

Reflections on the Neanderthalers

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by George Rohrer

The old man's head had been crushed and severed from his body in the rockfall. By standards of 50,000 B.C., this Neanderthaler, aged forty, was very old. The accident had occurred in a large cave in Iraq near the mountain town of Shanidar. Shanidar I was one of nine skeletons unearthed at this site between 1957 and 1960.

Neanderthal man has been traced back 100,000 years to the third interglacial period. He is known to have survived for 80,000 years into the fourth or Wurm glaciation. His remains have been found in approximately seventy sites from Western Europe through Central Asia. Not until Shanidar I was found by excavators led by Ralph Solecki of Columbia University, had it been possible to determine the age of any individual by Carbon 14 testing.

Even before Darwin's *"On the Origin of Species"* appeared, the early 19th century had seen some discussion of evolution. Several pre-human skulls had been found, but no widespread interest was created until the summer of 1856. Workmen blasting in a limestone quarry in the Neander Valley near Dusseldorf in Germany came upon ancient bones.

The bones were shoveled away carelessly, but fragments of a skeleton and a skullcap were rescued. These were identified as the remains of a person who had lived 50,000 to 100,000 years before, and the designation "Neanderthal" entered the story of man.

A similar skull had been unearthed in Gibraltar in 1948, but had been generally ignored. The Gibraltar post office acknowledged the March 22, 1973 (Scott no. 296-8). The 4 pence shows a skull without the jaw. The 6 pence depicts a restored head, and the 10 pence portrays a family of three.

Between 1866, and 1910 half a dozen sites containing Neanderthal bones and tools were uncovered in France and Belgium.

In 1908 an important find was made at the cave site of le Moustier in southwest France. A Neanderthal boy, fifteen or sixteen years old, had been buried on his right side in a flexed position. His head rested on his forearm, under which a pile of flint served as a kind of pillow. The grave contained a finely wrought stone axe and charred bones of cattle. This last may have remained from a roast offered to provide sustenance for whatever lay ahead. The skeleton was the most complete of any yet found. From the name of this cave the designation "Mousterian" was adopted to identify the tool industry which characterized the work of the late Neanderthal or Middle Paleolithic period. This quality work extended into the early Cro-Magnon or Upper Paleolithic period.

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The discovery of a skeleton the same year near the village of La Chapelle-aux-Saints in southern France proved to be a landmark in the exploration of prehistory. The specimen was sent to Paris and was examined by the paleontologist Marcellin Boule. The publications of this highly respected but mistaken scholar misguided the public for more than half a century.

Neanderthal man was pictured as shuffling along with “knee bent gait...”. He traveled in a semi-erect posture. The head was not balanced on the spinal column, but hung forward. It was suggested that the feet might have been grasping organs like those of the apes. The specimen resembled a chimpanzee more closely than it did man.

This concept led to the caricaturing of the Neanderthal and fomented the appearance of absurd cartoons which enjoy credence in unenlightened quarters to this day. Regrettably, the representations of Neanderthal on the various stamps does little to dispel this clumsy notion.

In 1957 studies of this skeleton were made at Johns Hopkins University in Baltimore and at Saint Bartholomew’s Hospital Medical College in London. The specimen was deemed not at all typical. The man was very old - forty or fifty years being really aged for the time. He had lost his molars years before his death. His skull had been damaged in the grave by shifting rock and soil. He was suffering from arthritis of the jaws, spine, and possibly lower limbs. It was concluded that there was no reason to assume that “the posture of Neanderthal man... differed significantly from that of present day man”.

It is true that there are anatomical differences. The cranium and brain cavity were larger than ours. The brow was deeply ridged and the forehead receding. The front teeth were larger and the whole dental pattern was placed in a forward position. This was because of the dimension of the jaw, which was longer than that of earlier or of later man. A profile view reveals a space between the third molar (wisdom tooth) and the ascending branch of the jawbone. This gap is rarely found except in Neanderthal anatomy. One dentist expressed the opinion that having a jaw of such proportions would obviate many of today’s problems with wisdom teeth. There is lacking a pointed chin though the chin area is less receding than that of his predecessors. The skull pictured at the lower right on the 5 centavos 1967 Cuban stamp (Stanley Gibbons 1466) is unquestionably that of the old gentleman of La Chapelle-aux-Saints. In the sketched enlargement some teeth have been added to illustrate the space in front of the ascending branch of the mandible.

There are skeletal differences. Neanderthal was less tall than we but more robust. Heavy muscles were attached to massive limbs. The woman appears to have been similarly hefty. No one knows the skin color nor the extent of the hair covering.

The tools of Neanderthal were an improvement over those of his predecessors. Earliest man obtained a sharp-edged tool by splitting a stone. The Pithecanthropine successors struck rough tools from stone and seemed to specialize in axes. During Neanderthal’s

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80,000 years on earth he adapted tools to his needs, skillfully flaking them from cores. At least sixty different types have been uncovered. One authority places the tools in three classes:

Scrapers: used in preparing skins or clothes and shelters

Points: of different sizes useful in the manufacture of spears and axes

Knives: adapted to many functions

The community was thereby equipped to hunt, butcher, fish, process food, and generally prepare objects made of wood and other plant products. Hunting procedures apparently did not change much during the several hundred centuries of the ensuing Upper Paleolithic period, but improvements were made in the tool industry. The flaking process was continued, but flakes struck from the cores were longer and more readily shaped and varied. Cro-Magnon also produced small points and used bone and ivory for harpoons and needles, among other things.

