

ANTHROPOLOGY

Ancestral Portraits

Scientist-Sculptors Have Developed an Improved Way To Carve Likenesses of Our Prehistoric Predecessors

By DR. FRANK THONE

PORTRAITS of ancestors interest all of us. Even in this new land of America, where pioneers and immigrants moved about so much that family connections were lost track of and family heirlooms mostly scattered to oblivion, we keep that perfectly natural, all-pervading human trait. We look eagerly enough at old family daguerreotypes and miniatures that some new-acquainted distant cousin shows us, and join him quite willingly in figuring out just what branch of the old family tree we are privileged to sit on.

And why not? Being interested in our ancestors is only an indirect way of being interested in ourselves. And everyone of us is interested in himself, unless there's something abnormal about him. Egotism is not a vice unless it is indulged in excess; in its normal development it is just an ordinary part of common human nature. There's nothing more snobbish about looking at a portrait of your great-great-grandfather than there is about sizing yourself up in the next mirror you pass.

This interest in ancestors extends even to forerunners who were not actual forebears. If you move into an old house that has a couple of portraits of its original builders, you are very likely to leave them in place. You may crack minor jokes about having "bought the ancestors along with the place"; but really you have a vague sense that they really belong—that there is some kind of a connection or continuity between them and yourself, though the tie be not one of blood.

Other Cultures Interesting

So even with a whole country. We are interested in Indians, here in America, and we are becoming increasingly interested in the Spanish, French, and other non-British cultures that once held and helped to develop parts of our land. Studies of their history, and of their influences on our own customs and culture of today, are becoming increasingly popular.

And if we are thus developing such a keen interest in our national and racial

past, here where the past is partly so short and the rest so shadowy, what must the interest be in a country where the record of high civilization goes back almost to the beginning of the Christian era? And where the records of earlier dwellers in the land are both much more abundant and much more complex than they are here?

With our own arousing interest in the beginnings of America as background, we can understand better the effort that is being made now in Austria, to build a complete, scientifically accurate record of all the peoples that have ever lived on its ancient soil.

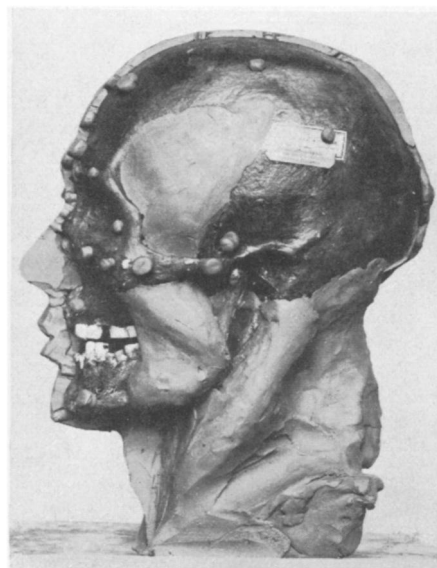
And there is a certain amount of direct personal interest in this enterprise, even for us. For we are most of us transplanted Europeans, and though Austria may be only a minor nation now, she was once the greatest of powers, and dominated Europe when much of our own early history was in the making. And the races that came and went, along the great double highway of the Danube and Rhine valleys, through scores of centuries, have played their parts on other parts of the European stage. So that archancestral portraits of ancestors and previous tenants in Vienna have a meaning for us, too.

New Technique

The effort of the Anthropological Department of the Vienna Museum of Natural History to establish a full series of family portrait-sculptures of ancient Austrians has resulted in a new technique in this difficult branch of scientific art. A school of what might be called palae-anthropological art, that works in a new way and achieves a different type of results, which many believe to be better and more accurate than anything hitherto done along similar lines.

The enterprise is under the general supervision of Dr. V. Lebzelter, Director, but the immediate charge of the science-sculptural work has been entrusted to a young woman (and a very comely young woman at that), Miss Rose Koller.

