomadic people from the Caucasian steppes swept across Europe, changing its genome and culture forever. Who were they? And how does their legacy still shape our bodies, languages and societies?

SYNOPSIS



It is one of the greatest upheavals in European history, yet it is not mentioned in any history book. In defence of historians, this event took place 'before history', 5,000 years ago, when writing had barely appeared in Mesopotamia. Europe was then populated by agricultural communities that did not yet know bronze; in England, the first stones of Stonehenge had just been erected. It was then that a group of nomads, the Yamnaya, left their steppes north of the Black Sea and headed west. There were only a few thousand of them, yet within twenty generations, their genome could be found throughout Europe, from the Baltic to the British Isles, with only the Atlantic Ocean to stop their advance.

Towards the end of the Neolithic era, in 2 200 BC, the proportion of their ancestry in the genome of European populations ranged from 40% in France to 90% in the United Kingdom. And even today, this phantom ancestor takes up a significant part of our genome, between 20 and 50% depending on the country.

The same groups are also believed to have conquered parts of Asia, in an equally rapid expansion: their genomic traces can be found throughout Central Asia and as far as Rajasthan in north-western India.

Who was this ghost people? Under what conditions did they migrate to Europe, and then to Asia? Given the rapid spread of their genes, researchers initially believed that they had been involved in an extremely violent conquest – or even a genocidal one. Recent discoveries, however, paint a much more nuanced picture.

To reconstruct such a distant event, which occurred at the dawn of civilisation, before writing even existed, scientists must combine a multitude of fields. We are exclusively following the results of the international and interdisciplinary research programme called **"The Yamnaya Impact on Prehistoric Europe"** (YMPACT), led by German archaeologist Volker Heyd. The researchers involved in this programme come from Finland, Britain, Hungary, Germany, and also Romania, Bulgaria and Serbia. They are archaeologists, anthropologists, palaeobotanists, geneticists, computer scientists and linguists: it is by combining their different fields that the history of the Yamnaya emerges. **One of these subjects in particular will hold our attention: archaeogenetics, whose advances revealed the Yamnaya ten years ago, and which represents a true scientific revolution in our understanding of the past.**

Why did the Yamnaya leave their steppe in the first place? Were they history's first horse riders? Was their arrival a violent invasion, or a gradual mixing of cultures? What role did the first plague pandemic play? Could they be the mysterious people at the origin of the Indo-European languages, whom archaeologists have been seeking for centuries? One thing is certain: the arrival of the Yamnaya was one of the greatest transformations in the history of our continent. A revolution told on television for the first time.

Statement of intent and implementation

NATHALIE LAVILLE

A SCIENTIFIC INVESTIGATION INTO THE TRACES OF EUROPEANS' FORGOTTEN ANCESTORS

This film tells the story of an encounter, an unexpected encounter, with an ancestor whose existence was unknown until just a decade ago. A surprising face-to-face meeting, made possible by science, or rather sciences. The history of the Yamanaya people is a complex puzzle, dating back more than 5,000 years, which can only be pieced together by combining the humanities, such as archaeology, anthropology and linguistics, with the hard sciences, such as mathematics, geology and, of course, genetics.

The ancestors of Europeans: the first hunter-gatherers who arrived from Africa (Cheddar Man, 8000 BCE), the farmers who came from Anatolia (5000 BCE), and now, the mysterious phantom people...

It is the discovery of a people but also the story of an exceptional historical event, one of the most extraordinary shifts in the history of our continent, which only the absence of writing prevented – until now! – from featuring in our collective memory. Whether the migration of the Yamnaya was an invasion or a mixing of cultures, whether they came on foot or on horseback, their arrival was an unimaginable disruption for Neolithic Europe, marked by the emergence of new cultures, the spread of new languages and undoubtedly new religions and ways of life... To appreciate the scale of this population movement, it is important to understand that in the 5,000 years of European history that followed, no wave of migration has changed the genetic heritage of Europeans so significantly.

All the data provided by science now enable us to paint a human portrait of the Yamnaya, which resonates particularly strongly with who we are – we French and Europeans – 5,000 years later: the product of a millennia of migration. As Professor of Genetic Anthropology Evelyne Heyer sums it up:

"It is something that distinguishes us from primates, a constant throughout human history since our departure from Africa: we want to see what's on the other side of the hill! And every time human populations meet, they mix."

Evelyne Heyer

THE STORY OF
AN UNTOLD PAGE OF HISTORY

The first time I heard about the Yamnaya, I was flabbergasted. Having specialised in archaeological documentaries for over 10 years, I am very familiar with the latest discoveries. Like all archaeology enthusiasts, I also closely follow the latest technical advances in ancient DNA extraction and analysis, because I know how paleogenetic data can corroborate or invalidate in record time hypotheses that archaeologists have sometimes spent decades developing. And yet I missed this discovery, which is making history in contemporary archaeology: the identification of our third ancestor, the missing link in our genome: the Yamnaya.

