

ARCHAEOLOGY

Child Burial in Each of Seven Newly Found Texas Caves

Examination Reveals Confusing Picture of Indian Life Both Like and Unlike Other American Cultures

SEVEN CAVES in a Texas wilderness, and in the floor of each cave the skeleton of a young child—this is the strange discovery announced by Frank M. Setzler, archaeologist of the U. S. National Museum, who has been exploring caves in the Big Bend region of southern Texas. The air of mystery which tinges all prehistoric happenings in America hangs heavy over this semi-desert Texas country. The seven caves explored by Mr. Setzler were inhabited by a people who have not been identified.

"Last year, I made the first scientific excavation at a cave in the region," said Mr. Setzler, "and found one child buried in the cavern floor. Now, this year, I have explored the depths of seven more caves and there are seven more child burials. Not a child is over two years old. What it means, we do not yet know. Some ceremonial, some superstition may account for it.

"Not a trace has yet been found of any skeletal remains of the older people who inhabited these caves."

Huge heaps of bones and other refuse which accumulated in the dark, dusty cave apartments were excavated by the archaeologist. Examining the trash heaps, Mr. Setzler concludes that these cave dwellers were remarkably successful and ingenious in putting to good use the plants and animals of their wild, semi-desert land.

The cave dwellers gathered corn-cob cactus, maguey, and a plant of the yucca family called Lechuguilla. They pulled off the leaves of this latter plant and ate them like artichoke leaves, leaving huge cuds with tooth-marks in them, in their cave kitchens.

The ancient cave dwellers tried a hand at farming, even though they could expect only one or two good rains in a year. A buckskin bag, which Mr. Setzler found, still held two kinds of beans and a few kernels of corn, possibly the seed saved for a farmer's planting.

The variety of bones in the caves show that the inhabitants ate deer, bear, antelope, fox, lynx, rabbit. Being close to the Rio Grande, they added fish and

terrapin to their menus. For clothing, the cave dwellers apparently depended on the Lechuguilla plant. By chewing the fiber they could make a thread very much like cotton. Yards of this cordage were found, and one perfect piece of cloth, like a salesman's sample, showing how the cord was sewn together with finer thread to make a fabric.

One of the mysterious features of this cave life is a total absence of pottery. At least, Mr. Setzler reports that he sifted tons of earth from the caves without finding a single scrap.

The objects found in the caves present a confusing picture of prehistoric Indian life, which is like and unlike other cultures. A curved rabbit-stick, used in hunting, is a prized relic from one of the caves. Just such sticks were used by the old Basket Makers, who lived in the Southwest before the Pueblos, from about 2000 B. C. to about the time of Christ. The Texas cave dwellers were also like the Basket Makers in that they wore square-toed sandals. But just as these clues seem to point to the identity of the Texans, Mr. Setzler picks up a feathered arrow shaft and says that they used bows and arrows, which were weapons of the Pueblos and Plains tribes, quite unknown to the old Basket Makers.

The caves of the unknown Indians, explored by Mr. Setzler, were near the border. Two of the caves are on the southern "ear" of the famous landmark, Mule Ear Peaks. Two are in the Sunny Glen Canyon, eight miles west of Alpine, Texas.

Science News Letter, June 25, 1932

ORNITHOLOGY

Tamed Hummingbirds Eat From Mouth of Man

HUMMINGBIRDS, once thought quite untamable, have become so familiar with Ralph J. Ayer, a nature-loving farmer near Eastonville, Colo., that they will not only "eat out of his hand," but even from between his lips.

Noticing several of the little birds about his flowers, he decided to make

pets of them. He placed a few perfume bottles filled with diluted honey among the flowers, but the hummingbirds would not eat from them. But when artificial flowers were placed over the mouths of the bottles, they sipped from them. By degrees the bottles were brought nearer the house and eventually the bottles were placed on the windowsill. The Ayer family enjoyed watching the birds sip from the nectar bottles and then wipe their beaks on the window-pane. Finally they became so tame that they would come up and feast, "face to face" with their friends.

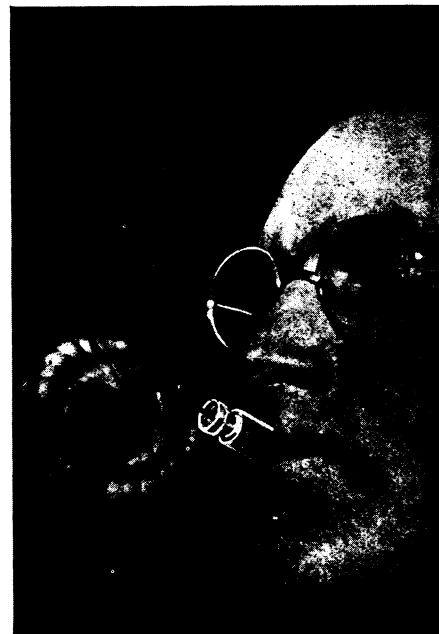
Several of the birds have been tame each year since he started his experiment in 1928, which leads Mr. Ayer to believe that the same birds have returned each year since that time.