To her and her associate sculptors the scientists bring prehistoric skulls,



HOW IT IS DONE

The Vienna method of reconstruction. The thickness of the soft parts, as statistically ascertained from similar races, is indicated by plasticine buttons.

pieced together where they were broken, and with missing chunks of bone eked out with plaster. These skulls they compare critically with skulls of peoples existing in the world today, to find what modern racial types they most resemble.

Once this has been determined, the unique part of the new Vienna Museum technique is brought into play. The scientists and sculptors turn to measurements made on living possessors of these modern counterparts of ancient skulls. At dozens of critical points, on scalp and brow and nose and cheek and chin, they find how thick is the overlying complex of muscle and skin and fat and connective tissue. At each corresponding point, on an accurate model of the skull they are working with, the sculptor plants a pellet of plasticine, of exactly the measured thickness. The skull is finally dotted with them, until it looks as though it had been a target of pranking schoolboys.

These carefully measured bits of modeling material, planted at strategic points on the skull model, serve much the same purpose as the stakes that engineers drive with such accurate care on the site of a new building or along the course of a new road. They establish levels up to which the finished structure

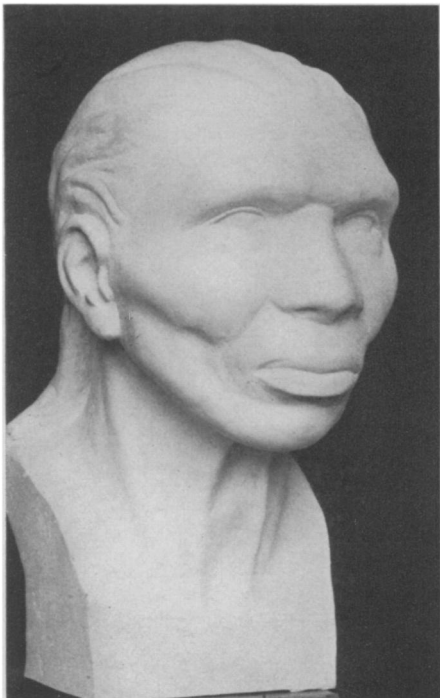
is to be built. The sculptor fills in plaster or wax just as the contractor fills in brick or concrete. Then come careful smoothing-off, the addition of hair, eye-markings, etc., and great-great-great-ever-so-great-grandfather has a face!

Sounds easy. And it is—but only if you are a good sculptor, with a trained scientist at your elbow. That's the only catch.

Upsetting

Some of the results achieved in the Vienna Museum have rather upset previously existing notions of what certain races of prehistoric human beings looked like. It may startle some people, for example, to learn that the Alps were once inhabited by a race of decidedly negroid characteristics. Yet a skull of a woman of the Swiss Lake Dwellers, a race of the Late Stone Age, was so much like skulls of modern African Bushmen that the sculptors were perforce impelled to give their model a Bushman countenance.

These Lake Dwellers, for all they had heads like Bushmen, were anything but degraded and ignorant savages. They cut and trimmed trees, drove the trunks into the lake beds for piling, built their houses on platforms on these piles, made good canoes, knew how to



NEANDERTAL WOMAN

The Vienna restoration somehow puts a touch of pathos into her low-browed physiognomy.

weave and make pottery, and probably practiced agriculture. Not so bad, for Stone Age citizens!

A Harder Problem

When confronted with a skull of the Crô-Magnon type, found in Austria but resembling skulls found in the art-decorated caves in France and Spain, the problem was a little more difficult. It used to be thought that the Crô-Magnon type of skull had passed completely out of existence thousands of years ago. But a small relict group of a tall, taciturn people on the Canary Islands were found to have skulls very much like the ancient Crô-Magnards. So measurements of the Canary Island people's face-thicknesses went into the restoration of the Crô-Magnon-type mammoth-hunter that was under construction in the laboratory-studios of the Vienna Museum.