This discovery is recent (2015), and less than 10 years old, which is rather short when speaking in terms of research. But even so, since then, scientific articles on the subject have been appearing very regularly in the most prestigious publications such as *Nature* or *Science*. I am presently aware of at least three major articles currently being reviewed or still under embargo,

Reconstruction of a Yamnaya tomb

which deal with crucial elements in this scientific investigation. These studies will be the subject of important sequences in the film.

For that reason, this investigation will be recounted in the present tense, keeping an open mind and an eye out for the latest archaeological discoveries and scientific findings. Researchers' hypotheses will regularly be confirmed, challenged and put into perspective, just as their conclusions will be reviewed, contextualized and expanded upon. Of course, scientists might disagree and not always see eye to eye, but the film will be enriched by these debates, as they make this scientific adventure all the more enthralling. Viewers, then, are free to draw their own opinions.

Ultimately, this scientific investigation will be treated as an ongoing criminal investigation – criminal because archaeologists' initial hypotheses about the Yamnaya were rather grim: conquest, violence, even genocide. A story that, in reality, seems to be more nuanced than that...

A DIDACTIC APPROACH TO PALEOGENETICS: A DISCIPLINE THAT IS REVOLUTIONISING OUR ESTABLISHED KNOWLEDGE

The discovery of this third European ancestor was made possible by paleogenetics. All the archaeologists I interviewed were unanimous: in their field, the analysis of ancient DNA represents a revolution comparable to that of carbon-14 and Lidar! For the past ten years, it has been possible to trace an individual's ancestry, but also to learn about their diet, the region they grew up in, what pathogens they contracted... This is true gold mine for our knowledge of all historical periods, but it is even more valuable to tell the story of an era when writing had not yet been invented and archaeological traces are rare.

But how were scientists able to gather so much genetic information from mere fragments of DNA? A great deal of work will be done to popularise this subject, ensuring that the commentary and the interviews make these processes easily understandable to a wide audience.

FIELD RESEARCH AND EXPERIMENTAL ARCHAEOLOGY

Regardless of the scientific discipline, this film will primarily be a field investigation, closely following the work of scientists. We will follow archaeologists during excavations in Hungary, France and Germany, palaeoclimatologists collecting sediments from a lake in Bulgaria and caves in Romania, and paleogenetic, chemical and isotopic analyses in Europe's largest scientific laboratories. We will see how the results obtained by the different scientific fields overlap and correspond with each other.

We have the exceptional opportunity to follow a unique archaeological experiment. In the great Hungarian plain, where burial mounds dot the landscape, a Russian archaeologist and an American zooarchaeologist and anthropologist will reconstruct one of the Yamnaya people's inventions using techniques from that era: a four-wheeled chariot with solid wheels, and drive it across the Hungarian steppe. Were these chariots, originally built for the Pontic steppe (current-day Russia and Ukraine), well-adapted for the Hungarian steppe, which is a more wooded, hillier and slightly more rugged terrain? This is what the researchers hope to determine.

The Seven Rila Lakes in Bulgaria

THE UNPRECEDENTED FACIAL RECONSTRUCTION OF A YAMNAYA

One of the major challenges of this film is to show this new ancestor, to embody him. By combining the information provided by the numerous skeletons discovered in tombs in Ukraine, Russia, Hungary, etc., with recently established genetic data, we are now able to physically reconstruct, with the utmost scientific rigour, the face of a Yamnaya.

We will film the work of Hungarian sculptor Emese Gabor, a specialist in facial reconstruction of ancient humans, as she brings two Yamnaya individuals back to life. The man, named Taran, had his skeleton discovered by archaeologists under a pile of stones in the Hajdúböszörmény region of Hungary. The woman was buried in a kurgan in Bojt, Hungary. Archaeologists have nicknamed her “the young woman of Bojt”..

This facial reconstruction is also an opportunity to break down stereotypes. No, contrary to certain 19th-century theories about Indo-Europeans, this ancestor wasn’t blond and blue-eyed, but brown-haired, with dark skin and eyes. We do know now, however, that he was tall, very tall at that, robust and muscular.

THE VERY FIRST FICTIONAL DIALOGUE IN PROTO-INDO-EUROPEAN TONGUE, TO BRING THE YAMNAYA PEOPLE BACK TO LIFE

References in the film Attila and the Enigma of the Huns (2020, France Télévisions) and Amazons, Warrior Women of Antiquity (2023, France Télévisions)

To revive the Yamnaya people, this film will tell the story of one of its clans. The aim of these fictional scenes is to bring these men and women back to life with the greatest scientific rigour, both during their great migrations and in their everyday lives. Everything in the sets, props and clothing will be based on archaeologically proofed data.

