

ANTHROPOLOGY

Man's Great-Great-Grandad

Over a million years ago in the caves of South Africa lived the forerunner of modern man. He made his dinner on the brains and meat of animals long extinct.

See Front Cover

By MARJORIE VAN DE WATER

► MAN'S EARLIEST ancestor lived in a limestone cave in the eastern part of South Africa a million or more years ago. Not wholly human, he was nevertheless not ape enough to have fathered the long line of great apes resulting in our modern baboon, chimpanzee and gorilla.

It is the opinion of eminent anthropologists that the South African pre-man was that "missing link," a half-way step between the common ancestor of both ape and man and the first human himself. Other claimants to the position of man's greatest great-grandfather—Neanderthal Man and Pilt-down Man—are now deemed only uncles.

Although the South African pre-man did not have the big brain characteristic of modern man, his bones show that he walked nearly erect, his teeth were manlike, and his head was balanced on his spine for upright posture. There is evidence that he had intelligence enough to capture fleet young antelopes and spring-hares for food, he had hands skillful enough to wield a bone or stone club to fell his baboon prey, and he had the knowledge to join with others of his kind in the hunt and to use fire to warm him and to cook his dinner.

The skulls found imbedded in the limestone rock of those South African caves show that the crime of murder is older than man himself. Even before man first walked this earth, his forerunner had started the practice of killing his own kind. He did this by bashing in his enemy's skull with the well-known "blunt instrument."

Shows Evolution Site

The part of Africa in which this important pre-man was found consists of a bed of extremely old rock covered with a flat layer of sand and silt, glacial debris and lava. The youngest of this "young" top covering has been in place for many millions of years—long enough to carry in its slowly building and eroding rocks a history of evolution since the time before animals had backbones.

In places, the top layer has been stripped away, leaving exposed the older beds of limestone. In spots, the limestone itself has dissolved, leaving caverns where man and beast might take shelter. It was in such caves that man's early ancestor lived and died.

At Taungs, in the southwest corner of the Transvaal, there is a deposit of nearly

pure sparkling white lime, laid down by a stream of water running through an escarpment of marble-like dolomite. The lime deposit has been worked commercially since the first World War.

One of the quarry men, who had been warned to be on the lookout for interesting fossil skulls, was blasting when he came across the fossil skull of a child. The face was nearly perfect with most of the lower jaw and all the teeth. The six-year molars were just cut through and beginning to function.

Long-Sought "Missing Link"

So human did the little face look that the quarry man thought it must be a Bushman. He sent it right away to Prof. R. A. Dart at the University of Witwatersrand who immediately notified the world of science of the great find. He called the little creature *Australopithecus*, or southern ape. The first reaction of anthropologists was that the news was too good to be true—that this could not be the long-sought "missing link" in the evolutionary chain of man's development from more primitive forms.

Early skepticism was due partly to the fact that only one skull had been found and that not of an adult. Now, however, remains of more than 30 individuals of the African pre-men have been discovered, including infants, children and adults. All are ape-like in having small brains and large jaws. All are man-like in the way the head sets on the spine, indicating upright posture, and in the shape and position of the pelvic bone, showing also that these individuals walked like a man.

A cast of this skull, now at the Smithsonian Institution in Washington in the case of Dr. M. T. Newman, is shown (right), pictured with a skull of a modern child, on the cover of this week's SCIENCE NEWS LETTER.

Human-Like Teeth

But, most important, their teeth are human. An ape does not chew as you do. His jaw is hinged differently. When a man is grinding his food between his molars, his lower jaw works in a rotary motion inwardly on the side on which he is chewing. This wears off the crown of the teeth in a slope upward and toward the inside. An ape chews straight up and down; his teeth are not worn flat as are primitive man's.

Child though he was, the little Taungs baby's milk teeth already showed signs of wear in the typical human pattern.

At least some authorities on man's origin are now convinced that "Dart's Baby," as the Taungs skull came to be known, was really man's ancestor, a true "missing link," or close to it.

That is the position taken by Prof. Wilfrid E. Le Gros Clark, British anthropologist and authority on early man.

Because the remains of the African pre-men were found in caves and not laid down in layers of rock, it has not been possible to assign an exact date to the time they walked this earth. But it is believed that they are very much older than the Java Ape Man, Peking Man or other known remote forebears of man.

Food Clue to Dating

Clue to the date is given by the other bones found with them in the ancient caves. Presumably left from the dinner of the pre-men, these bones are from animals which are now extinct. Not only are the species of animals extinct, but about half the genera to which they belonged are gone from this earth. This makes scientists think that the little Taungs child lived in his cave at least a million years ago, possibly as much as two million.

The food of the Taungs pre-man also provides mute evidence of the intelligence attained by him. Apparently he liked to eat young antelope. But the antelope, then as now, was swift of foot. Man's ancestor would not have been able to run him down on foot. He must have been smart enough to lie in wait for his prey or to get together with others to surround the antelope at a water-hole.

Knew Use of Weapons

Australopithecus also had a taste for a certain giant mole. But he could not have dug this burrowing animal out from his underground tunnel unless he was able to use some kind of digging stick or stone.

Man's ancestor seemed to regard as a special delicacy the brains of baboons. At least by far the greater part of the baboons whose bones were found in the Taungs cave had apparently had their skulls crushed in by a club or small hammer.

So before man lived in the world, his forerunners knew how to make use of simple tools and weapons and knew how to get together with others of his kind in a cooperative undertaking.

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Gasoline costs the equivalent of 70 to 80 cents a gallon in Europe.

To counteract heat generated by air friction, the Navy's highest-flying airplane, the D558-2 Skyrocket, must carry enough refrigeration equipment to cool a large theater.