

## ANTHROPOLOGY

# Great Growth of Human Brain Causes Skull Changes

## Cerebral Enlargement Held Responsible for Changes In Size of Face and Teeth as Well as in Cranium

MAN'S evolution as a "brain animal," with a cerebral development that is an outright anatomical runaway, is primarily responsible for all the changes that have taken place in the human skull, Prof. Franz Weidenreich of Peiping Union Medical College told the meeting of the American Association of Physical Anthropologists in New York.

Prof. Weidenreich, leader of research on Peking Man, one of the most ancient of human races, held the extraordinary enlargement of the brain responsible not only for the necessary changes in the case of bone that houses it, but also for the changes in accessory skull structures such as the reduction in size of face and teeth as contrasted with conditions to be found in fossil and living great apes.

Analogous changes have taken place in the skulls of dogs, Prof. Weidenreich declared. Small dogs, like King Charles spaniels, have skulls larger in proportion to the rest of their bodies than are the skulls of big dogs like wolfhounds; and with the relatively larger skull goes reduction in size of face and development of teeth.

"Dogs and man differ," said Prof. Weidenreich, "only in that the brain of dwarf dogs has increased relative to the size of the body, whereas in man the brain is expanded absolutely. Similar relations and differences can be found also in other mammalian groups. These facts prove that the evolution of the special character of the human type is strictly orthogenetic and does not alter the basic pattern which man shares with the anthropoids."

*Science News Letter, May 11, 1940*

## Race Seen as Dynamic

RACE is not something foreordained, fixed and final for all time; it is a "dynamic process of gene variability," constantly undergoing evolution into something new. Such was the view of race presented before the meeting of the American Association of Physical Anthropologists by Prof. M. F. Ashley-

Montagu of Hahnemann Medical College, Philadelphia.

Genes, the determining units in heredity, animal and plant as well as human, fix the character of a race at any given time and set its course in further development, Prof. Ashley-Montagu pointed out. And it takes relatively few gene changes to make a racial difference.

"The physical differences existing between the living races of man probably represent the end effects of small gene mutations fitting harmoniously into gene systems which remain relatively unaltered," he said. "The number of genes involved is very small, at the maximum probably no more than 1%, the action of the genes being for the most part independent."

*Science News Letter, May 11, 1940*

## Gargantua is Different

GARGANTUA the Great, much-publicized circus gorilla, is different in blood type from the few other gorillas who have thus far been "typed," Dr. P. B. Candela of Brooklyn reported.

Gargantua is only the fifth gorilla whose blood has been studied. The other four were all of Group A, whereas Gargantua belongs to Group B or Type 3. Previous to this time Group B has been reported only in orang-utans and gibbons.

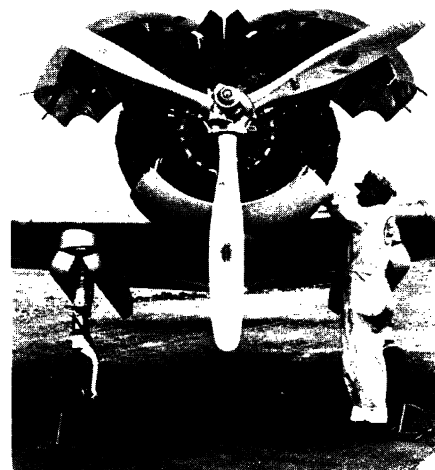
*Science News Letter, May 11, 1940*

## Head-Hunters' Teeth

FURTHER evidence of the ill effects of civilized contacts upon the teeth of primitive man was reported before the meeting by Dr. Harry B. Wright, Philadelphia dental surgeon.

Dr. Wright studied two groups of Jivaro Indians, head-hunting people of South America. The first group consisted of 67 men who had had practically no contact with the white man and his world; the second, of 80 men who had taken up life around a mission station and had to a certain extent adopted the white man's food.

Tooth troubles were not entirely ab-



**MILE-A-MINUTE**

*That is the climbing speed of this newest interceptor fighter being built for the Allies by the Curtiss-Wright Corporation. It is equipped with four machine guns firing through the propeller disc. In this picture the streamlined cowling over the engine has been raised for inspection.*

sent even in the isolated group; 82% of them had turned or overlapped front teeth. There was nothing else wrong with their teeth, however. But of the second group, all but three had many tooth cavities, and there was a high proportion of malocclusions.

*Science News Letter, May 11, 1940*

## Race Growing Shorter

BOYS and girls now growing up show a tendency to become less tall than their older brothers and sisters of a few years ago, and also not to become mature men and women at so early an age. Data in support of this contention were submitted to the meeting of the American Association of Physical Anthropologists by Prof. Clarence A. Mills of the University of Cincinnati.

Prof. Mills was inclined to attribute this reversal in the human growth tide to a change in climate toward the warmer, rather than to any differences in the American diet. The tendency for young people of the recent generation to grow tall and mature early, which he said is now reversing itself, has been laid to improved diet. Yet the present generation of college students (on whom the studies have been based) is just as well fed as their taller immediate forebears.

Need for more information, especially from foreign lands, was stressed by the speaker in his concluding remarks:

"It seems likely that a profound racial change is taking place in humanity, physically as well as socially. It would be highly desirable to know whether a similar physical reversal is taking place in those foreign lands where the upward surge of the last half century has been most marked."