Emese Gabor's facial reconstructions will serve as a guide for selecting actors who closely resemble them, in order to ensure visual continuity and a natural link between the different sequences – whether they relate to biological anthropology, facial reconstruction or re-enactments – and to anchor the fiction, integrated throughout the documentary, in the most accurate scientific data.

This Yamnaya clan will be led by a couple formed by the young woman of Bojt and her companion Taran, whose existence has been confirmed by archaeology and whose faces will be reconstructed in the documentary. This clan will represent different generations, from children to the elderly, allowing me to develop a true dramaturgy, from birth to death, including a budding love story. As the film progresses, the characters evolve, overcome obstacles, experience great joys but also tragedies, which allows viewers to grow fond of them.

But this fiction will also be spoken. Exclusively for this documentary, Dutch linguist Guus Kroonen, who also appears in two sequences of the film, will reconstruct some fifteen sentences in Proto-Indo-European, the Yamnaya language believed to be the origin of all Indo-European languages. This is a lengthy task, based on decades of research, the results of which will be revealed for the first time in this documentary. Guus Kroonen will also carry out important work on the pronunciation of these sentences, using several highly sophisticated AI software programmes.

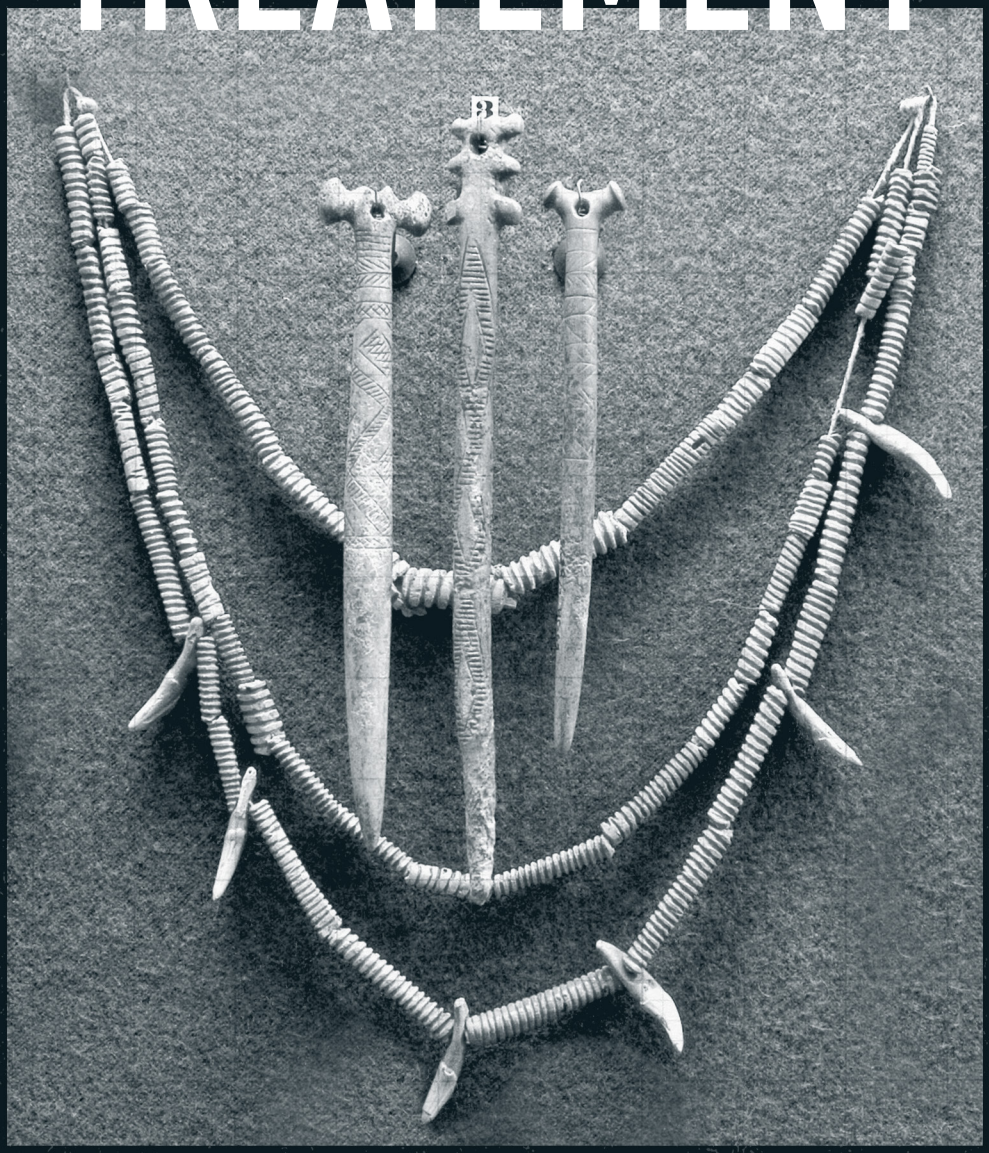
MOTION DESIGN, ESSENTIAL TO THE FILM'S UNDERSTANDING AND DRAMATURGY

A scientific revolution in progress, paleogenetics requires not only explanation, but also visualisation. Once ancient DNA has been extracted from teeth or bones, the process continues in the laboratory, where the data is processed by computers using complex mathematical models... For this particular scientific subject, as for isotopic analysis, artificial intelligence and linguistic analysis, among other examples, it is crucial to develop a strong and original visual approach. In this film, the form must be as captivating as the content!

This is why I will endeavour to present all scientific analysis in an educational, creative and dynamic way, using graphic animations whose visual identity will recur throughout the film.

Nathalie Laville

TREATEMENT



• A « THIRD ANCESTOR » REVEALED BY ADVANCES IN ARCHAEOGENETICS

In 2012, **David Reich**, a world-renowned geneticist, undertakes a colossal project at Harvard University: sequence the genome of 16,000 Neolithic individuals found all throughout Europe. After two years of analysis, he makes a stunning discovery: around 3,000 BC, a completely new genetic material appeared in Eastern Europe, then gradually stretched westward, from the Baltic to the British Isles. Never observed before in Europe, this new genome rapidly gains ground in all the regions it appears in, accounting for 50% of the population's genome in present-day Romania and Bulgaria and 70% in Hungary. In the West, it accounts for 40% of the population's genome in France and up to 90% in the United Kingdom. In the north, genes from this ghost people account for 70% of the population's genome in Denmark and 80% in Sweden. Only southern Europe seems less affected, with percentages ranging from 10 to 25%. Even today, this ghost ancestor occupies a very significant part of our genome, between 20 and 50% depending on the country.

