

ANTHROPOLOGY

An Ancient Age of Youth

The Cave Man Had No Grandpa, No Grandma, For in That Distant Time No One Lived to Grow Old

By EMILY C. DAVIS

DID you ever wonder what old folks looked like, back in the Old Stone Age?

Ever imagine a Stone Age Grandma 60,000 years ago, dressed in bearskin wrapper, sitting in the sun by her cave and telling small boys stories about Grandpa when he was young and brave and went mammoth hunting? Did you ever imagine a Grandpa who was an elderly caveman with a beard and rheumatism?

If so, wipe out those mental pictures. For here's the answer:

There were no graybeard Grandpas among Europe's cave men. And as for Grandma—Well, it was rare for a woman to live beyond 40. The Old Stone Age was an age of youth.

This is the conclusion drawn from studies by Prof. Henri Vallois, French anthropologist. Prof. Vallois has estimated—from evidence in skulls—the ages of 187 prehistoric individuals when they died. His data include most of the celebrated skulls now treasured in Europe's scientific collections.

The French scientist's way of asking

Stone Age men, women, and children, "How old did you live to be?" is just this:

He examined either their skulls, or else technical descriptions of their skulls written by other scientists.

Now, a skull naturally represents the age of the individual when he died. It can't be otherwise, despite the hoary joke about the museum that could boast of having two skulls of Oliver Cromwell—one of Cromwell as a young man, and one of Cromwell as an old man.

So, the long-buried skulls of Stone Age folk represent their ultimate ages. And how old they were is written right on the skull, fortunately for scientists bent on asking these very personal census questions of earth's early inhabitants. The indicator of age in a skull is simply the degree to which bones of the head are joined together.

In life, as a baby's head develops, there are islands of bone separated by channels of cartilage. As the child grows older, the islands spread and the cartilage channels become narrower until they are mere cracks. A cracked individual, in the strictly literal sense, is a young one.

In time the cracks join, forming seams, and the individual is truly hard headed. But the fine, irregular lines of the seams, or sutures as anatomists call them, remain visible. They look like jagged boundary lines of a map traced over the skull.

It is by examining these cracks or seams in a skull that the age of a prehistoric individual can be judged with fair accuracy. And that is how Prof. Vallois got his prehistoric census: By going from museum case to museum case, rather than from door to door in the usual census manner.

No one could have found out a prehistoric cave dweller's age, anyway, when he was alive. His skull certainly wouldn't have been available, and nobody on earth then could count birthdays. In the depths of Stone Age ignorance, a cave man didn't even know that he didn't know his own age—if you follow the idea. Counting the years is a far higher problem in thinking than

YOUNG ARTISTS

Cro-Magnon artists at work, 30,000 years ago in a cave in France—a group of young and middle-aged men, with no old folks. The picture's correct, therefore, according to Prof. Vallois' ideas of Stone Age population. (Photo from American Museum of Natural History)





Old Stone Age man ever tackled. He probably couldn't count his own children, let alone how many winters they had seen.

But now, thousands of years after he lived on earth, a prehistoric individual like that can be set down in statistical tables as having reached 20 years, or 30, or 40.

So now you can picture the Old Stone Age as run by young folks, if Prof. Vallois' collecting of prehistoric ages represents a fair cross-section of population in those good old days.

Judging by his census taking, there wasn't an Old Stone Age man or woman who reached the Bible's famous allotment of three score years and ten.

Certainly he found no evidence of anybody living to be 70 in the middle of the Old Stone Age, which is the point at which he started his census. That would be about 60,000 years ago, when Neanderthal Man was the dominant race on earth.

From bones of these Neanderthals, found in caves and in the open in many countries of Europe and in Palestine, it has been known pretty well what they looked like. The results shown in restorations by museum artists are anything but flattering. A typical Neanderthal

went about with his head thrust forward, and peered out from under heavy beetling eyebrow ridges. His chin receded. His nose was bulbous and his walk was clumsy. Some Neanderthals were better built, but this was the main type in Europe.

In modeling or painting these people, museum artists attempt to show a home life scene around a cave. They usually include young and old in the scene.

But according to Prof. Vallois' findings, the aged would be out of place in such a setting. A Neanderthal who led a hard life might look timeworn at 40, with gray hairs and wrinkles, but scarcely bent and withered and venerable. At least, the French anthropologist found not a single Neanderthal skull that would go with such aged traits. And if there were any such, it seems strange that none has come to light, for a good many Neanderthals have been unearthed.

According to Prof. Vallois' investigation, the average child of a Neanderthal never grew up. Over half the boys and girls died before they were 20.

Here is the way his Neanderthal figures look:

- 55 per cent. died before 20.
- 40 per cent. died between 20 and 40.
- 5 per cent. died between 40 and 50.

BRIEF SPAN

The boy on the left was typical of Old Stone Age people when the average person did not survive 20. The center figure is of a mother and child; women then rarely lived to be more than 40. At the right is an old man—old then meant about 50. (Field Museum photos)

That totals exactly 100 per cent.

The bright and reassuring slogan that "life begins at forty" would have meant nothing to these Neanderthals. They never worried about growing old. Nobody did.

However, Stone Age time marched on. The Neanderthal pattern of man vanished from the world, and other races, notably the Cro-Magnon, were leading the parade 30,000 years ago. Cro-Magnons were an improvement in beauty, meaning to say they looked more like us. The men were tall, often six-footers, and had better profiles. Cro-Magnon man is perhaps best known today for his habit of painting admirable pictures of big game animals on walls in caverns of France and Spain. As the world's first artists, they have gained wide, if belated appreciation.

