

regarding the life of this vicinity in early post-glacial times. The finds were made by CWA workers while digging for an artificial lake in a swamp in Phillip's Park, which is located in the southeast part of Aurora, Illinois.

The mastodon parts consist of three skulls, one of which includes the lower jaw, three tusks, a femur, an ulna, a scapula, a number of ribs, several vertebra and a number of foot bones. Most of the material is in excellent preservation. E. S. Riggs, paleontologist at the Field Museum of Natural History in Chicago, has identified the species as being *Mastodon americanus*. There were also found in the same formation as the mastodon material three pairs of bird humeri and a portion of breast, all of the same species of bird. Identification has not yet been made of the bird specimens, but they are being examined by Professor L. A. Adams, of the University of Illinois. The size suggests a bird possibly four feet in height.

The deposit in which the mastodon and bird material was found is a bed of gray marl enclosed on three sides by hills of glacial till, and situated a mile and a half east of the Fox River. Professor William E. Powers, of Northwestern University, has examined the geological features of the locality, and believes that the marl represents a post-glacial lake which probably once connected with the river. A series of borings made in a north and south line across the marl bed revealed a maximum thickness of thirty feet. Overlying the marl was a layer of peat varying in thickness from two to five feet and over this about two feet of black muck which comprised the bottom of the modern swamp. The mastodon and bird skeletal parts were found in the upper three feet of marl, with the exception of the scapula which was in clay at the margin of the marl bed. This was the first specimen found, and obscurity of reports as to exact locality do not justify definite conclusions as to whether it differs in age from the rest of the specimens.

A hemlock cone found in the cavity of one of the mastodon tusks has been identified by Dr. W. T. McLaughlin, of Northwestern University, as being of the species, *Tusga canadensis*. Several other cones found in the marl of the same vicinity, he considers to be of the same species. There were also found two cones which he considers to be apparently black spruce, *Picea mariana*.

Professor F. C. Baker, of the University of Illinois, has identified twenty-one species of shells in a sample of the marl sent to him by Professor Powers. Baker reports<sup>1</sup> that "it is, as far as climate is concerned, a cold-temperate fauna." He also states that it is

"quite like the marl fauna found a few years ago in the bottom of Green Lake, Wisconsin, which is certainly middle Wisconsin in age, not later." He considers the cones of hemlock and spruce as further indication of a cold-temperate climate.

Another find of interest was a right femur of the giant beaver, *Castoroides ohioensis*, the specimen being identified by Professor Adams. It was reported by workmen to have been found in the peat layer, but there is reason for believing that this may be an error and that the specimen was more likely in the marl.

In the peat layer quite a collection of mammal skeletal parts has been found and most of it examined by Professor Adams. Most frequently represented is the Virginia deer. A skull he has identified as that of a female elk. The most recent find in the peat layer is a skull apparently of a muskrat. This has not yet been studied in detail.

With the completion of the lake-digging project the finding of specimens has now come to an end. Much remains to be done in studying the specimens and the data which has been recorded, and plans are under way by which it is hoped that more detailed reports will later appear in the scientific literature. The city of Aurora is keeping the specimens on display in a museum at Phillip's Park.

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#### LONGEVITY IN THE BOX TURTLE

IN the summer of 1896 a box turtle (*Terrapene carolina*) was captured on my father's farm in Ohio. This specimen had a carapace  $6\frac{1}{2}$  inches in length. There was a small round hole through edge of the shell about midway of the arc between the forefoot and the neck. On the back, slightly off the midline to the left, was an irregular scar approximately an inch in diameter, apparently produced by burning, as the contour of shell was not distorted, as would be the case if due to a blow or crushing. Partly merged with this were two letters, one an R, the other unidentifiable. These letters had evidently been carved, but at that time the markings had the appearance of stippling or pitting, the instrument cuts being almost completely obliterated.

There were two other sets of initials identifiable as those of two men of the neighborhood. Later it was recalled by others that these two men had been seen to carve their initials in the shell of a turtle 16 or 17 years before. Testimony differed on the exact time. One of these men had been dead nearly 16 years.

Comparison of these letters with the older ones would lead one to conclude that the latter must have been placed there many years earlier. The outline of

<sup>1</sup> Personal communication to William E. Powers.

the R was not distorted, as might have been the case had the animal grown after the carving was done.