Europeans have just found themselves a "third ancestor".

Up until then, Neolithic Europe was thought to be the result of two successive waves of settlement: hunter-gatherers from Africa and who arrived in Europe 40,000 years ago, followed several thousand years later by the first farmers from Anatolia. Subsequently, Europe experienced constant exchanges and multiple migrations, but none were as significant as these first two waves – or so it was thought, until David Reich's discovery.

But who is this new mysterious people? And how could they possibly change the demographics of Neolithic Europe so rapidly?

A geneticist analyses a Neolithic skeleton

• THE YAMNAYA, THE FIRST NOMADS IN HISTORY

Let's back up a bit. In 1901, during an excavation along the Donets River, near the current boarder between Ukraine and Russia, archaeologist Vasily Gorodtsov discovered strange Neolithic burial mounds, called kurgans. One peculiar fact: the skulls found inside were all covered in ochre paint. Since then, more than 600 kurgans have been discovered, from Russia to Serbia, dating from 3000 to 2600 BC, the beginning of the Bronze Age. Russian archaeologists named this culture "Yamnaya", which means "the people of the pits" in Russian. The most striking remnant of their culture is **the Kernosivsky stone stele**, which depicts a man with a pointed beard, armed with an axe.

During the 20th century, the Yamnaya people had caught the attention of archaeologists for two reasons: first, they were – and still are – considered to be the first nomadic shepherds in history, the first people to find a way to live in the steppe's hostile environment. Then, in the 1970s, archaeologist **Marija Gimbutas** claimed that they might surely be the mysterious Indo-Europeans. Since the discovery, in the 18th century, of the Indo-European language family, a large group ranging from English to Hindi, historians had assumed the existence of an Indo-European people who would have spread its language across a vast area throughout Eurasia. Although at the time, Gimbutas' "Yamnaya hypothesis" was rejected by her peers.

In David Reich's laboratory at Harvard, **Wolfgang Haak**'s laboratory at the Max Planck Institute in Germany, and **Eske Willerslev**'s laboratory at the University of Copenhagen in Denmark, the results, however, are clear: the genome of the individuals found in the kurgans perfectly matches with that which spread throughout Europe from around 3,000 BC.**The Yamnaya's are indeed the ghost people**, Europeans' third ancestor.

At the University of Helsinki, archaeologists from various fields have pooled their expertise to form the **YMPACT project**, dedicated to understanding the impact of the Yamnaya on Neolithic Europe.

