

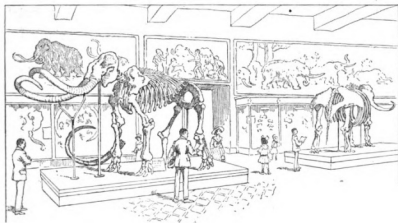


Drawn by Charles R. Knight.

NEANDERTHAL MAN KILLING A WILD BOAR.

Short, stocky, and uncouth in appearance, the Neanderthal man shows unmistakably his primitive ancestry, and a comparison with the later types depicted in this article reveals him as a very lowly form of the human animal. Several practically complete skeletons of the Neanderthals have been discovered in various parts of central Europe, and all are singularly alike in their general make-up. They averaged about five feet two inches in height, with huge heads, projecting eye-ridges, and deep, receding chins. Broad in the hips and shoulders, short-waisted, and short-legged below the knee, these savage little men must have proved themselves doughty antagonists in their struggles with the more highly developed races which succeeded them. [P. 280.]

—“Mural Paintings of Prehistoric Men and Animals,” page 279.



The sketch by W. M. Berger shows a section of the Pleistocene Hall with the actual skeletons of mammoths and mastodons; and above them a glimpse of two of the large murals in position on the wall.

Mural Paintings of Prehistoric Men and Animals by Charles R. Knight

[IN THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK CITY]

INTRODUCTION AND NOTES BY THE ARTIST

THE painting of the large panels recently placed on view in the Pleistocene Hall presents many difficulties, as a number of points must be taken into consideration before work on the murals themselves really begins. The whole scientific side of the question must, of course, be very carefully considered and the most characteristic types of animals selected for the various landscape backgrounds. The probable appearance in life of the different species presented, their form, color, and typical attitudes, are all discussed in detail as well as the important question of a relative scale for the creatures throughout the entire hall. One must realize that the animals pictured do not exist at the present day, and the artist is obliged, therefore, to use his knowledge and imagination to the fullest extent in the recreation of so many

varying types. When a decision has been finally reached upon all the foregoing points, the question of the artistic composition and color scheme becomes paramount, and a number of charcoal sketches are made in order to arrive at some general schematic arrangement for the groups in question. The color sketches for the different panels are naturally very important, as they are, after all, the original paintings from which the larger pictures are copied, and must therefore be very fully carried out, with due regard for the completed effect of the finished murals when placed finally upon the walls. It is safe to say that these sketches take up at least four-fifths of the time required to complete the entire work, and represent no end of laborious research and many abortive attempts to attain a satisfactory result.



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The woolly mammoth seems to have been a very highly specialized type of pachyderm which inhabited the colder portions of Europe, Asia, and North America during a very long period of time. When an enteric coil of a northern winter, the huge mammoth was covered with a dense coat of shaggy and iridescent hair, which was thicker than the hair of any other pachyderm, and thickest on the head and shoulders. The very long recurved tusks, dome-shaped forehead, and humped back must have imparted a very strange appearance to these great creatures, whose actual remains (frozen in the ice) have been discovered on several occasions in certain parts of Siberia. The food of the mammoth probably consisted of pine shoots, and the succulent leaves and branches of wintergreen shrubs (found in that region). We can imagine with what misgivings our prehistoric ancestors hunted this animal, but we can also imagine how they must have been disappointed if their tribe were able to trap or otherwise destroy an old individual whose waning powers of resistance rendered him at last an easy prey to their puny weapons.

Siberian woolly mammoths seeking new feeding grounds.

Note.—The frontispiece is the result of very careful study on the part of the author and, to his knowledge, the first picture, based on actual measurements, produced in this country. In it he has tried to show the physical strength and mental activities so necessary for man's future development. He has also tried to show the physical strength and mental activities so necessary for the development of hair on the bodies of the Neanderthals, the author is convinced that they were covered and that to a very considerable degree. Mentally the Neanderthals, while primitive and savage were nevertheless cunning and resourceful to a degree, else they would have had no chance for existence, surrounded as they were by fierce predatory animals and still more rigorous climatic conditions. They knew the use of fire, but their weapons were rude, clumsy affairs, and not well fitted for the use of the spear-thrower. They were very much like the modern Eskimos, however in the scale, perhaps, but still very intelligent and well fitted to their time and place in the world's history.



