

## ANTHROPOLOGY

**Head Measurements Prove  
Cheyenne Family Tree**

**H**EAD measurements have been used to help identify the ancestry of an Indian tribe by Dr. Truman Michelson of the Bureau of American Ethnology.

Indian tribes are often unable to give a satisfactory account of their past relationships and heredity. But resourceful students of Indian life have found that living Indians carry about with them plain evidence of their lineage. Their language and the bones of their heads are good genealogical records, which the specialist can read.

More than 80 Cheyenne Indians have been measured by Dr. Michelson. This tribe's family tree has been especially puzzling. When Dr. Michelson found that Cheyenne Indians have low-vaulted skulls he knew that this was real genealogical evidence. The Cheyennes had been classed as a branch of the Algonkian family of tribes. But low foreheads of the Cheyenne reveal a kinship with the Dakotas, who belonged to a different tribal family, the Siouan.

Establishing the fact that the Cheyenne people were a blend of Algonkian and Siouan explains why their language is Algonkian and yet not straight Algonkian. The introduction of outside influence may account for the variations.

The fact that Cheyenne and Dakota Indians had low vaults to their skulls is no reflection on their intelligence, Dr. Michelson explains. The two factors are not related.

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## OCEANOGRAPHY

**No Permanent Change  
Recorded in Gulf Stream**

**A**BNORMAL WEATHER, such as we have been having during the past couple of years, is not to be blamed on sweeping changes in the Gulf Stream. So said H. A. Marmer of the U. S. Coast and Geodetic Survey, in a Science Service radio talk broadcast over the network of the Columbia Broadcasting System. This mighty "river in the ocean," he said, is a product of forces of world-wide scope, and nothing but changes in the prevailing winds of the North Atlantic or of the shorelines or bottom contours could effect a permanent change in it.

"The Gulf Stream," Mr. Marmer said, "is indeed a stupendous thing.

The main branch comes out of the Gulf of Mexico and flows through the Straits of Florida like a mighty river 40 miles wide, 2,000 feet deep and with a velocity at the surface of about four miles an hour.

"In these days we have become accustomed to millions and billions but we may perhaps appreciate better this enormous volume of water which the Gulf Stream carries into the sea by comparing it with the discharge of the Mississippi River, which drains about forty per cent. of the area of continental United States. On the average, the Gulf Stream pours into the sea about one thousand times as much water as the Mississippi River. Even when the Mississippi is at extreme flood stage, when its waters are carrying death and destruction in their wake, the Gulf Stream discharges about four hundred times as much water. It has recently been calculated that the Gulf Stream each hour carries twenty-two times as much water into the sea as the total amount of water discharged by all the rivers of the world in a like period of time."

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## ENTOMOLOGY

**Insect Pest Outbreaks  
To Follow Mild Winter**

**U**NUSUALLY mild weather during the past winter has left insect eggs and hibernating pupae in an unusually favorable position to pursue their trade of trouble-making as soon as the country warms up and gets green again, a survey by the Bureau of Entomology, U. S. Department of Agriculture, indicates.

Grasshoppers especially may be expected to assume pest proportions. From Wisconsin and the Dakotas have come reports of large masses of eggs left by the insects of last year's outbreak. Egg capsules collected in North Dakota and brought into the laboratory gave a 95 per cent. hatch.

Another pest that built up a large population in 1931 is the San Jose scale, exceedingly troublesome in orchards. It has survived the winter with very low mortality, and is reported as increasingly abundant from New York south to Georgia, and westward to Illinois, Michigan and Missouri. The codling moth, responsible for "worms" in apples and other fruit, is also highly abundant over the same territory.

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**IN SCIENCE**

## ETHNOLOGY

**Scientist Says Paternal  
Instinct Non-Existent**

**S**CIENCE has shattered another popular tradition—there is no such thing as a paternal instinct. It is not even certain that the famous maternal instinct really exists.

In an address before the Michigan Academy of Sciences, Arts, and Letters, Prof. Robert H. Lowie of the University of California declared that fathers have no instinctive attachment for their own children. This fact, which has been discovered through study of primitive tribes, was stressed by Dr. Lowie as one of the outstanding revelations which the science of ethnology has to offer to its sister science of psychology.

In proof that no mysterious bond of sentiment links a father to his son, Dr. Lowie cited various primitive tribes in which the men deliberately ignore their own children but take responsibility of being fathers to certain other boys of the tribe.

"In place of the paternal instinct," said Dr. Lowie, "we must recognize a much vaguer tendency of adult males to form an attachment to infants of their species."

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## ZOOLOGY

**Owl's Eye Has High  
Magnifying Power**

**T**HE MAGNIFYING power of the eye of an owl recently was strikingly demonstrated at the museum in Grand Canyon National Park.

An Arizona spotted owl, not seen previously in the region, was found dead near Indian Gardens by Trail Maintainer Davis, who turned it over to the park naturalist for the museum.

While preparing the bird as a study mount for the museum collection Park Naturalist McKee, when working on the skull, removed the eye and laid it upon a piece of newspaper. That portion of the printed matter covered by the eye was thereupon magnified to a little more than three times its real size.

