

ZOOLOGY

Salamanders Induced to Lay Eggs for Science

SALAMANDERS lay eggs to order for science at the American Museum of Natural History. As a result, previously unknown eggs of certain species have been described and light shed on the racial history of these odd little relatives of frogs and toads, that inhabit the ponds and streams over most of the United States.

The salamanders do not cooperate of their own accord, however. An implant of a part of the pituitary gland of another salamander is necessary before eggs will be deposited out of season. The implanting was accomplished by Dr. G. K. Noble and L. B. Richards of the museum staff, and 45 individuals of one species of the amphibian were induced to lay eggs in the laboratory.

In the case of the salamander, *Stereochilus marginatum*, whose eggs were unknown before the investigation started, the female was found to turn upside down while depositing her eggs. This action was construed as a retention of the habits of mountain brook ancestors which attached their eggs to the underside of stones.

The investigators had at their disposal adults of both sexes of a species of salamander from the Olympic Mountains of Washington. No courtship behavior between the two was noted, however, and no eggs were laid. Then the pituitary technique was resorted to with gratifying success. It was also learned during the experimentation that implants from the pituitary gland will build up the ovaries of a spent female salamander.

Science News Letter, April 2, 1932

PHYSIOLOGY

Idiots and Epileptics Have Nearly Normal Blood

BLOOD SAMPLES from feeble-minded persons and epileptic sufferers have been analyzed by Dr. Sidney S. Negus of the Medical College of Virginia and found to be nearly normal. His results were reported to the American Chemical Society.

Low content of cholesterol, alcoholic oil constituent of brain and nerve tissue, was one exceptional feature common in the blood of the thirty idiots and fifty epileptics found by Dr. Negus. It is impossible, however, Mr. Negus said, to

state the significance of this result.

The oxygen content of venous blood was also found to vary somewhat from normal.

Inorganic and "acid-soluble" phosphate, lecithin, hemoglobin, red cell count and cell volume of the blood were found to be within normal limits for the feeble-minded subjects. Calcium, total protein, non-protein nitrogen, albumin-globulin ratio, oxygen capacity and content, were normal for epileptics.

Blood samples were taken during or immediately after seizures in the case of the epileptics. Red cell count, hemoglobin, sex, age, diet and severity of attacks were also considered.

Science News Letter, April 2, 1932

ANATOMY

Anatomist Cites 56 Cases Of Six-Fingered Hands

FIFTY-SIX CASES of hands bearing an extra little finger were reported by Dr. Harold Cummins, professor of anatomy at Tulane University, to the American Association of Anatomists.

The extra finger was either attached to the fifth finger or to the margin of the palm of the hand. They were small and generally had poorly developed nails or no nails at all. Most of them were doubly unusual in that they dangled on a thin stalk by which they were attached to the hand. They looked as if a tight band had been tied around them at their base, Dr. Cummins said in describing them. He found, however, that this narrow base was not caused by any pinching. That part of the extra finger had grown more slowly than the rest of the finger from the earliest stage of its development in the embryo.

Sometimes these extra little fingers drop off. That is because the narrow base cramps the blood vessels passing through it so that they become congested. Eventually the rest of the finger becomes gangrenous and finally drops off. Generally they are cut off early in infancy. Partly because of this and partly because it is rather a rare condition, Dr. Cummins found it took a long time to gather enough cases for his investigation of the significance of the narrow stalk. It took 10 years to get 35 cases in New Orleans, he said.

The condition is hereditary. Dr. Cummins told about one Negro family in which the mother and six of the nine children had it. It is slightly more common in Negroes than in whites.

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IN SCIENCE

PHYSIOLOGY

Vegetarians in Europe Live at Slower Rate

THE BASIC life processes of vegetarians proceed at a slower rate than those of meat-eaters, in Europe as well as in America, measurements by Prof. G. Wakeham of the University of Colorado show. His results were reported to the American Chemical Society at New Orleans.

Prof. Wakeham made measurements of the basal metabolism, the body's rate of expending energy when resting, for fifteen strict life-time European vegetarians. He found that their basal metabolic rates were, on the average, nine per cent. below the normal rate.

Seven to ten years of vegetarianism, said Prof. Wakeham, are required to produce this effect. This was found by examination of vegetarians of from one to fifteen years standing.

Prof. Wakeham recently made a similar study of American vegetarians.

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COMMUNICATION

Teletypewriters Can Now Be Used in Home

See Front Cover

ON THE COVER of this issue of the SCIENCE NEWS LETTER is shown a portion of the mechanism of the teletypewriter, a hybrid medium of communication. The new teletypewriter service is a telegraph system with telephone methods and typewriting thrown in for luck. It is now possible to use teletypewriters, formerly restricted to specialized fields, in either the home or office after the manner of a telephone. A nationwide hook-up of teletypewriter stations is responsible.

Teletypewriters transmit typewritten messages electrically so that whatever is typed at one end of the circuit is typed simultaneously at the distant end. The hub of the teletypewriter service, recently inaugurated by the American Telephone and Telegraph Company, is the familiar switchboard operator, who, however, has a typewriter before her instead of a telephone set.