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Summer-evening scene in the Mississippi Valley, showing a herd of American mastodons bathing.

The particular skeleton used as a basis for the mastodon (and exhibited just beneath the picture) was found in a bog near Newburg, on the Hudson, some fifty years ago, and was bought by a certain Doctor Warren, of very well preserved and the great creature had evidently been mired and perished just where it was found by some workmen who were digging for loam in the aforesaid bog. For years the specimen remained on view until it was finally purchased by the late J. P. Morgan, who presented it to the Museum in New York. It is with difficulty that we conjure up the image of this enormous animal browsing about on the shores of the Hudson

River in a climate very much like our own, and the reason for his final extinction is completely wrapped in mystery. In form the mastodon was more primitive than the modern elephants, with rather short and very thick and powerful tusks, was covered with a thick coat of hair and wool as a protection against the elements, and this great mass of hair must have greatly increased its apparent size. The differences in form between the mastodon and the mammoth have been very carefully worked out, and a comparison of the two creatures is easily made, as the companion mural at the other side of the door shows a herd of mammoths drawn to the same scale.



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Men of the Cro-Magnon race drawing mammoths on the walls of the Font de Gaume cavern in France.

The Cro-Magnon people are the most highly developed type of prehistoric man yet discovered, and are justly regarded as the first of the modern races. Their skulls are all lined with a thick, bony covering, and their brains are large. Their bones are all lighter than those of any other prehistoric man. Their art is so advanced that their art may have been semireligious in character, as most of the so-called paintings (drawn, as a rule, with black and white, and red ochre) are placed far back in very remote parts of the caverns, in question, and are often reached with difficulty by present-day archaeologists. That they were a tall and powerfully built race we know by the skeletal remains often found buried in the caverns, which they dug out with their hands and feet. Their art is so advanced that they civilized, the rock art of the primitive Neanderthal tribes with which they came in contact, though this point is mere conjecture on our part, as nothing is definitely known about their life habits. From the great quantities of bone awls or needles found associated with the skeletons, we infer

that the Cro-Magnons cut and sewed the skins from which they made their clothing, much after the manner of the modern civilized animals. They also made lanceheads of bone, and captured and tamed wild animals. The flesh of these creatures they roasted over the fire, cracking the bones to get the marrow within, and using the skins as clothing and bedding for their chilly and miserable retreats at the entrances of the rock shelters which they perforce inhabited. Fire was also of great use to them as a protection against wild animals which roamed the interminable forests in which they lived. They have attacked and any stragglers found wandering about after nightfall. Indeed, life in those days was a constant struggle against the forces of nature, and only the strong and fortunate individuals survived the ordeal.

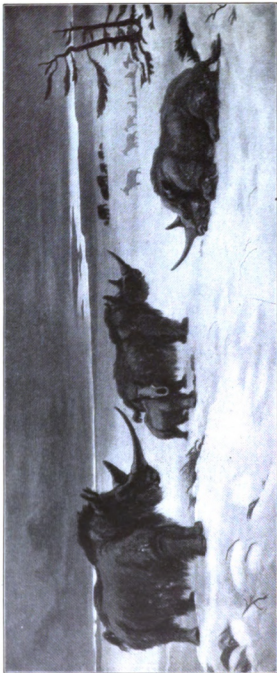


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Men of the later Stone Age returning from a stag hunt.

Archaeologists are of the opinion that the age of roughly chipped flint weapons was followed by a long period in which the implements of war and the chase were further finished by the difficult and very laborious process of polishing the hard stone with a mixture probably of sand and water, with the finely wrought weapons the men of this period contrived to kill great numbers of animals, which they found it difficult to hunt with their rude weapons. The hardy Nimrods returning from a successful stag hunt. The great red deer of the period was a most imposing creature, carrying a splendid set of horns, and was no mean adversary for men armed with very primitive weapons. By the use of dogs, however, which seem to have been employed in this work, the task was made much easier, as the game could be caught and held by a pack of these savage brutes until the hunters could come up with their quarry. Along more artistic lines, on the other hand, these skilled pursuers of big game were sadly lacking, as

we find no evidences of art among them, with the exception of some very crude designs on the earthen vessels which they contrived to make in a fairly serviceable manner. Yet in some mysterious way the human race was surely evolving into a higher sphere than that occupied by the Cro-Magnon men, whose artistic talents were of such a high order, and the late Stone Age, which was to follow, was to be the first of a definite home began to flourish in the minds of our ancestors. For as our ancestors we must certainly regard these rugged and resourceful men who by dint of brains and brawn had made for themselves a dwelling-place where they might live in comparative security, meanwhile developing those communal instincts which in later ages were to materialize into what we now call modern civilization.