By means of the hole mentioned, the animal was tied up in the yard and kept until the approach of cold weather, when it was released. It was found again the following year about 300 feet from the house and has been recaptured at frequent intervals since, the last time in the late summer of 1933. Neither its size nor appearance had altered in the intervening 37 years, except that there is some indication of pitting in the second set of letters.

A total of 53 years of this turtle's life may be accounted for quite accurately. The animal was certainly well grown when the first letters were carved. There is no doubt that they were carved originally, because when captured in 1896 there were instrument cuts still visible. The question arises as to whether the pitting is an evidence of a healing process and therefore related to the age of the cuts.

The later set of carvings showed no evidence of pitting in 1896, but when observed by the author in 1932 had begun to pit—about 50 years after they were made. This fact suggests that the pitting bears a general relation to the age of the wound. If so, the condition of the earlier carvings would indicate that they were much more than 50 years old in 1896, unless the process takes place more rapidly in the shell of a young animal.

In none of the literature cited below was there found any reference to pitting in similar carvings, although some of them were more than 50 years old. Whether they were not present or were not noted can not be determined.

If one allows 5 years for growth to adult size, and 20 years for the repair processes in a young turtle, this brings the total estimated age to 78 years in 1933. Unless the significance of the markings is greatly misinterpreted, this would seem to be a conservative estimate of this turtle's age.

An incomplete survey of the literature reveals the following records which seem to be quite authentic: Deck,<sup>1</sup> 88 and 87 years; Medsger,<sup>2</sup> 35 years; Koch,<sup>3</sup>

32 and 41 years; Nichols,<sup>4</sup> 78 years; Flower,<sup>5</sup> various species confined in zoological gardens, maximum 42 years; Townsend,<sup>6</sup> 35 and 40 years.

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## RESULTS OF GOITER PROPHYLAXIS WITH IODIZED SALT

WHILE visiting Switzerland Dr. Hans Eggenberger took me all over the canton of Appenzell and allowed me to examine the school children to show the results of 11 years of iodized salt. The results were truly remarkable and perhaps American readers will be interested in the conclusions which Dr. Eggenberger presented to the Second International Goiter Congress at Bern, August, 1933, and communicates to me in a letter.

(1) Iodine in very small quantity is a food.

(2) Of all kryptotrophic elements of the human body, iodine is the first of which we now know the necessary quantity for daily use. This is about 1 or 2  $\gamma$  for every kilogram of body-weight. ( $\gamma$  = microgram, the millionth part of a gram).

(3) If the average daily intake is under 1  $\gamma$ /kg. in any part of the world, the danger of goiter in man exists.

(4) If the average intake is near 2  $\gamma$  there is no danger at all of goiter, even though the susceptibility to goiter is increased by infectious disease or high fat or high cabbage diet.

(5) Experiments to show freedom from goiter without sufficient iodine-supply have often been made without chemical analysis of iodine intake.

(6) The extended natural comparative studies in Switzerland (v. Fellenberg), Holland (Reith) and U. S. A. (McClendon) and the most successful results of prophylactic measures against goiter in Appenzell prove that goiter is indeed a symptom of iodine deficient disease, what Marine, Kimball, Lenhart and others have proved long ago. Goiter can easily be avoided with iodine in the salt, in the proportion of 1:100,000 for daily use.

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## SOCIETIES AND MEETINGS

### THE NEW ORLEANS ACADEMY OF SCIENCES

THE New Orleans Academy of Sciences held its eighty-second annual meeting at Tulane University on Friday and Saturday, March 15 and 16. The meeting was divided into five sections, at which 39 papers were presented, as follows: Physics, Engineering, Mathematics, Astronomy and Geology, 12; Chemistry, Bio-

chemistry and Chemical Education, 8; Biological Sciences, 9; Medical Sciences, 4; Social Sciences, 6. The total attendance at the section meetings was approximately 550.

On Friday night E. L. Demmon, director of the Southern Forest Experiment Station, U. S. Depart-

<sup>3</sup> E. G. Koch, *Forest and Stream*, p. 170, 1907.

<sup>4</sup> J. T. Nichols, *Copeia*, p. 66, 1917.

<sup>5</sup> S. S. Flower, *Proc. Zool. Soc. London*, p. 911, 1925.

<sup>6</sup> C. H. Townsend, *Bull. N. Y. Zool. Soc.*, Vol. 27, p. 98, 1924.

<sup>1</sup> R. S. Deck, *Copeia*, p. 179, 1927.

<sup>2</sup> A. P. Medsger, *ibid.*, p. 29, 1919.