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E FIELDS

PHYSIOLOGY

Cat Hears Better When Internal Ear is Plugged

PLUGGING an opening into the internal ear to reinforce its covering membrane made reception of sound through the cat's ear better than normal, Dr. Walter Hughson and Dr. S. J. Crowe of the Otological Research Laboratory, Johns Hopkins Medical School, reported to the American Association of Anatomists. Their discovery was made in the course of research into the causes of deafness, which it is hoped will lead to finding a method of arrest or prevention of the condition.

Previously these investigators had found that strengthening with cotton the covering of this opening, called the round window, increased the sensitivity of the inner ear for spoken words and tuning fork tones because it kept the window membrane from absorbing sound waves. The cotton plug, however, could only be a temporary measure, so a graft of periosteum, the tough outer coat of bone, was tried. The graft remained in position and was successful in increasing the efficiency of the normal ear. The intensity of all sounds transmitted was increased many per cent.

The operation so far has only been performed on cats with normal hearing. It is hoped that the method may eventually have definite application in clinical cases of deafness.

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ETHNOLOGY

Indians Evolved Idea of Serpent as Evil Agent

A DRAMATIC STORY of how a wily serpent tempted a woman, long ago when the earth was young, and how the fall of humanity was the result, has been discovered among folklore of Pueblo Indians.

The serpent's role as tempter of a woman is the only point which the Indian tale of creation has in common with the Bible story related in the Book of Genesis. Ethnologists at the Bureau of American Ethnology do not believe that the Indians took this incident from

the Biblical story, but evolved it independently.

The fact that on both sides of the world the serpent was selected as an instrument of evil was brought out when Keresan Indians from Acoma Pueblo visited the Bureau recently. The Indians talked with Prof. C. Daryll Forde, of the University of Wales, who happened to be a visitor at the Bureau at the time. From the Indians, Prof. Forde learned their version of how the world was created, and he has now reported it.

The Pueblo Indians told Prof. Forde that in the beginning of life, two female human beings were born and left to grow up in a dark place under the earth. Their father, who dwelt in the fourth sky above, had made them in his own image. When the two women were full grown, a spirit was sent to them, bringing two baskets containing seeds and tiny images of different animals.

With many adventures, the two first women of earth found their way to the surface of the world. Then they quarreled, and one woman, who was very lonely, listened to the tempting voice of the serpent which told her to go to the rainbow for companionship. She bore two children of this alliance. But the father in the fourth sky had other plans for populating the world, and in anger he refused to help these wilful children any more. So, it appears, sin and death were introduced into the world.

According to the legend, one of the two first sisters founded the red race and the other the white race.

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ANATOMY

Century-Old Shoes Too Small for Modern Woman

THE MODERN miss who cannot fasten ten Great Grandmother's dress around her waist cannot squeeze her feet into Great Grandmother's tiny shoes, either, it appears from experience in a demonstration of genuine period clothes recently held at Bristol, England. The clothes dated back to 1780. None of the modern ladies taking part in the demonstration could wear the shoes belonging to the earlier costumes because they were much too small.

Exercise and healthier life may be the cause of the change in size, if women's feet really were so much smaller 100 years ago, Dr. J. T. Irving of the physiology department of the University of Bristol suggested in a note to *The Lancet*.

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PHYSIOLOGY

Color and Quality of Hair Undergo Striking Change

A STARTLING but natural change in hair color and quality that out-ri-vals anything produced in modern hair-dressing establishments, even in Hollywood, has just been reported by Dr. Fred Wise of the New York Post-Graduate Medical School and Hospital and his associate, Dr. Marion B. Sulzberger, in the *Archives of Dermatology and Syphilology*.

The patient, a young man of 21 years, found that his hair which had been light brown, straight and healthy, changed in the course of two years to become black, "woolly and kinky" at the front, over the temples and on the top. The physicians found no abnormal change in the structure of most of the kinky hairs. Some of them were split at the ends.

Science News Letter, April 2, 1932

ACADEMIC FREEDOM

Scientific Boycott of Fascism is Proposed

WHAT AMOUNTS to a boycott of a scientific meeting to be held in Italy during the coming summer is proposed by Prof. A. J. Carlson of the University of Chicago. The proposal comes as a result of the demand by the Italian government upon Italian professors to swear allegiance to the Fascist regime.

Writing in *Science*, Prof. Carlson says:

"Next summer the International Physiological Congress is scheduled to meet in Rome. In this connection I wish to call the attention of the members of the Federation of American Biological Societies, who are members of this congress, to the official edict issued by the Italian government on October 8, 1931, compelling all professors in Italian universities to swear allegiance to the Fascist regime. As announced in *School and Society* for January 9 eleven university professors out of 1,225 have refused to take this oath of allegiance.

"I wish to propose to the members of the Federation of American Biological Societies for the coming meeting in Philadelphia in April the consideration of refusing to attend the International Congress of Physiology in Rome August next unless this brutal and defiant attack on academic freedom on the part of the Italian government is rescinded."

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