But why did the Yamnaya leave their Caucasian steppes? Hungarian palaeoclimatologist **Enikő Magyari** explores a possible environmental explanation for the Yamnaya migration. By sampling sediments from a mountain lake in Bulgaria and pollens found in a cave, **Eniko Magyari** reconstructs the climate of the summer of 3100 BC. Her findings establish that at the time of migration, the steppes' climate was favourable to the Yamnaya nomads, which would have ensured them a certain prosperity, increasing their population and, consequently, the grazing needs of their herds.

The Kernosivsky stele (Dnipro Museum, Ukraine)

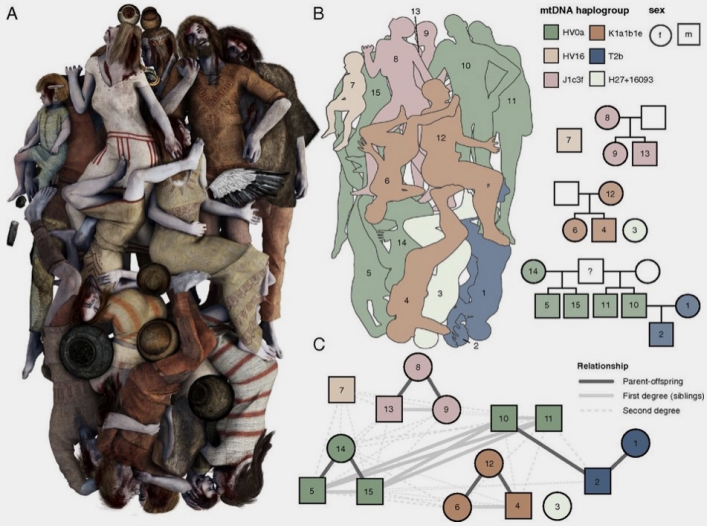
• PLAGUE, VIOLENCE, SOCIAL DOMINATION: HOW DID THE YAMNAYA SPREAD SO QUICKLY?

Around 3000 BC, the Yamnaya left their steppes, but how did their arrival in Europe unfold? Their presence transformed Europe's "haplogroup" landscape – DNA sequences used to categorise populations –, which changed radically after their arrival. Haplogroup G2a, which was very common among Neolithic farmers, disappeared almost entirely, while R1b, which was extremely rare before the Yamnaya arrived, became dominant. It remains the most common haplogroup in Western Europe today.

For some archaeologists, like **Kristian Kristiansen** from Denmark, the genomic change in Europeans is so massive and sudden that it seems to rule out the possibility of a peaceful interbreeding. Does this, then, imply that the Yamnaya were the "most murderous people in history" or even that they committed a Europe-scaled "genocide", as archaeology has previously suggested? The archaeological evidence is ambiguous. Only two Neolithic mass graves (Enlau in Germany and Kozsyce in Poland) suggest massacres in which the Yamnaya were victims or potential perpetrators. Paradoxically, for archaeologist **Jean-Paul Demoule**, these two mass graves are proof that there was very little violence: a massacre on the scale of that which the Yamnaya are accused of would have left far more traces of itself.

There are therefore alternative explanations for mass violence. Among them: a plague pandemic. The existence of *Yersinia Pestis* as soon as the Neolithic times is another revolutionary discovery made by archaeogenetics, as explained by Danish paleogenetics **Martin Sikora** of the University of Copenhagen. By analysing the remains of pathogens contained in teeth, the researcher discovered that a plague pandemic had ravaged Europe before the start of the Yamnaya expansion. At the same period, archaeologists note that the whole of Western Europe experienced a significant population decline, known as the "Neolithic decline". The Yamnaya therefore arrived on a weakened continent, potentially decimated by the plague. It is also possible that the steppe nomads were more resistant to the virus than the farmers: we know that they themselves had experienced sudden and still unexplained population declines in the past, perhaps caused by a previous pandemic that had immunised them.

But ever since David Reich's discovery, ten years of archaeogenetics have refined our knowledge of the Yamnaya genome, and revealed disturbing new information: the



Reconstruction of the mass grave in Kozsyce, Poland

Yamnaya interbred with local populations in a highly unbalanced manner. Yamnaya men reproduced extensively with local women, to the detriment of local men, whose genes virtually disappear. Combined with the abnormally rapid spread of their genes, this imbalance first seems to paint a rather bleak – and potentially very violent – picture to certain archaeologists. It is difficult to imagine that European men willingly gave up all idea of reproduction.

