

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.

C. I. REED

UNIVERSITY OF ILLINOIS  
COLLEGE OF MEDICINE

## 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.

J. F. MCCLENDON

UNIVERSITY OF MINNESOTA

## 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.

ment of Agriculture, gave an illustrated public address on "The Social Aspects of Forestry in the South."

The session on Saturday morning was devoted to a symposium on "Stimulation of Scientific Interest at the Level of the High School," under the sponsorship of the recently organized Junior Academy Section of the New Orleans Academy. On Saturday night Dr. A. B. Cardwell, of the Tulane University Department of Physics, gave a demonstration of the properties and effects of liquid air before a large audience of high-school science students, as a part of Junior Academy activities.

The total attendance at all meetings was more than 800.

At the business meeting Dr. Rudolph Matas and Dr. Brandt Van Blarecom Dixon, both past presidents of the academy, were unanimously elected honorary members, by elevation from the rank of regular member. Twenty-eight new regular members were also elected. The officers elected for the coming year are: E. L. Demmon, United States Forest Service, *President*; Dr. H. H. Beard, Louisiana State University Medical Center, *Vice-President*; Philip C. Wakeley, U. S. Forest Service, *Secretary*; Dr. D. S. Elliott, Tulane University, *Treasurer*.

PHILIP C. WAKELEY,  
*Secretary*

#### THE OKLAHOMA ACADEMY OF SCIENCE

THE twenty-third annual meeting of the Oklahoma Academy of Science was held at the University of Oklahoma, Norman, on December 7 and 8. The academy program was divided into four sections which were as follows: Biology, Geology, Physical Sciences and Social Sciences. One hundred and twenty-two papers were presented. A special section was arranged for high-school science teachers.

Chancellor E. H. Lindley, of the University of Kansas, gave the annual address on Friday evening in the University Auditorium. The subject of this lecture was "Science Confronts Two Worlds." Dr. Lindley spoke again on Saturday morning on "A New Frontier."

Dr. Frank G. Brooks gave the presidential address after the luncheon on Saturday. His subject was "The Place of the Physical and Biological Sciences in the Liberal Arts Curriculum."

More than 300 people were present at the meetings. The officers elected for 1934-1935 were as follows:

*President*: Dr. C. E. Decker, University of Oklahoma, Norman.  
*Vice-president, Section A* (Biology): Dr. John G. Mackin, East Central Teachers College, Ada.  
*Vice-president, Section B* (Geology): Elmer L. Lucas, Phillips University, Enid.  
*Vice-president, Section C* (Physical Sciences): Mrs. E. S. Hammond, Oklahoma College for Women, Chickasha.  
*Vice-president, Section D* (Social Sciences): Dr. J. T. Sanders, Oklahoma A. & M. College, Stillwater.  
*Assistant Secretary-Treasurer*: Dr. Geo. Van Lear, Oklahoma University, Norman.

HORACE J. HARPER,  
*Secretary*

#### THE SOUTH CAROLINA ACADEMY OF SCIENCE

THE South Carolina Academy of Science held its twelfth annual meeting at the University of South Carolina on April 6. The meeting was well attended and the secretary reported that the membership of the academy had been doubled within the last two years. The meeting next year will be at Winthrop College, Rock Hill. At the business meeting of the session, the following officers were elected for the ensuing year:

*President*: Professor Franklin Sherman, Clemson Agricultural College.  
*Vice-president*: Professor A. C. Carson, University of South Carolina.  
*Secretary-Treasurer*: J. E. Copenhaver, University of South Carolina.  
*Executive Committee*: Professor J. A. Osteen, Furman University; Dr. F. W. Kinard, Medical College of South Carolina; Dr. W. W. Rogers, Winthrop College.

J. E. COPENHAVER,  
*Secretary and Treasurer*

## SCIENTIFIC APPARATUS AND LABORATORY METHODS

### A COMMUTATOR FOR THE HARVARD KYMOGRAPH<sup>1</sup>

A NEED was felt for a dependable circuit breaker that could be attached to a kymograph without necessitating tearing it apart each time it was to be used. Previous attempts at using various makeshift "trig-

ger" attachments led to the construction of the apparatus described here.

In many physiological experiments it becomes desirable to stimulate a preparation at exactly the same location of the drum at each rotation. In others, a key that will be automatically opened or closed on the swiftly moving drum is often advantageous. Also in a great number of routine experiments in which the

<sup>1</sup> From the department of physiology, Purdue University, Lafayette, Indiana.