

## ANTHROPOLOGY

## New Java Fossil Is Freak

The ancient fossil bone found in Java this summer and reported as a companion of *Pithecanthropus*, the oldest man-like creature known to science, is proved to be a most unusual freak of nature. This conclusion was announced by Dr. Ales Hrdlicka, noted anthropologist of the United States National Museum, following careful study of a photograph just received from Dr. C. E. J. Heberlein, discoverer of the "skull."

Dr. Hrdlicka and Dr. Gerrit Miller, zoologist of the museum, pronounce the Javanese fossil, which has attracted so much attention, to be the leg bone of an ancient elephant, preserved by some remarkable chance, so that it happens to resemble closely the form and size of a prehistoric human skull. In this, the two scientists agree with Prof. Eugene Dubois, in Holland, who has also examined a photograph and considers the specimen an elephant bone.

An additional detail pointed out by Dr. Hrdlicka is that the bone represents a portion of the head of the humerus, the main bone of the fore leg of an elephant. The period in which the prehistoric animal lived is placed by the anthropologist as probably Pliocene, which would be close to a million years ago, by a general estimate.

The clue which revealed the identity of the specimen was the porous looking material beneath the rounded outer surface. In life this was the spongy appearing material within the bone, which enables the bone to withstand stress and weight. A thin layer like this would be found within a skull, but presence of a thick mass convinced the scientists that the fossil relic is the ball-like end of a giant leg bone.

A feature of the American Anthropological Association at Philadelphia was the presentation by Dr. Hrdlicka of an enlarged photograph of the specimen, so that American anthropologists from all over the country could see for themselves details of the much-discussed fossil. Dr. Hrdlicka also had a leg bone of an elephant cut to correspond exactly with the Java specimen, to illustrate the way in which the prehistoric leg came to resemble a skull.

See *Science News-Letter*, October 9, 1926, X, 17; October 16, 1926, X, 35.

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Children in the mountains of Bohemia have taken to skiing as the best means of getting to school in winter.



MAN OR ELEPHANT?—First photograph of the freak fossil to reach this country. Photo received by Dr. Hrdlicka from Dr. Heberlein, of Java.

## PHYSIOLOGY

## Prenatal Life Favors Girls

Not only is the female of the species more deadly than the male but her chances of survival before birth are better than his. Facts recently brought to light by scientific research indicate that there are circumstances before birth in many animals, including man, which react to the disadvantage of the "stronger" sex.

Dr. Oscar Riddle of the station for experimental evolution of the Carnegie Institution of Washington states that at least one alleged sex-specific hormone passes from the mother's blood into that of her unborn child and exerts an influence antagonistic to masculine development.

In addition to this, says Dr. Riddle, German workers have recently found that there apparently develops in the blood of a mother about to give birth to a boy another substance which has an "anti-male" reaction that can be shown by laboratory tests. When a girl is to be expected no such substance is formed. In consequence this test of the mother's blood indicates the sex of a child before birth.

The German scientists, Dr. Hugo Sellhein of Halle University and his associates, have been working on this aspect of the problem but the technique involved in making the tests has proved thus far too difficult to be of any wide practical use. So prospective parents still have to remain in suspense.

Mere men have an added handicap in their prenatal life in requiring more nourishment than the opposite sex before birth as well as after. In consequence, the chances of a boy's survival with a mother whose nutritional status is not adequate are greatly lessened.

The fact that the prenatal death rate of boys is greater than that of girls need not necessarily indicate that the male sex is weaker, but may be explained by these adverse conditions.

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## BIOLOGY

## Evolves Theory of Vitality

In these days when everything is measured, from the energy a man uses up in walking a mile, to the rate at which hairs grow on the head, it scarcely occasions surprise to learn that biologists are boldly setting out to measure vitality.

Dr. Raymond Pearl, director of the Institute for Biological Research at Johns Hopkins University, defines vitality as meaning "the degree of intensity of vital actions."

Taking the ability of fruit flies to resist starvation and the rate of growth of canteloupe seedlings as examples of vital actions, Dr. Pearl has found that the individual differences in "aliveness" involved in both processes in these widely different classes of organisms are practically the same. He has plotted a chart on which curves from the data accumulated through a long series of laboratory experiments showed the substantial identity of the distribution of inherent vitality in such diverse forms of life as an insect and a melon seedling.

"These facts," says Dr. Pearl, "would seem to indicate that in the concept of inherent vitality here developed we are dealing with a matter of real biological importance."

"The direct approach to the study of the action-pattern of organisms opens a vista of entertaining possibilities in biological research. We are busily engaged in my laboratory at the present time in exploring some of these possibilities, and hope to be able to report upon them in the not too far distant future."

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## ENTOMOLOGY

## Bees Choosy about Colors

Like the proverbial bull, the honeybee is choosy about what colors will excite it, according to Prof. Lloyd M. Bertholf, head of the department of biology of Western Maryland College.

The honeybee is readily stimulated by white and green. It responds less readily to blue, still less to yellow and violet, and hardly at all to red. This was shown by putting several honeybees in a large covered glass dish into which entered two different colored beams of light. In trying to get out of the dish the bees ran to the two spots where the light beams entered. The number of times they bumped into the glass at each spot indicated which light had the stronger effect.

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The oldest living sequoia trees in California are about 4,000 years old