Yet, for German archaeologist **Volker Heyd**, who heads the European research project YMPACT, the most likely explanation is not that of a violent invasion by armed bands of several thousand men. According to him, social domination could suffice in explaining these changes – without any massacre. Anthropology teaches us that in patrilinear societies, men with high social status have more children than others, in proportions that, according to his team's models, would be sufficient to explain the over-representation of Yamnaya genes. This explanation assumes that, even without resorting to violence, the Yamnaya socially dominated sedentary societies... But how would one explain such a domination? Scientists discovered that the Yamnaya had certain physical advantages!

Nomadic horseback breeders of Kyrgyzstan

• BIGGER, STRONGER...AND PERHAPS HORSEMEN?

For American anthropologist **Martin Trautmann**, the study of skeletons found in the kurgans is conclusive: to European farmers, the Yamnaya must have seemed like giants. They were, on average, 10 to 15 centimetres taller and had highly developed musculature – made possible by a protein-rich diet and maintained by specific physical training. There is little doubt that in the event of a violent confrontation, the Yamnaya would have had a decisive physical advantage. But here is another paradox: Yamnaya skeletons show so few signs of injury (almost none in those studied by **Martin Trautmann**), that one might think they were a very peaceful people! Or, the anthropologist theorises, their appearance may have been so intimidating that it allowed them to impose their social dominance without any violence...

The Yamnaya people's physique can be partly explained by an unexpected factor: their lactose tolerance. This genetic trait is thought to have been selected for survival in the hostile environment of the steppe. Combined with regular consumption of meat from farm animals, it would have facilitated the Yamnaya people's expansion into Europe, ensuring them a regular supply of protein. This lactose tolerance remains one of the most obvious genetic legacies of Yamnaya ancestry in modern Europeans. While it is usually rare among current human populations (two out of three humans cannot digest milk), it is quite common in Europe and, much like Yamnaya genes, increasingly widespread as one moves towards the north of Europe.

How can the swift expansion of Yamnaya throughout Eurasia be explained? Were the Yamnaya, like all the steppe people that followed, horsemen? This remains a bone of contention among archaeologists: in 3000 BC, the horse had not yet been domesticated. Such a discovery would make the Yamnaya the first horsemen in history.

IA-generated image

In support of this hypothesis, **Martin Trautmann** argues that some skeletons found in the kurgans show several deformities typical of horse riding: characteristic marks on the femurs, highly developed adductors, and a scoliosis. Numerous horse bones were also found in kurgans, as well as depictions of horses on the famous Kernosivsky stele.
"Impossible," reacts French molecular archaeologist and paleogeneticist **Ludovic Orlando**. He notes that, unlike humans, European horses did not undergo any genetic transformation at the beginning of the Yamnaya expansion. If thousands of them had arrived in Europe on horseback, how can there be no traces of steppe horses in Europe?

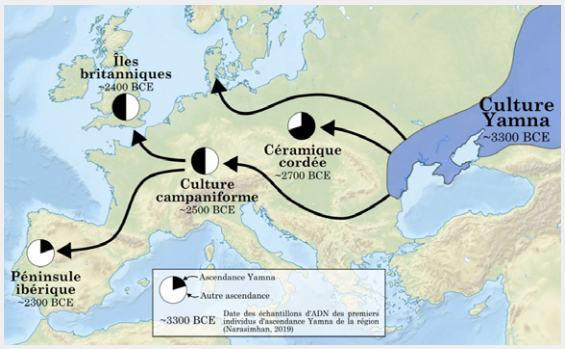
English zooarchaeologist **Alan Outram** is decided to have the final say. Isotopic analysis of horse teeth found in Yamnaya graves could enable scientists to determine whether these horses travelled long distances alongside the Yamnaya. With this study, **Alan Outram** thinks he can confirm the hypothesis that our third ancestor did domesticate and ride horses from the very beginning of their expansion...

For German archaeologist **Volker Heyd**, this wouldn't necessarily mean that the Yamnaya people migrated on horseback. They probably rode horses in the manner of American cowboys, to guard and guide their herds. He rather believes that another factor played a decisive role in the success of their expansion: the invention of four-wheeled chariots, the oldest vehicles, which appeared long before spoked wheels. They would have allowed herding families to be as mobile as their herds. In these chariots, they could carry with them the resources of the river valley: wood for heating and cooking, water, food, tents, everything they might not find in the steppe. They were, in a way, mobile homes, much like the American pioneers of the Old West, that crossed a continent from east to west in covered caravans..

Analysis of food remains found in teeth is a valuable tool for archaeologists

• AN EXPANSION SPANNING THROUGH SEVERAL GENERATIONS, AND ACROSS EUROPE...