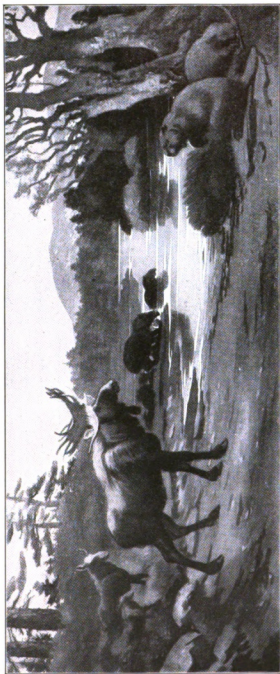


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Winter scene in Siberia with woolly rhinoceros, saiga antelopes, and mammoth.

A black waste of snow stretching to the horizon, where dark blue hills cut sharply against a yellow sky in the old fashion constitutes a fitting background for the animal life of the great woolly rhinoceros and serves to accentuate the frigid character of its environment for the greater part of each year. The mural attempts to show these mighty creatures at home on the Siberian tundra, that bleak and desolate region which stretches for thousands of miles across northern Asia. In the middle distance some small animals may be seen, standing or resting in the snow. These are saiga antelopes, an animal which still survives, though the great rhinoceros has

passed away. The woolly rhinoceros must have been a most singular-looking beast with its long shaggy coat of reddish hair, and the two massive horns projecting from its side. We have certain knowledge of its actual form from a very excellent colored-chalk drawing found in one of the French caves, and also from a specimen found frozen in the ice in Siberia. Strange as it may seem, the color and texture of the hair in this specimen is much the same as that found on a modern Sumatran species, and proves how conservative nature is in maintaining a really serviceable thing through countless ages.



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This picture represents a fall scene in a type of country with which we are all more or less familiar and shows the great cervalces (a close relative of the modern moose) coming to drink in the fast-falling twilight of a crisp autumn evening. A complete skeleton of this remarkable animal was discovered by a Jersey farmer not many years ago, and was purchased by the Princeton Museum, which considered itself most fortunate in securing this splendidly preserved specimen for its collections. We are not accustomed to think of tapers living so near New York City, but

Autumn landscape in northern New Jersey, with cervalces (the deer moose), tapers, and giant beavers.

the remains discovered prove their former existence in this vicinity. They were undoubtedly covered with long, thick hair as a protection in winter, yet it is not easy to imagine how an animal with their general make-up could have obtained sufficient food during the winter, unless the weather was much milder than that of our own time. The giant beavers, on the other hand, were eminently fitted for a cold climate, and, though more than twice as large as a recent beaver, could easily have survived in very severe weather owing to the vast quantity of available food always at hand.



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Patagonian plain, with animals of the region feeding on the semiarid Pampean plains.

Of all the animals depicted in the Pleistocene Hall, none perhaps are more grotesque in appearance than those of the Patagonian region. The great ground-sloths are naturally the most important of these, but the turtle-like glyptodonts are not far behind them in the matter of unsmoothness of texture, of course, not related to their size, but are closely allied to the modern armadillo, the only animal that has the same kind of banded armor for its body protection against their enemies. When attacked, the great glyptodonts, which could not thus roll

themselves up, were constrained to squat upon the ground and, digging their great claws into the yielding soil, could bid defiance to any animal not powerful enough to turn them over. Indeed, the great sabre-toothed tigers themselves must have had difficulty in killing one of these heavily armored and ungainly inmates of the two other types in the background are, respectively, manoa (the one on the left) and macrauchenia, a llama-like form with a long proboscis somewhat resembling that of a tapir.