

PSYCHOLOGY

Animal Able to Protect Himself Before Birth

LONG before it is born into the world, the guinea-pig is able to respond to the signals received through its various senses by definite movements serving to protect the organism, it was revealed by experiments described to the American Association for the Advancement of Science by Prof. Leonard Carmichael, of Brown University. It is probable that the human infant is similarly developed before birth.

These responses seem too specific and too immediate to have resulted from previous "experience," Prof. Carmichael concludes.

Long before birth, the animal is able when "danger" appears to do such things as twitch the nose, lift the fore-leg, blink the eye, and vibrate the "whiskers,"—a touch in the region of the head often bringing about the latter which have been called the "tappings of the blindman's cane of the rodent."

Science News Letter, January 5, 1935

MEDICINE

New Member of Germ Kin Significant in Two Diseases

A NEW member of that well-known and dangerous germ family, the streptococci, has been found in the throats of persons suffering from rheumatic infection and a type of kidney disease, Drs. Perrin H. Long and Eleanor A. Bliss of the Johns Hopkins Medical School reported to the Society of American Bacteriologists.

The new streptococci are much smaller than their other relatives and have been given the name of minute beta hemolytic streptococci. But the frequency with which they inhabit throats of patients suffering from these two diseases suggests that they may be fully as harmful as the larger variety of streptococci. The larger streptococci have been thought to be the cause of both rheumatic infection, this particular kidney disease, and various other ills.

In two instances these minute streptococci were the sole cause of pus infections in humans. They were found in the throats of four-fifths of a group of patients suffering from the type of kidney disease known as glomerular nephritis and in the throats of half the patients suffering with rheumatic infec-

tion. They are rarely found in the throats of persons ill with chronic diseases or other acute infections. In well persons their number is only from one-half to one-third that of the ordinary beta hemolytic streptococci. But in the patients suffering from rheumatic infection and from the kidney disease these minute organisms greatly outnumbered the larger beta hemolytic streptococci, in many cases being the only hemolytic streptococci found.

Because of the association between the larger streptococci and both the kidney disease and rheumatic infection, Drs. Long and Bliss feel that their findings may be of considerable importance.

Science News Letter, January 5, 1935

ANTHROPOLOGY

Says Races of Man Divided Early in Man's History

HUMAN beings became differentiated into races far back in man's history. It happened probably before the last Ice Age, and the cradle land of the races was Asia.

So anthropologists of the American Association for the Advancement of Science were told by Dr. Griffith Taylor of the University of Chicago.

He protested against the too-simple method of dividing men into three races, Caucasian, Mongol, and Negro, or, in effect, the white, yellow, and black. A more scientifically satisfactory classification is needed, he said, based on as many traits as possible, such as skin color, facial breadth, head index, hair, and stature.

Dr. Taylor has suggested a classification of five major races of man: Negro, Mediterranean, Alpine, Negrito, and Australoid. Mongolians he places as a variant of the Alpine race.

Negritos, he believes, were the first to evolve as a distinct race, and from southern Asia they found their way to Africa. Africa would have been the easiest line of migration for them when they were thrust out of south central Asia by a menacing change in climate. And it was primarily climate change, such as increasing cold or dryness, which Dr. Taylor sees as the cause of man's ancient wanderings. Alpines were the last to be differentiated, and still occupy the cradle land in south central Asia.

Dr. Taylor finds that the view that Negroes and Australoids derive from Neandertal men is well supported.

Science News Letter, January 5, 1935

IN SCIENCE

MEDICINE

Find Sudden Heart Attacks Not So Often Fatal

SUDDEN heart attacks, often masked under the name of "acute indigestion" and generally very alarming, are not so often fatal, it appears from investigations reported by Drs. Louis Faugeres Bishop and Louis Faugeres Bishop, Jr., to the American Association for the Advancement of Science.

"Recovery has been proved to be more frequent by far than formerly supposed," they said.

The circulation of blood in the heart muscle itself is the factor involved in many serious heart attacks, a fact which is gaining recognition, they emphasized. The increasing importance of this type of heart disease is widely recognized by insurance companies. A scientific instrument known as the electrocardiograph is of great value in detecting it.

Science News Letter, January 5, 1935

SEISMOLOGY

Earthquake Waves Focus Near Earth's Opposite Side

WAVES from an earthquake traverse the center of the earth and come to a focus at a point nearly on the opposite side of the earth from the place where the quake occurred.

Evidence of this appears in the reports of the submarine earthquake that occurred on Dec. 22 at 9:29 a. m., E.S.T., according to experts of the U. S. Coast and Geodetic Survey. The epicenter was located at 8 degrees North Latitude and 89 degrees West Longitude, 250 miles southwest of Costa Rica.

This earthquake was not a strong shock, but was unusual in the fact that preliminary waves came to a focus at Manila, P. I., and were well recorded there. This earthquake is said to be an outstanding example of the fact that earthquake waves traversing the core of the earth may focus at a point about 4,000 kilometers from the antipodes.