The Yamnaya expansion across Europe is a complex phenomenon that stretches through several centuries and covers a vast geographic area from Central Europe to the Iberian Peninsula and the British Isles. Their arrival not only transformed the genome of Europeans, but also their societies, giving rise to new mixed cultures.



Yamnaya migratory phases and their descendants

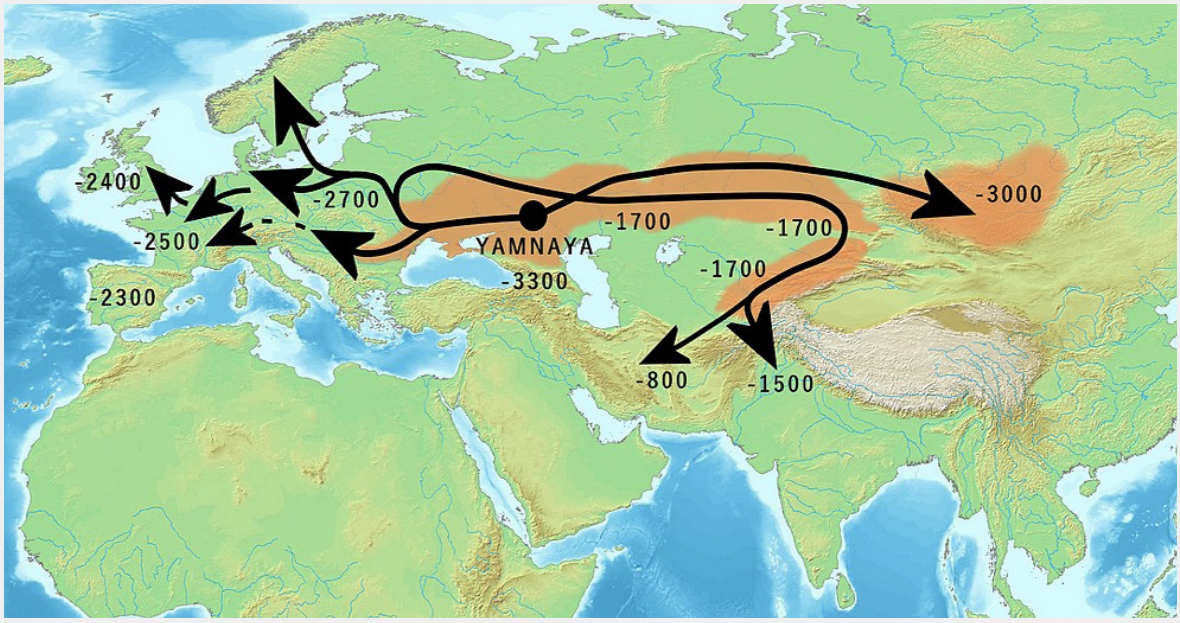
One of the cultures that emerged from the Yamnaya migration is that of "Corded Ware": it can be found across a large area of Central and Northern Europe. Genetically, the populations of the Corded Ware culture are 75% Yamnaya in ancestry. Culturally, they are sometimes sedentary, sometimes nomadic. But like the Yamnaya, and unlike previous populations, they start to bury their dead in individual graves built in tumuli, reminiscent of the kurgans of the steppe.

This cultural and genetic mixing continued throughout Europe. In Great-Britain, for example, a new culture known as the "Bell Beaker" culture emerged around 24000 BC, with a particularly strong Yamnaya genetic imprint. The Bell Beaker burials found near Stonehenge show that, a few generations after their arrival, Yamnaya genes were present in 90% of the genome of the region's inhabitants. Yet in other European regions, such as the Swiss Alpes or Sardinia, this Yamnaya influence is less pronounced, probably due to the geographical isolation of mountain and island populations.

In France, collective grave such as those at Bréviandes-les-Pointes, near Troyes, and Staint-Martin-la-Garenne, in the Yvelines, provide a glimpse of Europe around the end of the Yamnaya migrations: genetic intermingling (the individuals descend from both the Yamnaya and the Neolithic farmers) and cultural mixing. These individuals were sedentary farmers, but their culture still bore the influence of the nomads who had come from the steppes several centuries earlier.

The culture known as «Bell Beaker» due to its bell-shaped pottery, expanded throughout Europe

• ... AND ACROSS ASIA



Map of the different migratory phases of the people for the steppes to the West then to the East

A similar intermingling phenomenon occurred when the descendants of the Yamnaya migrated eastwards: in 2100 BC, groups of "Corded Ware" people travelled back to Asia, as far as India, giving rise to new cultures such as the Andronovo and Sintachta cultures – the first two-wheeled chariot drivers in history. Their expansion bears striking resemblances to the arrival of the people of the steppes in Europe. In the state of Rajasthan, the Yamnaya genome still accounts for 20 to 30% of the genetic heritage of individuals today. Here again, this change is skewed in favour of the Y chromosome (male), and there are, again, indications of a form of social domination by the new comers. In the current populations of Rajasthan, there is even a correlation between the proportion of Yamnaya ancestry and membership to social castes considered superior, particularly that of the Brahmins.

