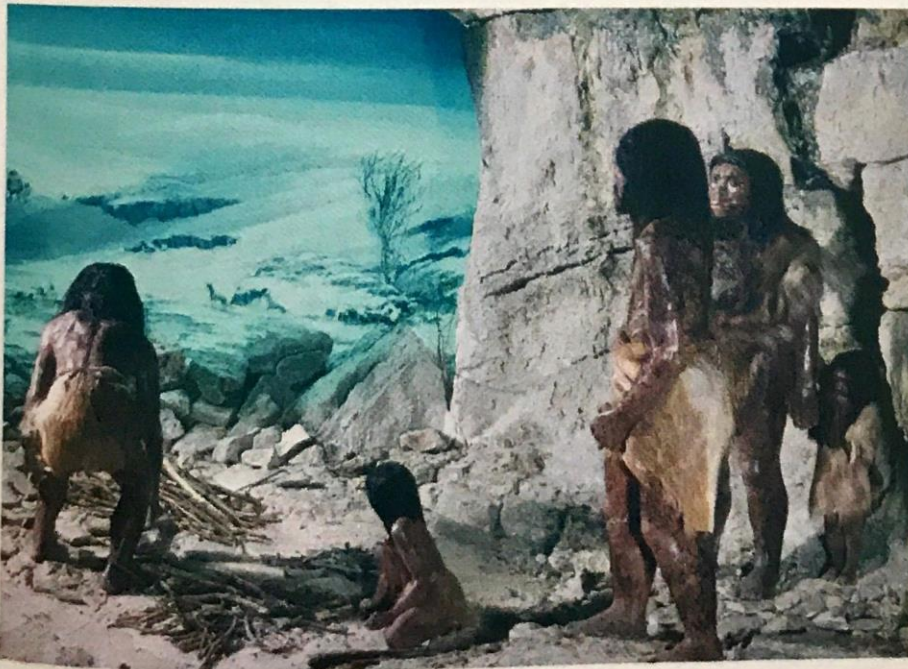


WILL THE REAL NEANDERTAL PLEASE STAND UP?

NEANDERTAL—BEAUTY OR THE BEAST?

The rumble started from far away and grew—and grew. Like an ocean wave swelling with power, the rumble swelled with noise. The ground shook. Perhaps the scientists looked at one another wide-eyed, frozen for a split second before they broke loose from their shock, dropped their digging tools and scrambled for the walls of the cave. They would have pressed themselves against the rock, flattening into the wall, wishing they could sink into it, because in front of them it looked as if it were raining boulders. The ceiling of the cave broke up. Chunks of stone crashed down, cracked open, and bounced. The boulders rolled, slowing but not stopping, vibrating with the floor of the cave and the other fallen rocks. And then the rumble seemed to fade,



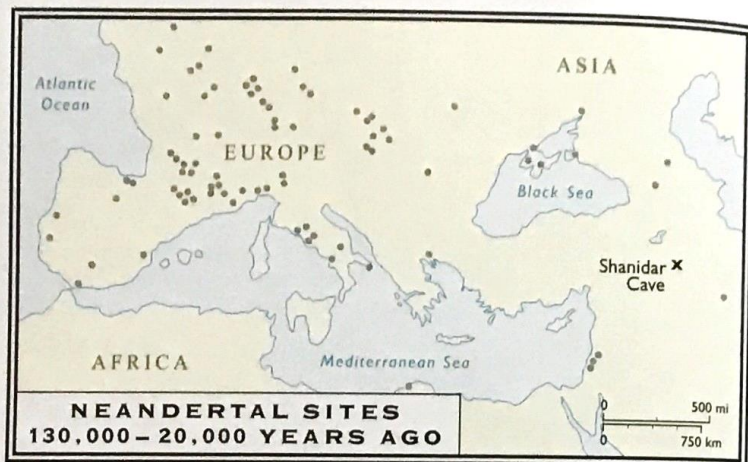
66 HOMINID SKULL
AND BURIALS IN IRAQ

THAT'S TAL FOLKS...

You will on occasion see *Neandertal* spelled *Neanderthal*. The first bones of the Neandertal were found in Neander Valley, Germany. Back then, the German word for “valley” was *thal*. German has no “th” sound like in the word *thought*. In a language update around 1900, the Germans replaced all th’s with t’s. *Thal* is now *tal*. *Neanderthal* is now *Neandertal*. But no matter how you spell it, the last syllable is pronounced “tal.”