The record of this earthquake was very weak at Honolulu.

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EFIELDS

CHEMISTRY

U. S. To Increase Helium Production By New Well

THE United States, already holding a virtual monopoly in the production of buoyant helium gas throughout the world, is soon to increase its production.

The Bureau of Mines has awarded contracts for the drilling of a new gas well on the helium-bearing Cliffside Structure, Potter County, Texas. It is from gas wells in this region that the valuable helium gas is obtained.

Four wells in the area already produce the helium so valuable for inflating aircraft like the U. S. S. Macon. Since the government helium plant at Amarillo, Texas, started operation in April, 1929, 62 million cubic feet of helium have been obtained. This is more than one-half of all helium ever recovered in the world.

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PHYSICS

Steal Accurate Waves From Radio Programs

USING an electrical "sieve" to strain out the voice from radio broadcast programs science is now able to use the highly accurate and regular wavelengths from commercial stations for determining the electric strength of air, Prof. L. Grant Hector of the University of Buffalo told the American Physical Society.

The carrier radio waves of broadcast stations, Prof. Hector said, are now constantly controlled so that they vary only a few parts in a million although such million cycle oscillations may occur in a single second. On top of these carrier waves are spread the variations due to the characteristic sounds of the voice. The voice wobbles, if one could see them, look like the teeth on a saw, or tiny ripples superimposed atop ocean waves.

What science is now able to do, said Prof. Hector, describing recent experiments he performed with H. L. Schultz at Buffalo, is to take a crooner's voice

coming in on the radio—or a symphonic program—and block out, with electrical filters, all the voice or musical part. Only the desired, silent, carrier wave is left.

Such a use of radio programs enables scientific laboratories to avoid the purchase and setting up of costly and elaborate constant frequency apparatus.

With the "radio stealing" method the dielectric strength of substances like air have been determined to ten times their former accuracy.

Glass and porcelain are common dielectrics. Popularly, a dielectric is nothing but an insulator.

Science News Letter, January 5, 1935

EVOLUTION

Hip-Bones Traced From Fish to Man

FISHES have hips? They certainly do, although they and their attachments amount to even less than do those of the proverbially hipless snake. But if fishes had not had at least the beginnings of hips, human beings would not have them today, nor any legs, either.

At the meeting of the American Association for the Advancement of Science, Prof. William K. Gregory of Columbia University and the American Museum of Natural History, told of the evolution of the pelvis, or girdle of bone that supports the hips, all the way from fish to man.

The first pelvis was an exceedingly simple affair, Prof. Gregory stated. It consisted simply of a couple of flat rods of bone, not attached in any way to the spine, which helped to support the rearmost pair of fins in fishes. When animals left the water and came ashore as amphibians, the pelvis became considerably more elaborated. It was described by Prof. Gregory as "like a broad triangle surmounted by a short-stemmed, lop-sided Y." But even an apparatus like this could not support anything better than widely sprawling legs, which could not lift the animal clear of the ground; like the Serpent under the curse of Genesis, it had to "go upon its belly."

From these humble beginnings, the bony support of the hind legs has become progressively more and more solid, first enabling animals to progress freely upon all fours with body clear of the ground, and finally, in erect-walking humanity, carrying much of the weight of the internal organs, and freeing the front limbs to become arms.

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PSYCHOLOGY

Students More Liberal Since the Depression

COLLEGE students have adopted more liberal attitudes toward social problems, except those of religious policy, since the depression, Drs. C. L. Morgan and H. H. Remmers, of Purdue University, reported to the American Association for the Advancement of Science meeting.

Although tests of college and high school students and parents of the college students revealed that the young people are more liberal than their parents, the individual parents appeared to contribute to a large extent to the attitudes of their children.

Greatest liberality was expressed toward such matters as government ownership of railroads, enactment of laws which would give additional advantages to farmers, control and heavy taxation of large fortunes, unprejudiced investigation of political issues, and systems of government.

The New Deal received the endorsement of these young Americans on certain policies, and the indication was that even more liberal measures would have been accepted by them.

The students were found to agree in their faith in democracy and in the Constitution. They believe that America should let Europe settle its own political problems. They do not believe that facts favorable to socialism should be suppressed, and they do not think that the United States has been unerringly wise or just in its relations with other nations. They do not believe in the enactment of laws to prevent giving information to adults upon sex.

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GENERAL SCIENCE

Science Advisory Board Chairman Honored by AAAS

See Front Cover

THE CHAIRMAN of President Roosevelt's Science Advisory Board, Dr. Karl T. Compton, was elected President of the American Association for the Advancement of Science. Dr. Compton will succeed Prof. Edward L. Thorndike of Columbia University and he will deliver the principal address of the 1936 meeting to be held at Washington. Dr. Compton is president of the Massachusetts Institute of Technology.

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