• EPILOGUE: ARE THE YAMNAYA THE INDO-EUROPEAN PEOPLE?

Three billion people today speak so-called "Indo-European" languages, a vast family of 400 languages including Romance, Germanic and Slavic languages, as well as Indo-Iranian languages such as Pashto, Farsi and Hindi. As Dutch linguist Guus Kroonen explains, since the striking resemblance between these various languages (noticeable in many words) was discovered in the 18th century, historians already assumed the existence of an Indo-European people who would have had a decisive influence on almost all of Europe and a large part of Asia.

Could the Yamnaya be this Indo-European people, as archaeologist Marija Gimbutas supposed? Their unprecedented mobility and genetic omnipresence in Europe make them the most likely candidates today. This hypothesis also corresponds to what we know about Indo-Europeans based on their common vocabulary: is seems they used wheeled transport, practiced dairy farming and perhaps rode horses...

If Yamnaya really are this Indo-European people, it opens another new fascinating possibility: to learn more on their beliefs and religions. Indo-European vocabulary already allows us to reconstruct some religious ideas and even fragments of poetry! Linguists have, for example, discovered an Indo-European expression: "the everlasting fame" of the warrior hero: this is expressed in a very similar way in ancient Greek in Homer's *Iliad* and in Sanskrit in the *Mahabharata*, the great Indian epic poem.

After their faces, their way of life, and their arrival on our continent, we might soon be able to reconstruct the last piece of the Yamnaya puzzle: their myths and beliefs. The stories they told around fires, that followed them along their long migrations, and whose echoes still linger today in so many of our cultures.

Director's cv

NATHALIE
LAVILLE

The Mystery of the Desert Kites
90' / Science Large Format / France 5 / 2025
International broadcasts: PBS Nova, BBC, ZDF Info, SBS...
Festival prize: Mention spéciale du Jury au RAN (Rencontres d'Archéologiques de la Narbonnaise)
Festival selection: FIFAN (Festival International du Film d'Archéologie de Nyon), FICAB (Festival du film archéologique de Bidasoa)..

The secrets of the Men of Lascaux
2x45' / Canal+ / 2024
Co-directed with Jacques Plaisant
International broadcasts: TV5 Québec, TVE Espagne
Festival selection: 2024 Arkhaios Film Festival

Petra Expedition, in the footsteps of the Nabataeans
90' / Science Large Format / France 5 / 2022
Audience Award and Jury Award of the City of Realmonte at the RAM Film Festival
Selection at the FICAB of Bidasoa
Selection at the Amiens Archaeology Film Festival
Selection at the LUMEXPLORE Festival
Co-directed with Agnès Molia

Who Wrote the Bible? The Mystery Revealed
70' / RMC Discovery / 2021
Best Film Award and Honors (Cinematography, Public Education Value, Narration, Script) at the TAC Festival in Oregon
Selection Bordeaux International Archaeology Film Festival ICRONOS
Florence Archeofilm Selection
RDCA Selection Licodia Eubea Festival

Roots and Wings
52' / France 3
On the Island of the City (2021)
Burgundy, land of History (2021)
The Belle Époque as a legacy (2019)
Route Napoléon: passing through royalist Provence (2018)
Treasures of Bavaria (2018)
Paris in the green (2015)

RITUALS OF THE WORLD
26', documentary series / Arte / 2018

Burma: Communicating with the Nats

ARCHAEOLOGICAL INVESTIGATIONS
26', documentary series / Arte / 2017-2018

The first shamans of South Africa
Selection 15th Amiens Archaeology Film Festival

The sacred geography of the Incas
TAC Oregon Festival Prize, inspiration mention
FICAB of Bidasoa, special mention
Nyon International Archaeological Film Festival, special mention
Centuripe Archeofilm Selection
Selection Saint-Dizier International Archaeological Film Festival
Summer Selection Archeofestival of Grosseto
Selection Aquileia Film Festival
Lumexplore Scientific and Environmental Exploration Film Festival Selection

Teotihuacan: Birth of a Metropolis
Selection at the Saint-Dizier International Archaeological Film Festival

Mayans: Astronomy in the Service of Power

Ethiopia: The Legend of Lalibela

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3 episodes on the Frankish era:
The warrior; The family; The peasant

2 episodes on the Roman era:
The city dweller; The winegrower

3 episodes on the Middle Ages:
The Lord; The Builder; The Inventor

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