This “model” Neandertal family lives in a cozy cave with a strategic view of the valley stretching out their front door. The lofty location gives them advance warning if uninvited guests try to approach.

Neandertal remains have been found only at sites in Europe and western Asia. The coastline is a little different from what you can see on a modern map because sea levels were lower during the ice ages, so more land was exposed during Neandertal times.



as if the wave had blown past them, moving farther down the valley. The scientists probably realized then that it wasn't the floor of the cave shaking now. It was their knees.

It was only then that they would have understood that it had been an earthquake. An earthquake! They were lucky. No one at the excavation was hurt. The ancients who lived here about 50,000 years ago had not been so lucky. Rockfalls killed at least four Neandertals in *this* cave, Shanidar Cave, in the mountains of northern Iraq. The scientist who led Shanidar's excavation, Ralph Solecki, wrote in his book

Shanidar about one of the Neandertals he uncovered: "It was obvious to even the most casual of viewers that this was the head of a person who had suffered a sudden and violent end. The bashed-in head, the displaced lower jaw, and the unnatural twist of the neck were mute evidence of a horrible death." Solecki's own experience with the

earthquake gave him a strong sense of how this Neandertal spent his last moments.

But there were other Neandertals buried here. One in particular puzzled scientists. Soil samples taken from around



Restored *Homo neanderthalensis* skull, Shanidar, Iraq, 50,000 years ago, and the site where it was found

his skeleton revealed an unexpected picture. This man, known as Shanidar IV, had been laid on a bed of horsetail branches in early summer more than 50,000 years ago. In his burial pit scientists found evidence of flowers—pollen from hyacinth, daisies, hollyhocks, St. Barnaby's thistle, bachelor's buttons, and yarrow. Here's where things start to get sketchy. How do we interpret this burial? Was the Neandertal a flower child? Or was he a beast?

It's been said that if you gave a Neandertal a shave, stuck him in a suit and tie, and put him on the subway, no one would notice. The scientists who say that must be the kind of people who sleep on the subway or have their nose stuck in a newspaper, because you'd move to another seat if a Neandertal plunked down next to you. First there's his face. The Neandertal's face looked as if someone grabbed onto his nose and pulled the whole middle of his face out. The cheeks angled back to the ears. They weren't straight across like ours. Where we have a chin, the Neandertal's face sloped in. And those teeth were huge—much bigger than ours. The front teeth were worn down to stained stubs, probably from chewing on animal hides. Just above the eyes, shelflike bony browridges stuck out. He probably looked angry even when he wasn't. Then there's his body. Neandertals were sturdy—really sturdy. These stubby, barrel-chested, muscular hominids had thick bones built for abuse. If *that* sat next to you on the subway, you'd notice!

But as the saying goes, you can't judge a book by its cover. The Neandertal had a gentle side. In Shanidar Cave,



Flower burial, Shanidar, Iraq, 50,000 years ago

WEIRD INTERPRETATIONS

In 1856 scientific thinking assumed humans came in one variety—us. So when a Neandertal skeleton was found in Germany, scientists came up with some peculiar explanations for this beetle-browed thug:

"It's a cave bear."

"It's the village idiot."

"It's a man suffering from rickets."

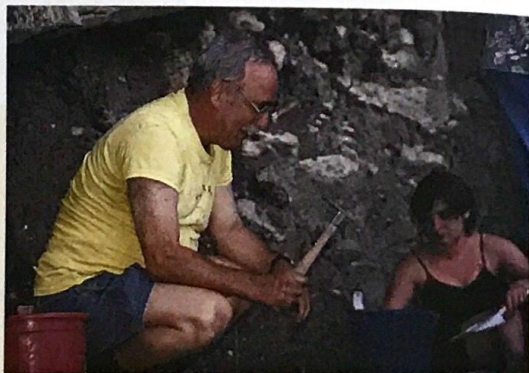
"It's a diseased cavalryman who suffered so much his frown bones grew large."

"It's a Mongolian soldier who deserted the Russian Army in 1814 while chasing Napoleon."

And the number one ridiculous explanation for the Neandertal's flat skull: "He clubbed himself over and over on the forehead."

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**ARCHAEOLOGIST AT WORK:
AN INTERVIEW WITH
OFER BAR-YOSEF**



Ofer Bar-Yosef's love of archaeology began when he was a boy growing up in Jerusalem. He was only 11 years old when he rounded up a group of friends and excavated an area in the neighborhood. These days Bar-Yosef has no trouble rounding up friends and colleagues to dig wherever a puzzling problem—such as the demise of the Neandertals or the origins of agriculture in east and west Asia—sends him. When he's not digging, he's in his office at the Peabody Museum in Cambridge, Massachusetts, or in the classroom at Harvard University, where he is a professor of anthropology.