We return to the Shanidar cave in Iraq. In the months that followed the excavating of Shanidar I two more skeletons - Shanidar II and Shanidar III - came to light. They, too, had been bashed about by rockfalls. Shanidar V's remains had been scattered and were incomplete.

Subsequent digging brought the searchers to more skeletal remains seven meters below the level of the cave floor. Shanidar IV (a man), VI and VII (women), and VIII (a child) seemed to lie in a scooped out niche. A border of stone blocks along two sides of the depression suggested a kind of crypt. Shanidar IV had received the last and most impressive burial. Soil samples were taken from the area and sent to Paris for analysis by Madame Arlette Leroi-Gourhan, a paleontologist.

From these samples Madame Leroi-Gourhan isolated pollen of flowers which had been laid upon Shanidar IV's grave. The great concentration of pollen grains at the spot fifteen meters from the cave mouth eliminated the possibility of their having been borne by wind or animals. One interesting circumstance was the botanist's finding the scale of a butterfly wing. A butterfly had settled upon the flowers while they were fresh.

The five genera of plants prevalent on the grave may be represented by a yarrow, cornflower, ragwort, grape hyacinth, and hollyhock. While burial of the dead, as we have seen, was common practice among the Neanderthals, the evidence of the offering of flowers is unique. Many circumstances point to the conclusion that Neanderthal possessed a concept of the spirit world.

After so many thousands of years it is difficult to distinguish between injuries acquired during life and the damage done to fossils by shifts in rock and soil. Definite assessment

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can be made, however, of bone injuries which have healed. Traumas suffered by individuals included smashed eye socket, arthritic degeneration, broken rib, head injury, withered arm, severed hand, and broken hip. An apparent stab wound to the chest of Shanidar I marks a rare case of violence among people.

The incidence of so much physical damage tells of a dangerous and strenuous life. How could the Neanderthal folk have survived the rigors of danger and cold without their incredible strength?

Another observation has raised some speculation. The plants represented by the pollen have been used in later times as medicines. They have served as emetics, nerve stimulants, purgatives, and have been used for the relief of asthma, dropsy, and toothache. The choice of plants now known to have medicinal value may have been a coincidence, but Dr. Solecki considers it worthy of thought.

Did Neanderthal enjoy the first cuisine? Dr. Loring Brace of the University of Michigan considers the evidence. The remains of many hearth fires have been recognized. Some of the hearths from the Mousterian era reveal a depth and form which indicate a pit lined with stones. They strongly suggest roasting ovens.

Neanderthals with their hafted weapons hunted large game such as deer, cattle, goats, and even rhinoceros and mammoth. After the feast which followed the kill the preservation of the remaining flesh presented no problem in the Ice Age. However, no one could have enjoyed chewing on frozen leftovers. Thawing rendered the flesh easier to chew, and cooking made it more palatable. The practice of eating cooked foods may explain the reduction in size of teeth by the time Neanderthal man had vanished.

This disappearance coincided with the appearance of Cro-Magnon man about 35,000 years before the present.

What happened to Neanderthal people?

One view is that the new Cro-Magnon invasion engulfed and exterminated the older race. The origin of the newcomers remains in the realm of the mysterious.

A modified explanation claims that the Neanderthal population was assimilated in the mass of the arrivals. This still leaves unexplained whence the new people came.

Liberman, a linguist at Brown, and Crelin, an anatomist at Yale, offer a theory relating to Neanderthal's extinction. They constructed a model of vocal equipment based on a Neanderthal skull. Their study convinced them that the sounds had to proceed from the vocal folds directly to the oral center without passing through the throat. Certain sounds were thus rendered impossible. The experimenters submit that the people were restricted in their vocal expression because of anatomical limitations. This handicap made them

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unable to compete with a race possessing a superior culture and facile communication. Needless to say, this premise does not go unchallenged.

While many anthropologists and prehistorians deny that Neanderthal man is our direct ancestor, some authorities are convinced that the Neanderthal did evolve into *Homo sapiens sapiens*. It is pointed out that the skeletons found at Skhul on Mount Carmel in Israel, although Neanderthal, had definite Upper Paleolithic aspects. The teeth and facial features are smaller than those of the typical Neanderthal and the skeletons are less sturdy. It is proposed that these individuals be called "Neanderthaloid". Significantly, they are dated at 35,000 years B.P., the same age as some Upper Paleolithic specimens which also display transitional features. Skulls found at Predmost and at Brno (Brunn) in Czechoslovakia had retained definition, heavy brow, facial features, and the area of neck muscle attachment which reflect the Neanderthal. Natural selection had to be involved in effecting the Neanderthal. Natural selection had to be involved in effecting the similarity in appearance, which is seen as evidence of evolution.

In France, as elsewhere, the early Cro-Magnons occupied caves and shelters which had been in use through Mousterian times without perceptible interruption. The population eventually increased and the socio-cultural pattern became more complex. The new culture witnessed the beginning of cave art and small sculptures on bone, stone, and ivory.

One authority has stated that the only points of agreement among anthropologists on the subject of Neanderthal are that he existed in the Wurm or fourth glacial period, that similar men existed in Europe and in the Near East, and the cranial morphology of *Homo sapiens neanderthalensis* differed from that of *Homo sapiens sapiens*. Much more fossil evidence must be assembled before authorities come close to concurrence on many points.

Whatever befell the Neanderthal people, one is profoundly impressed by the stamina and ingenuity of human beings who survived for 80,000 years in a cruel environment. Meanwhile, the field of study is most lively and intensely interesting.

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