*Science News Letter, May 11, 1940*

## "Man-Apes" Contemporary

**R**E-STUDY of the fossil ape skulls and teeth found in South Africa by Dr. Robert Broom of the Transvaal Museum in 1936 was reported in an illustrated lecture by Drs. William K. Gregory and Milo Hellman of the American Museum of Natural History. Their findings confirm those of Dr. Broom: that the canine teeth of these apes are almost human, while the large molars combine human and ape features.

"Our reconstruction of the upper dental arch comes out in almost human form," Dr. Gregory stated. "The lower teeth also combine ape and human characters."

"These creatures probably represent persistent primitive forms that lived on in South Africa after man himself had arisen, possibly in another part of the world."

*Science News Letter, May 11, 1940*

## Hopewell Indians Described

**T**HE INDIANS who built the famous Hopewell mounds of the Ohio valley, and whose cultural remains have been found as far west as Iowa and Missouri, were brought a little closer to personal portraiture by a paper presented before the meeting of the American Association of Physical Anthropologists, by Dr. T. D. Stewart of the U. S. National Museum.

Trouble with the Hopewellians is that they practised cremation, so that bones found in their elaborate funeral mounds have always been burned beyond any possibility of reconstruction. Therefore while scientists have been able to collect great amounts of data on their really beautiful workmanship in copper, shell, mica, obsidian, horn, bone and river pearls, they could never get an idea of what the people themselves looked like.

However, some skulls from a Hopewell site near Kansas City, Mo., excavated by Dr. W. R. Wedel of the National Museum, at last give a clue to the Hopewellians' personal appearance. Search in the Museum's great collection of Indian skulls has also brought to light specimens from the Illinois-Wisconsin-

Iowa region, which had hitherto been overlooked.

The typical Hopewellian skull appears to have been long and narrow—in Europe it might have been classified as either Nordic or Mediterranean. Similar skulls were common among more recent Indian tribes in eastern North America. There is also a pronounced narrowing of the forehead, which Dr. Stewart believes may have been artificially produced by binding of the heads of the young children. Head binding is common practise in many Indian tribes, though it is usually done in such a way as to cause a flattening instead of a narrowing of the skull.

*Science News Letter, May 11, 1940*

## Early Skull Surgery

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The find is a very puzzling one, be-

cause primitive trepanning has not hitherto been known for this part of the continent. Yet the job was so skillfully done that "it would seem unreasonable to expect such a successful end result on a first attempt at cranial surgery."

*Science News Letter, May 11, 1940*

## PHYSICS

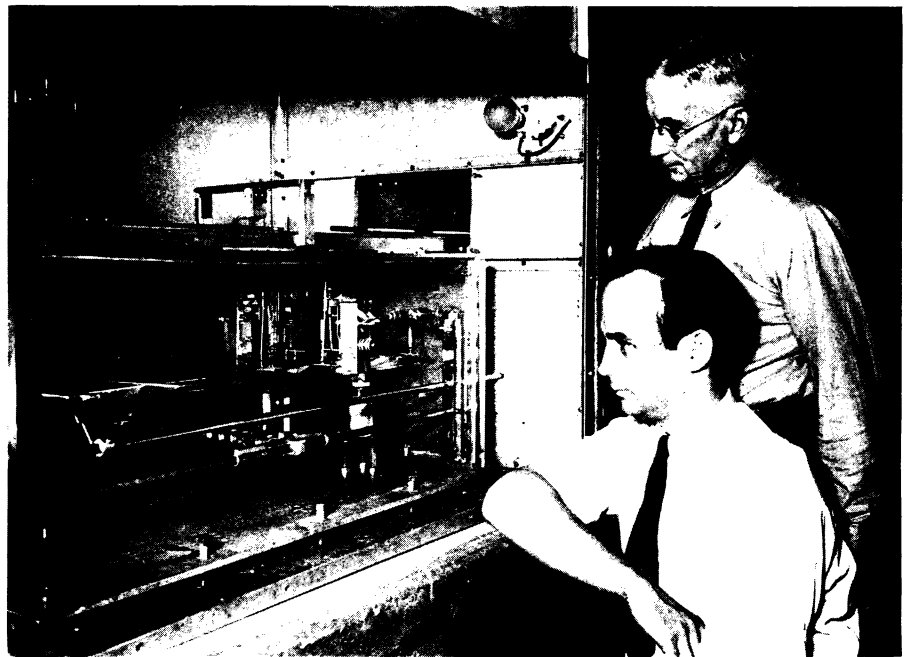
## Ice Melts Without Heat In World of Thin Films

**A**MAZING things happen in the strange two-dimensional world of thin films which scientists can create in their laboratories. Typical is a new kind of "ice" which requires no heat to melt it, and turn it from a solid to a liquid state.

However, an extremely large amount of heat is used to expand or swell the liquid whose molecules separate sufficiently so that if this occurred in three dimensions it would be as if one quart of milk were to expand to three quarts, and yet remain liquid.

Prof. William D. Harkins, T. Fraser Young and Edward Boyd of the University of Chicago told of this new discovery to the National Academy of Sciences.

Every farmer knows that the way to keep potatoes in the vegetable house



MEASURES THIN FILMS

*Prof. William D. Harkins and Dr. R. J. Myers are shown here with their apparatus for studying thin oil films only one molecule thick. Pressure, temperature and molecular area are measured and from these heat of expansion can be calculated.*