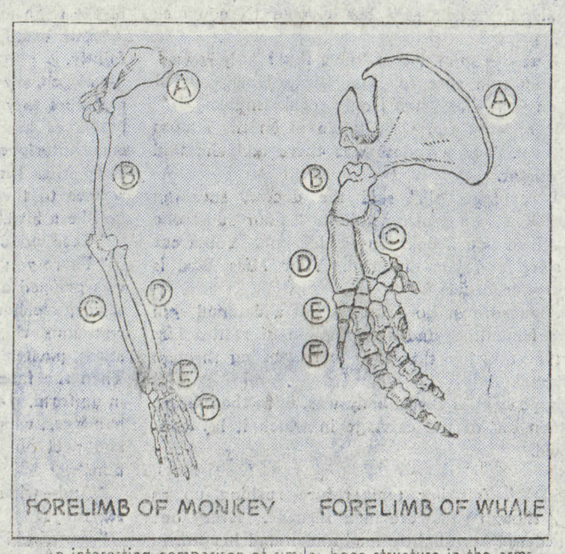
Science at the World's Fair Throws New Light on the Rise of the Race

Conventions Reviewing a Century of Progress Reawaken the Public to the Vital Importance of the Laboratory to Humanity

By Bradford Ames

WITH a hundred years of scientific and industrial achievement as its themes, A Century of Progress exposition has fascinated millions of visitors with its dramatization of the intricate and swiftly changing technique of the age in which we live. No less remarkable than the theme, however, has been its counterpoint, one of the most remarkable concentrations of scientific bodies ever witnessed in one city in one year.

What significance for the man on the street has this great convocation of science? It has passed in review all new and vital researches and findings that concern man's conquest of himself and his environment. And not that alone; by its unities of time and place, illuminated by the same floodlights of world publicity that have bathed A Century of Progress, it has captured popular imagination and awakened the public to a keener realization that science is the veritable cornerstone of the modern age.

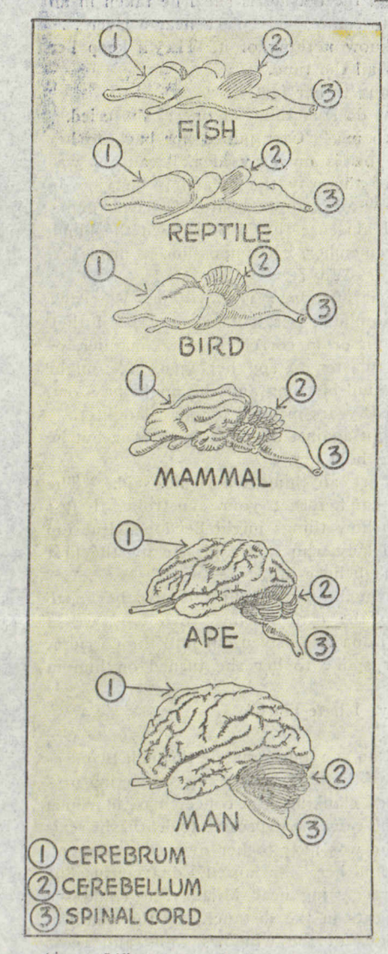


An interesting comparison of similar bone structure in the arms of a monkey and a whale, hinting at evolutionary relationships. The letter A is opposite the scapula, or shoulder blade; B, the humerus or upper arm; C and D, the radius and ulna of the forearm; E, the wrist; F, the palm, and then the fingers.

Man never ceases to wonder what manner of creature he is, and to attempt to piece together the story of his rise; and because that is true, he finds of obvious significance the findings of those sciences that deal directly with himself and his past. Let two instances be chosen almost at random from the fields of anthropology and physiology, then—but without attempting to weigh their relative importance in the scientific scale of the year—to exemplify the importance to man of the scientific pronouncements of 1933:

The highly evolved brain of the human being holds unconscious control of the chemistry and physics of the blood.

Recent researches have disproved the old theory that the shape of the skull is always determined by the growth of the brain in its earlier stages. Instead, the skull often determines the shape and size of the brain.