We understand you like to sample clam chowder wherever you go. Boston is known for its clam chowder; is that why you chose Harvard?

No, I came to Harvard because the university offered me some wonderful possibilities to do fieldwork in China, Republic of Georgia, Turkey, and other places. But I also like the food, and clam chowder is one of my most favorite soups.

You have worked many different kinds of sites. What can you tell us about the differences between excavating an open-air site and a cave site? And do you have a preference?

I have no preference because I choose the sites according to the problem which interests me. In both kinds of sites, you have to make decisions where to dig, how deep to go and so on, but especially with whom to work. It's nice to have colleagues who specialize in animal bones, geology, and other subjects to share the field experience.

Can you give us an example of a problem that interested you and the site you chose because of it?

After digging for 20 years in three caves in Israel and finding that Neandertals disappeared some 45,000 years ago from this region, I went to the Caucasus Mountains, where the rugged area would have been a good place for refugees, and got involved in two excavations. One is a rock shelter and the other one is a cave. Although we did not find the human fossils, I was able with my students and co-workers to demonstrate that Neandertals survived there until 35,000 years ago. This helps us to date the advance of modern humans, who came out of Africa, into Europe and western Asia.

One of your projects, Netiv Hagdud in the Jordan Valley, just north of Jericho, is called a pre-pottery village. What did they cook in if they didn't have pots?

They had milling stones and ground the seeds of wheat or barley and probably baked

them to make some pita bread. They also parched or toasted some other plants with small seeds. They roasted their meat from the hunted gazelle over fires, and used water bags to carry water and drink. But in similar bags they could have made some other drinks, such as a quasi-beer.

You worked on the Neandertal site Kebara in Israel. Some scholars think Neandertals were brutish and others think they were compassionate. From the evidence at Kebara, what are your thoughts?

I think they were probably both hard-living people but also compassionate. I cannot understand why they buried a dead man in the cave if they did not have some feelings about him. And we also know that hyenas visited the cave when the Neandertals went away for some time (perhaps two to three years). So they really dug a narrow pit and placed the corpse of this dead man and covered it well. When they left bodies of others such as young kids, the hyenas got them and we find only a few bones here and there.

Clues about our past come from many unusual sources. What did you discover from owl pellets at Kebara?

Owl pellets are common where barn owls live, and they refuse to share close neighborhood with humans; and this is why we call them barn owls and not house owls. Kebara was occupied most of the time by humans but when they were out for some years, owls found the small niches in the limestone walls a good place to nest. As they consume rodents, mostly during the night, we found lots of rodent bones in the pellets.

What information did the rodent bones give you?

The rodent bones tell you about the immediate environment of the cave, and the changes that took place during the many thousand years. Sometimes the area was a steppe with brushes and grass, and other times it was covered by oak forest.

If the car makers designed an ATV (all-time-vehicle) just for you, and you could travel back to any time and place in prehistory, when and where would you go?

I wish I could go to the time when a group of blond Neandertals in Europe met a small band of brown-skinned modern humans, who came originally from Africa. I would like to witness a real-time encounter, watch and listen if they knew how to talk to each other or simply spoke entirely different languages like Chinese and English. I am sure that they carried different hunting weapons and perhaps even used them to shoot each other.

What is the most exciting question about world prehistory to which we don't know the answer?

We have no idea how human mutations, and what kind, were responsible for the body we have now and in particular our brain size and construction. One of the great mysteries in human evolution is how we came to be what we are as human beings, and whether this is just an accident of the biological history of our planet.

GETTING STOMPED ON

Neandertal bones are evidence of a very tough life. They are riddled with injuries. Neandertals hurt their shoulders and arms, necks, and heads. Scientists observed the same injuries over and over in the skeletons that they were studying. The injuries followed a pattern—the same pattern of injuries seen in rodeo performers, who often get trampled when they fall off the animals they are riding. Scientists speculate that the Neandertal's hunting style caused the damage. Rushing in and jabbing a good-sized mammal with a thrusting spear doesn't really support the "smart" Neandertal model.