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# E FIELDS

## ARCHAEOLOGY

### Tomb at Monte Alban Still Yielding Treasure

FAMOUS "Tomb Number Seven," of Monte Alban, in which great prehistoric wealth was recently found, still yields treasure.

Piles of dust and dirt from the floor of the tomb which had not heretofore been completely sifted, have yielded another quarter of a pound or so of tiny beads of gold, turquoise, and other precious substances. There are tiny beads with holes so small that the finest needles do not pass through them.

Little gadgets of bone, with two or more holes, show how the multiple strands of the ancient necklaces were kept together. Ancient Mixtec codices, picture records in colors, that have survived to the present day, show how strands of gold, turquoise, or red shell beads were combined. One necklace has been reconstructed after a codex design, out of the large quantity of loose beads from the floor of the tomb.

In a special room in the National Museum of Mexico City the Monte Alban treasure is now on exhibit. It is surprising in its quantity and beauty. Tourists and the public are paying a small contribution to view these ancient relics. The funds thus gathered go toward next season's excavations which will begin on October 15.

Sr. Caso says there are hundreds of tombs not yet touched. Monte Alban appears to have been an especially propitious burial ground for the ancient inhabitants of that city.

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## VOLCANOLOGY

### Economy Measures Hamper Study of Volcanic Activities

THE HARDSHIPS suffered by many government scientists, due to the falling of the congressional economy ax this year, is aptly illustrated by what is expected to take place in the volcanology work in Hawaii and Alaska.

Delegate to Congress, Victor Houston of Hawaii, has called attention to

the fact that a reduction of \$11,000 in the appropriation for this work in the Geological Survey of the Interior Department, will mean the dismissal of an associate topographic and geodetic engineer and an assistant geologist, who were added to the pay roll in 1932, also two local observers or field assistants in Alaska who look after the seismographs.

Dr. T. A. Jaggar, volcanologist in charge of the work in these two outposts of the United States, wrote that the increase of funds in 1932 from \$21,000 to \$32,000, allowed a complete reorganization of both the work and the staff, so that now, "five higher officers are resident here (Hawaii), four with their own homes, and the janitor and mechanic in addition." Under present plans, two of these higher officers will have to give up their work.

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## ZOOLOGY

### "Feminist" Ducks Foist Family Cares on Others

FEMALE DUCKS of many species seem to have gone feminist to an almost race-suicidal extreme, and if it were not for the devotion of their mates, or for their own ability to foist their families on relatives of more maternal habits it is hard to see how their respective lines of descent could descend any further.

This is brought out in studies by Dr. Herbert Friedmann, curator of birds of the Smithsonian Institution. An example of a duck species in which the main care of the family falls on the father is the tree duck, the only American duck that builds its nest high above the ground. The female tree duck condescends to lay the eggs—since she cannot very well help doing that anyway—but it is the male who has to incubate the eggs. Some other ducks, in which the incubating instinct is very feeble, build "dumping nests" in which they lay their eggs but neglect to sit on them. Redhead and canvasback ducks, Dr. Friedmann says, frequently do this.

A duck that plays the tricks of the European cuckoo is found in Argentina. This species is a "nest parasite," laying her eggs in the nests of other birds and leaving it to them to hatch her offspring. Among the birds victimized by this quacking cuckoo are swans, coots, ibises and even hawks. The ruddy duck, found in both North America and Europe, is also a nest parasite, though not quite so extreme a case.

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## ZOOLOGY

### Monkey Plucks Eyebrows Of Female Companion

THE GIRL who plucks her eyebrows and thinks she is being awfully "swanky" ought to see what Dr. O. L. Tinklepaugh of Yale University saw.

Dr. Tinklepaugh observed the actions of two monkeys, male and female, which he had in his laboratory. He reported to the *Journal of Mammalogy* as follows:

"On two occasions, when the two animals were separated for several weeks, the eyebrows and cheek tufts of the female grew sufficiently long to alter her appearance definitely. Both times when the pair were reunited the male immediately proceeded to pull out part of the hairs of the eyebrows of the female and to bite off others which were unusually long. One by one he pulled out practically all of the long hairs of the cheek tufts, greatly changing the female's appearance. During this hair-pulling activity, the male frequently leaned back and surveyed the female as if evaluating the results. This is the first recorded instance, to my knowledge, of one animal's appearing to contribute to the adornment of another."

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## ENTOMOLOGY

### Walking-Stick Insects Menace Michigan Forests

WALKING-STICK insects, ordinarily so little abundant as to be a biological curiosity, will probably be a serious forest pest in some parts of Michigan during the coming summer. Their eggs are now lying on the forest floor in these threatened areas, in numbers ranging from thirty to more than a hundred per square foot, reports Prof. Samuel A. Graham of the University of Michigan. When they hatch into leaf-eating insects with voracious appetites, as bad as those of their relatives, the grasshoppers, the consequences of their activities among the trees may well be imagined.

There is one curious thing about the walking-stick's life cycle that may mean the salvation of the Michigan forests. In the oak forests of north central Michigan, the walking-stick eggs do not hatch the spring following their deposition, but lie over for two winters and a summer before they finally hatch. The cause of this delay is unknown.

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