Still, even these people had not discovered the pleasures and troubles of

old age. More of their babies grew up. But life still ended around 50, if it lasted that long.

Here are Prof. Vallois' figures on human life, as it was 30,000 years ago:

34 per cent. died before 20.

53 per cent. died between 20 and 40.

10.5 per cent. died between 40 and 50.

That doesn't quite total 100 per cent. But, the fact is Prof. Vallois did find three semi-elderly individuals among his 187. All three lived later than the Neanderthal era. None of them was what we would call aged. In their skulls, there were important sutures unclosed when they died.

Growth Continues

It may seem surprising that a human head should still be putting itself together, and still uncompleted at the age of 50. But, just recall recent scientific reports showing that human growth and development go on far into middle age. A "grown" person's chest continues to broaden slightly until middle age. Ears grow longer. Hands and feet become larger. The mouth widens.

Growing up is a lifetime job for us, and the Old Stone Age people seem never to have attained this complete bodily development.

Prof. Vallois gives vital statistics for a third period of the Old Stone Age. This is the transition time, just before the New Stone Age dawned, bringing in the pastoral and farm era. Man was improving his lot in the world, but he wasn't living any longer, nor had he learned how to keep more children alive. On the contrary, fewer grew to be 20. And old age was still an undiscovered adventure.

One point brought to light by the French anthropologists is curious. That is, women died younger than men in the Old Stone Age.

In modern experience, we find just the contrary. Girl babies are less delicate

than boys, and more girls survive infancy. And from then on, comparing the sexes at advancing ages, women are found outlasting the men.

But in the Old Stone Age, women died younger. It is particularly strange, considering that women did not take so many physical chances. It was the man who stalked dangerous wild beasts to provide meals and fur coats. The man was the fighter, who had to drive off disagreeable neighbors or meet hostile strangers in combat. At least, so archaeologists judge, because when they find a prehistoric skeleton with stone axes or spear points nearby, it is almost always a man.

Women, it is true, endured hardships of childbirth, and Prof. Vallois mentions this as a possible cause of untimely death among Stone Age women. But this alone, he believes, is not sufficient explanation. Whatever it was that made life especially hard and hazardous for the cave woman, aside from bearing children, is something not yet revealed by archaeological remains of that rough and ready era.

Prof. Vallois has an interesting theory as to why Stone Age people never grew old. Unfortunately, it's no Fountain of Youth discovery. Nothing like that. Simply, that in the good old days when human beings lived almost as wild as the birds and animals, they died off the way wild birds and beasts do.

Natural Lifetime

Wild things, he explains, have a tendency to die when they get past their prime. They have spent their natural lifetime. And early man, if he escaped being run down by a rhinoceros, or some other hazard, lived out a similar natural lifetime. This lifetime of wild mankind was between 40 and 50 years. The French anthropologist thus credits civilization with stretching man's life-line far beyond what nature allowed under wild conditions. The average man today can expect to live about 60 years. For women the average lifetime is 54. In other words, the average person today lives longer than the longest-lived humans in the Good Old Stone Age.

Or, look at it this way: the average man or woman today can expect to blow 60 candles, at least, off a birthday cake. In the Stone Age, any one was lucky to survive the teen age.

It has taken the world a long, slow time to increase the span of life for the average human. According to figures once reported in Paris, the average Roman under the Caesars lived 18 years,

which is hardly better than the Stone Age could do. In France at about the time of the French Revolution, an average lifetime was about 29 years. In 1850 the average had risen to 37 years; in 1880, 40 years. Now it has passed the 60 mark.

Science claims credit for increasing an individual's prospects of a longer life. With thousands of scientists studying diseases alone, and other thousands studying diet, and still others studying normal human bodies, mankind has been able to apply the results with what amounts to lightning speed. At least, it seems like lightning speed, to double the average lifetime within two centuries, after all the thousands of years that went by without much progress.

This article was edited from manuscript prepared by Science Service for use in illustrated newspaper magazines. Copyright, 1938, by Every Week Magazine and Science Service.

Science News Letter, June 4, 1938

GENERAL SCIENCE

Better Science Education Is Aim of Committee

SCIENCE, important through its applications in every phase of the daily lives of all the people, deserves a larger place in general education, is the belief of a newly organized special committee of the American Association for the Advancement of Science. But to win that place, science teaching must be brought to a maximum of efficiency and interest.

The new body, titled the Committee on Improvement of Science in General Education, has as its chairman Prof. Lloyd W. Taylor of Oberlin College. Six special objectives are stated by Dr. Otis W. Caldwell, general secretary of the Association:

1. To clarify and define the problems involved in teaching the sciences as a part of the program of general education.

2. To develop a more scientific attack upon problems of science teaching; that is, to promote experimentation; to collect evidence, to encourage the use of procedures justified on the basis of organized and evaluated evidence in contrast to opinions, untested assumptions, and uncritical acceptance of traditional practices.

3. To disseminate information about the committee's work, and to secure constructive criticism by means of discussion groups in college and university centers, by participation in programs, and by such other means as may be found effective.

4. To obtain and to use financial sup-

Books

SCIENCE NEWS LETTER will obtain for you any American book or magazine in print. Send check or money order to cover regular retail price (\$5 if price is unknown, change to be remitted) and we will pay postage in the United States. When publications are free, send 10c for handling.

Address Book Department

SCIENCE NEWS LETTER
2101 Constitution Ave. Washington, D. C.