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one Neandertal in particular proved just how gentle. Ralph Solecki called him Nandy. He wrote, "the right arm, collar bone, and shoulder blade had never fully grown from birth." Nandy's right arm was withered and useless. Solecki continues, "Not only did he possess a disability from the day he was born, but he must have been blind in the left eye. He could barely forage and fend for himself." And yet, "he was accepted and supported by his people up to the day he died." Nandy died an old man—an old man for a Neandertal anyhow. From his bones and his teeth, we know he was about 40. It is not always easy to determine when an injury occurred. Some scholars believe that Nandy's arm was amputated later in life. Either way, he was cared for by other Neandertals.

Solecki's crew found Nandy the Neandertal under a pile of stones. A rockfall killed him.

A number of stones must have fallen on him within split seconds, throwing his body backwards... his body twisted to the right, pinning down his useless stump of a right arm. His left arm and hand, drawn protectively to his chest, were crushed into his ribs and spine. At the same time, a block of stone severed his head and neck from his trunk.

Some scientists argue that this reconstruction emphasizes the humanlike features of Neandertals too much—even without the suit and tie.



Solecki believes that the Neandertals who survived the rockfall were grief-stricken when they found Nandy. Although not all scholars agree, Solecki believes they covered him with more stones and brought food as a tribute.

Were the Neandertals buried at Shanidar laid to rest with rituals? Were the mammal bones found with them part of a farewell feast? Did Shanidar IV's friends bring wildflowers to his grave? Did they mourn his loss? Or, as some have suggested, did rodents scurry in with the debris? Did wind carry the flower pollen? Are we reading more into the burials than we should? Did Neandertals bury bodies just because they stank and would attract nasty bugs and beasts? Were the Neandertals noble? Or were they dim-witted brutes?

One thing scientists agree on is that the Neandertal was built for the cold. If you are cold at night, you curl up into a ball under the blankets. By compacting your body, you turn yourself into a little furnace pumping out heat and minimizing heat loss to the air. When you are hot at night, you stretch out on the sheets making yourself tall and exposing as much skin as you can to the air to cool off. Neandertals' short, barrel-shaped bodies did well in the cold.

The Neandertal's nose was a honker. Who would guess that a nose could be so important to survival? The Neandertals' giant schnoz did exactly the opposite of what you would expect. It dumped heat. Why would someone living during the Ice Age, in the coldest climate in which any hominid had ever lived, want to get rid of heat? Neandertals wanted to get rid of heat because the real danger in cold climates is overheating. If you overheat you sweat. And in extreme cold, sweat is a very dangerous thing, because it will freeze to your body and turn you into a Popsicle. Many scientists believe the Neandertal nose protected them from sweating when they exerted themselves. Now that's a nose that knows.

If you love Neandertals, you might point to their big brains—bigger than our own in fact, and interpret the burials with tenderness. But not everyone looks so romantically on Neandertals. Archaeologist Lew Binford, who specializes in

NEANDERTALS
AND THE
ICE AGES

**1.8 million–10,000
years ago**

Geological epoch known as the Pleistocene—the period of the ice ages

**About 130,000
years ago**

Earliest Neandertals live in Europe

**About
125,000–75,000
years ago**

Warmer period during the ice ages; Neandertals also live in western Asia

**About 75,000
years ago**

Cold ice-age conditions return

**About 50,000
years ago**

Neandertals buried at Shanidar Cave, Iraq

29,000 years ago
What may be the last known Neandertal lived and died in Spain

“The first rule of anthropology is that if everybody believes what you’ve said, you’ve probably got it all wrong.”

—**Anthropologist Owen Lovejoy,**
in *Neandertal Enigma*, 1980

early hominid behavior, refuses even to call them human. Binford doesn’t believe Neandertals lived in family units at all. He calls the ashy areas where they burned fires “nests.” Because it was rare that the best cuts of meats were cooked at the nest, he sees the females and young getting by the best they could by foraging close to home while the males ran off to hunt.

Even Binford admits Neandertals used fire. In Shanidar Cave, stones that fell from the ceiling in the rockfall crashed into lit fires. Charcoal flecks are still stuck to the bottom of the stones. Solecki wrote, “Several fire hearths were contorted out of shape by the downthrust of the stones.” Nandy was found buried beside two hearths, where Solecki believes Nandy made himself useful to his people. Maybe he prepared meals. Surely this separates Neandertals from beasts? Or does it? There is always the danger that we see only what

“*Homo neanderthalensis* burial, Shanidar, Iraq, 50,000 years ago



we want to see, that we read into the evidence the conclusion we hope for. Was the Neandertal the gentle human that Solecki imagines? Or the animal Lew Binford pictures? Will the real Neandertal please stand up?