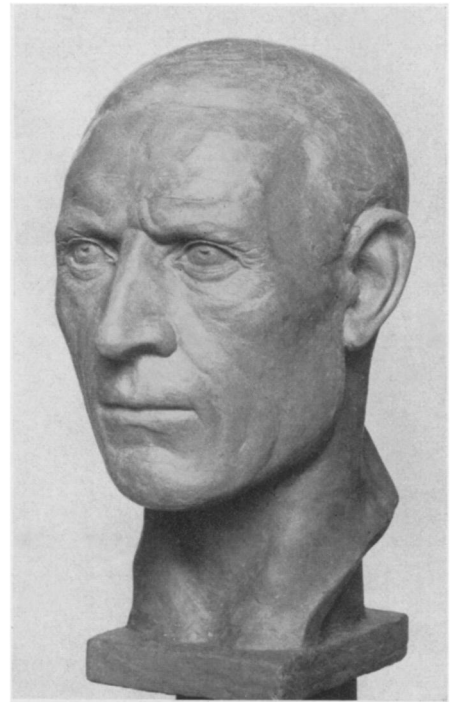
Neandertal Man was a stumper. He really *is* extinct. Neandertaloid skulls are not found today among living men; even suggestions of their type are regarded as pathological. So the face-makers in the Vienna Museum were thrown upon their own resources.

They were guided, however, by at least some general principles. Their "preliminary-pellet" method had shown them that you cannot put on a skull a face that does not belong there. A gorilla skull, for example, will simply not accept a human face, and vice versa. So they did their best with rather remote analogies. It had also been observed that certain existing races have low foreheads, yet normal intelligence and wholly "human" faces. Therefore a "generalized" human face on a Neandertal skull worked out astonishingly well.

Pathetic Neandertaler

In fact, the physiognomy of a Neandertal woman—whether deliberately or unintentionally on the artist's part—actually arouses a sense of pathos, such as one may feel on seeing the worn face of a poor peasant woman, borne down with over-much toil. In any case, whatever may be the justification for putting that much feeling into the face of a Neandertaler, the Vienna sculptors have shown convincingly that this low-browed lost race does not need to be made to look like semi-apes.

Of course, the expression on any of these restored faces is largely a matter of the artist's choice. A Neandertaler might have scowled at you ferociously for thirty seconds, and then smiled, in his heavy-jawed way, all the rest of the



VIKING

Leif the Lucky, pre-discoverer of America, may have looked like this. The Norwegian government sent a Viking skull to the Vienna Museum, and the sculptors there built this face and head around it.

day. So apart from the accuracies their measured-pellet method compel, the artists can, and to some extent probably do, put their own emotions into the faces they are making. Like the Deity in Genesis, they "make man after their own image."

(This argument should not be carried too far, however—certainly not into Futurist and Surrealist circles!)

Perhaps, then, the artist was feeling stern when he finished modeling the head of a Bronze Age conqueror who came into Europe through Spain in the 18th century B.C. Or it may be merely that he had a notion that a conqueror ought to look like that.

Stern Viking

The same might be the case with the restoration of a Viking face, built upon a Viking skull of ancient date sent by the Norwegian Government to the Vienna Museum. Certainly the end result has the expression of resolute, bleak-eyed hardness we have come to associate with the character of these famous sea-rovers.

The validity of the Vienna Museum method has received a couple of somewhat dramatic tests. Given the skull of a noted criminal whom she had never

seen in life, Miss Koller built upon it a quite recognizable likeness of the face that had once been there.

The other test was the more convincing, in that it had even the artists stumped for a time. An ancient Mongolian skull had been brought out of inner Asia, and a sculptor got to work on it. But try as he would, it wouldn't "come out right." The eyes persisted in being too deep-set. Disgusted, the sculptor decided that this job, at least, must be a failure. Then, one day while he was leafing through a collection of racial-type photographs, he jumped as though something had bitten him.

Staring at him out of one of the photographs, in the face of the Chinese general Tai Yen Kai, were a pair of just such deep-set Mongolian eyes!

Science News Letter, July 18, 1936

SEISMOLOGY

Earthquake is Recorded Near the Philippines

A SUBMARINE earthquake occurred south of the Philippine Islands on Sunday, July 5, at 1:54.7 p.m., eastern standard time. Instrumental data, gathered by Science Service and interpreted by the U. S. Coast and Geodetic Survey, indicate that the epicenter was at about 2 degrees north latitude, 123 degrees east longitude. This is in the Celebes sea, between the Philippines and the island of Celebes. The shock is reported as a strong one.

