



EVOLUTION



Irreversible Evolution

BIG THINGS can evolve out of little ones, but not little things out of big ones.

The whole course of evolutionary history is littered with examples of developmental lines of animals and plants that started small, grew big, then huge, and then—died. Faced with changed and adverse conditions, they apparently could not contract the scale of their operations to weather the storm. They could only go into involuntary bankruptcy and pass out of the picture.

It was so with the dinosaurs. The earliest reptiles, in the age that succeeded the lush days of the coal era, were moderate-sized beasts. The biggest of them did not outrank modern crocodiles or the giant tortoises of the Galapagos. In succeeding geologic periods, one reptilian line, the dinosaurs, began to take on size: first as big as a horse, finally as big as a house. Then came one of the world's periods of major geologic change—a revolution—and down went the dinosaurs. The reptiles who survived and now possess

their modest share of the earth were the less ambitious, less grandiose orders—lizards, tortoises and turtles, crocodilians, and the later-appearing snakes.

The same is true of the giant plants that lived in the coal age. They were, some of them, relatives of the common horsetail rushes that now grow along railway embankments and in moist sandy soil. They aspired to great heights, developed into things as big as the giant cacti of our Southwest. But when geologic hard times came they couldn't "take it," and so passed out, leaving their share of the picture to their poor relations, the smaller horsetails, that somehow managed to struggle through not only those hard times but all that followed, and are still with us.

The same story could be told about a dozen families of mammals, that ap-

peared on the scene much later. Elephants will do as a type example. The earliest ancestral elephants we know anything about were animals not much bigger than a pig, without the great trunk and tusk development that came later. They grew and grew in succeeding geologic periods, until just prior to and during the last great glacial epoch they reached their climax in beasts more than a dozen feet high at the shoulders, with tremendous curved tusks. But they all went, with the exception of the two surviving species in Asia and Africa. And these, even without the deadly interference of man, must surely have followed their forefathers before many more thousands of years.

The meek always inherit the earth—and when they cease to be meek they presently lose it again.

Science News Letter, October 28, 1933

ARCHAEOLOGY

Cannibalism Everyday Habit Of Ancient Wisconsin Indians

"A BUNDANT evidence" that prehistoric Indians who lived at Aztalan, Wisconsin, ate human flesh as a regular article of diet—when they could get it—is reported by Dr. S. A. Barrett of the Milwaukee Public Museum.

In a comprehensive report on the site which has interested archaeologists for many years, Dr. Barrett declares that human bones found in refuse heaps at Aztalan are almost unbelievably numerous. The usual explanation that aborigines who practiced cannibalism did so as a special rite, and thus ate a bit of heart, brain or flesh of the enemy to acquire power, cannot be accepted here, Dr. Barrett says. The human bones are too numerous. They are almost all broken open for the marrow inside. The skulls have been opened for the brains. The remnants are tossed aside.

"Revolutionary as this idea may seem," says the report, "we are forced to suggest that the evidence points to the probability that human flesh was here used as a regular article of diet whenever it was obtainable and that the human flesh was handled in every way precisely as was that of the larger animals of the chase. Marrow and brains were considered as delicacies, whether they were the marrow and brains of the deer, bear, and buffalo or whether they

were those of a slain enemy or of a captive."

The Indian village which held this strange eating custom was built in an unusual manner. Excavations by the Museum show that it was a large village protected by no less than three stockades. A wall of posts twelve feet high surrounded the settlement. There were watch-towers at regular intervals, and the gates were so placed that they could be easily guarded. The actual fortifications have long since vanished, but fragments of post have been found and lines of the post holes can be traced. An earthen embankment added to the strength of the outer stockade.

From the earthworks at the site and other clues, it is believed that the village was most nearly like the culture of the mound building Indians to the south, at Cahokia in Illinois.

The theory once advanced, that Aztalan was the place in the north whence the Aztecs migrated to Mexico, is not upheld by evidence that can be found there, Dr. Barrett reports. The traditional first home of the Aztecs was called Aztalan, and the Wisconsin site was merely given this name when an early explorer examined it and thought it might explain the Aztec migration story.

Science News Letter, October 28, 1933

FRANK M. CHAPMAN

Curator of Birds at the American Museum of Natural History writes his life story

AUTOBIOGRAPHY of a BIRD-LOVER

Nature lovers and scientists will revel in Dr. Chapman's story of his long and active career spent in acquiring and disseminating knowledge about birds, their habits, habitat, evolution and their importance in the spiritual life of man. His work at the Museum, his travels over the world and his adventures afield are described in detail. Illustrated, \$3.75.

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35 West 32nd Street New York