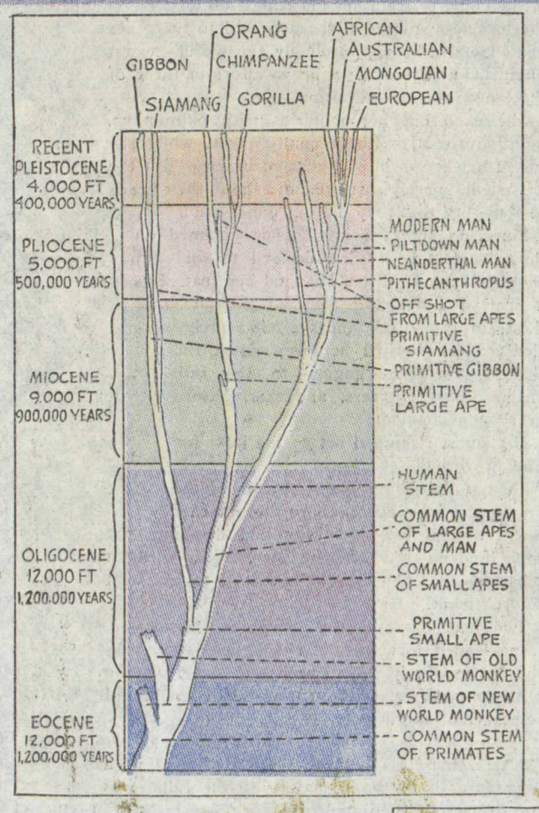
Above: Differences in the brain structure of man and creatures of lower orders.

(Wide World photo.)
The human form divine as conceived by the New York sculptor, Edward McCarten, in his statue, "Diana." It is difficult to associate this lovely figure with that of the gorilla pictured above, yet scientific evidence indicates a common ancestry which began in the Eocene age, 1,200,000 years ago.

Ferocious and ugly, this savage gorilla represents a branch in the evolutionary scale which scientists believe belongs to the same common stem from which humanity developed.

Both these statements were heard in reports before the convention of the American Association for the Advancement of Science, the largest and most comprehensive of the many scientific conventions held in Chicago. The first was made by Prof. James Barcroft, British physiologist; the second by Prof. C. U. A. Ariens of the Central Dutch Institute for Brain Research, Amsterdam. Both are typical of the beaconlike discoveries of science which increasingly illuminate the road of human progress from the time of man's origin, millions of years ago, to the present.

Prof. Barcroft, in his study of brain functions, reports that man's superior brain makes it possible for him to live in a world of weather extremes and other varying conditions. As a result of brain control of blood chemistry and physics, the constancy of man's blood stream makes him relatively independent of heat, cold, and other changes which hamper the lives of lower animals. The lowest organisms in the evolution of life, says Prof. Barcroft, directed their efforts at arranging their lives so that outside conditions would be less hard on them. Higher in the evolutionary scale the first steps toward internal regulation were chemical. Then the control of the nervous system began to assert itself, until finally the brain became dominant in maintaining continuing uniformity of the blood stream.

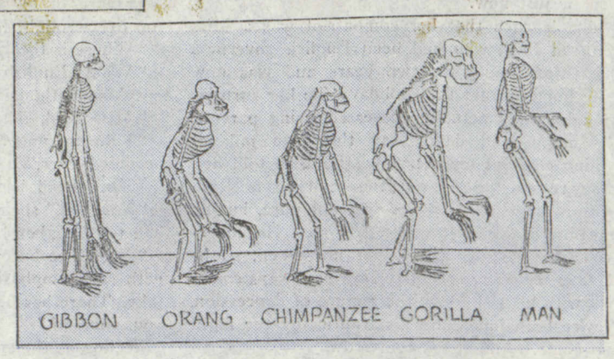


Above: Scientists suggest this illustration as the genealogical tree which might show the true relationship between man and the anthropoid apes. It will be noted that the human stem is branched off in the Oligocene age, more than a million years ago.

In elaboration of his report concerning skull shape, Prof. Ariens points out that in fishes the small space occupied by the brain is ample; but in birds, as is shown by one of the accompanying illustrations, the small skull compels the brain to fold and pack itself closely. Similarly, in the humans the skull types of the various races, long, medium, and broad, have been known to influence the brain arrangement. There is yet no evidence, says Prof. Ariens, that influence of the skull on brain arrangement makes any one human race superior to any other.

Contrast the brutish ancestry from which man descended and the flower of the human race, as visualized by juxtaposition in the accompanying illustrations. Historically the separating abyss is all but inconceivable. Physically the eye might place the two creatures as coming from different worlds. But, staggering as is this differentiation, the contrast in mental powers is even greater. Man is what he has become because he thinks. In the light of such considerations, researches of the Ariensens and Barcrofts take on a momentous aspect.

In addition to the scientific conventions of 1933, another interesting concomitant of the Chicago exposition has been the publication of a series of scientific books, under the name of A Century of Progress, written by scientific leaders to present the message of science at the World's Fair. In one of these, "The Long Road from Savagery to Civilization," Dr. Fay-Cooper Cole, professor of anthropology at the University of Chicago, outlines the story of mankind through the ages, a story which begins, according to Dr. Cole, with the fact, accepted by science, that there are many positive indications that man and ape may have had a common ancestor.



At right: The startling resemblance between members of the anthropoid ape families and man is strikingly illustrated in this picture of skeleton specimens. The skeletons were drawn from real specimens in a museum.