Observatories reporting were: the Manila Observatory, Manila, P. I.; the stations of the U. S. Coast and Geodetic Survey at Honolulu, T.H., and Tucson, Ariz.; Georgetown University, Washington, D. C., Fordham University, New York City.

Science News Letter, July 18, 1936

Recent prospecting in Portugal has revealed the location of some of the old Roman gold mines that have been mysteriously lost for centuries.

● RADIO

July 21, 2:15 p.m., E.S.T.

SOMETHING NEW IN COTTON—R. W. Webb, Senior Cotton Technologist, U. S. Bureau of Agricultural Economics.

July 28, 2:15 p.m., E.S.T.

GROWING UP—Dr. Paul H. Furfey, Psychologist of the Catholic University of America.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

VITAL STATISTICS

Danger of Being Struck by Lightning is Very Slight

THERE is little chance of being killed by lightning in the United States, for only three persons in every million of the population have been struck down annually by electricity from the sky in the last 10 years.

New figures compiled by the Metropolitan Life Insurance Company statisticians show that despite the low general mortality, there are areas, including New Mexico, Arizona, Georgia and Mississippi, where each year about ten persons in a million lose their lives from this cause.

Frequency of thunderstorms is an important factor, but outdoor workers are in much greater danger than city dwellers.

In a city like New York, with many tall buildings built on solidly connected steel skeletons, almost complete protection from death by lightning is afforded not only to the persons within them, but also to those in their vicinity. These tall buildings act as most efficient lightning conductors, partly by dissipating the electric tension without any actual lightning discharge, and partly by receiving the lightning discharge when it does occur, and passing it harmlessly to the ground. It is a matter of relatively common occurrence in thunderstorms for these tall buildings to be struck without the slightest damage to the buildings or their occupants.

High Rate Belt

There is a continuous band of States, including Montana, Wyoming, Colorado, New Mexico, and Arizona, running from north to south, characterized by annual death rates of six per million and over; another continuous patch of States with these high rates is found in the southeast corner of the United States, including South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Arkansas. States bordering on these areas also had in most cases higher than average death rates from this cause.

In contrast, the Pacific Coast States and the highly industrialized States of New England and the Middle Atlantic Division ranked as the least hazardous parts of the country as regards fatalities from lightning. Outstanding among the States with low rates may be mentioned California, with a population of ap-

proximately six million, where there have been only five deaths from lightning in a ten-year period studied, and the State of Washington with a population of approximately a million and a half and only eight deaths in the same period.

In the death registration area of the nation during the period 1924-1933 there were recorded 3,849 lightning deaths, the equivalent of 385 per year.

Science News Letter, July 18, 1936

NUTRITION

Infants Thrive Better on Sodium Citrate Formula

NEW-BORN babies get a better start in life when they are fed a special sugar solution and sodium citrate during their first few days, Dr. Howard L. Eder of the Santa Barbara Clinic has found.

The sugar solution, a combination of maltose and dextrin, is already widely used as a supplement to cow's milk in infant feeding. Combining sodium citrate with the sugar solution is the new departure.

In a report to baby specialists, (*Archives of Pediatrics*, June), Dr. Eder states that this solution lessens the weight loss following birth and prevents the acidosis, fever and jaundice which "have been a grave source of concern to the medical profession for many years." Babies given the citrate-sugar mixture regain their birth weight more rapidly, nurse more vigorously and are in generally better condition.

The solution may be used in small institutions or the private home by simply dissolving six level tablespoons of the mixture of sugars and citrate in one quart of boiled water. This solution is given to the new-born infant starting six hours after birth. Two ounces are given every two or three hours for the first five days of life.

With the new treatment the average weight loss of 100 newborn babies was 4.2 ounces, and two-thirds of them had gained this back within the first eight days of life. During the past four years 800 babies have been given this solution and none has developed jaundice or fever.

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