Science News Letter, June 25, 1932

PHYSIOLOGY

Synthesis of Vitamin A By Light Is Disputed

THE EAGERLY awaited results of the biological tests undertaken by Drs. F. P. Bowden and C. P. Snow, of Cambridge University, cannot give the final proof that the carrot pigment, beta-carotene, has been changed into the growth-promoting vitamin A, Prof. I. M. Heilbron and Dr. R. A. Morton of the University of Liverpool hold in a letter to *Nature*, because carotene itself is transformed into vitamin A in the living body. (Please turn Page)



STRANGE FRIENDS

Honey in a glass bottle and patient training resulted in this unusual pose.

Drs. Bowden and Snow believe that they have obtained vitamin A by the action of ultraviolet light on carotene, but, according to Prof. Heilbron and Dr. Morton, this could only yield hydrocarbons, that is, substances made up of hydrogen and carbon only. It could not give vitamin A which contains in addition oxygen in the form of an "alcohol group" (OH).

Another test on the power of absorption of light of wavelength 3280 Angstrom units, is not considered conclusive evidence, because iso-carotene, a colored substance readily obtained from carotene, has a sharp absorption band in the neighborhood of 3200 Angstrom units and similar substances other than vitamin A may be responsible for the absorption observed.

Science News Letter, June 25, 1932

RADIO

Voices Beautified For Radio By Ingenious Mechanisms

Compensators and Filters Make It Possible for Same Voice to Speak in Different Accents at Operator's Will

ACCUSTOMED as the public is to retouched photographs that flatter, lightning hair color changes for lovely ladies, "ghosted" books and magazine articles, there is a sense of shock in the idea that radio voices of political speakers can be beautified.

Granted that they need it, the speculation is what effect this possibility may have on coming political events. A former Federal radio commissioner, now editor of *Electronics*, Orestes H. Caldwell, recently let the public in on secrets of radio's voice beauty parlors.

Plug in the proper combination of electrical gadgets in connection with the microphone, says Mr. Caldwell, and almost any political speaker's voice may be given charm and persuasiveness.

Sounds over the radio can be changed by placing into the broadcasting circuits devices that vary, permanently or at the discretion of the radio control engineer, the frequency and volume. The electrical devices, compensators and filters, have been in common use in connection with commercial radio programs and in the making of talking motion pictures. Whether they have been used as yet to build up the vocal personality of any of our prominent public men is a matter of conjecture. It is certain that the radio, even when not doctored, does change the speaking voice.

Radio and other electrically transmitted sound devices are much kinder to high-voiced individuals than they are to deep-voiced "he-men" speakers. They have placed on pinnacles of momentary fame singers and announcers who must carry with them amplifying devices in

order to be heard by audiences of their "personal appearances."

There is even the possibility of appeal to sectional feeling for Mr. Caldwell suggests that appropriate compensators placed in branches of broadcasting networks would make the political candidate speak simultaneously with a shrill Yankee twang in New England, a Southern drawl in Dixie, and a breezy western accent in the West.

Science News Letter, June 25, 1932

ENGINEERING-ECONOMICS

Selling Gas by the Pound Allays Suspicions of Public

DO YOU pay for your domestic gas by the cubic foot, by the pound, or by the "therm"? It depends on the kind of gas you get—old-fashioned or modern.

Recent developments have brought out new styles in city gas. Two new gases, propane and butane, have become cheaply available from gasoline refineries. The new fuels, produced in large quantities, are a god-send to gas companies serving scattered districts. Unfortunately they are a source of worry to the accounting department. The public, accustomed to old-fashioned artificial gas at sixty or eighty cents a thousand feet, doesn't understand that it is fair to pay a much higher price per cubic foot for the new fuel.

ENGINEERING

Artificial Lightning Flashed At Ten Million Volts

See Front Cover

THE MOST powerful man-made lightning is flashing across the cover of this week's SCIENCE NEWS LETTER from new equipment in the Pittsfield laboratories of the General Electric Co., which has twice the capacity of any preceding apparatus of its kind.

This is a discharge through a 15-foot space of 50,000 amperes at 10,000,000 volts. The voltage is capable of projecting an arc a distance of 60 feet. F. W. Peek, Jr., was in charge of the development of the new equipment.

Just what can be done with the ten-million-volt discharge nobody knows yet. It is to be used in connection with research on natural lightning, the effects of which it can approximate more closely than has hitherto been possible. Whether or not this high voltage will produce cosmic rays or split the atom, as scientists have predicted, Mr. Peek said that only time will tell.

Yet powerful as the new apparatus is, its discharge represents real lightning in only a fractional way. The voltage of a natural lightning discharge, Mr. Peek stated, is one hundred million, or ten times that of his best artificial "thunderbolt."

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Heretofore a gas company has been compelled to build a costly gas manufacturing plant, or a long and expensive pipe line to serve a town far removed from the metropolis. Propane and butane, on the other hand, can be liquefied and shipped economically by rail to a distant small town. One cubic foot of propane will yield as much as three hundred cubic feet of excellent fuel gas upon evaporation. These new gases are extremely rich, running from 2,500 to 3,200 on the heat unit scale in contrast with the 600 units from common city gas. Such fuel is obviously worth two or three dollars per thousand cubic feet.

Unfortunately the gas company, like the plumber and the tax collector, is a conventional object of public distrust.