PHYSIOLOGY

Immature Rats Become Prolific Mothers

RATS hardly past the little girl stage of development in body size become prolific mothers, bearing offspring at twice the normal rate, under the stimulation of sex hormone treatment, Dr. H. H. Cole, of the University of California, reports. (*Science,* May 3.)

One young rat, bred three days after the sex hormone treatment, gave birth to a litter of 23 living offspring, which is more than twice the average number born under normal conditions. Breeding of such precociously matured rats has apparently no harmful effect. The youthful mother that gave birth to a litter of 23 while still immature in body size subsequently raised four other litters of 13, 10, 10 and 14 offspring respectively.

As many as 33 baby rats started to develop in one young rat mother following sex hormone treatment, but not all were born alive.

The treatment consisted of a single injection of eight rat units of mare gonadotropic hormone when the rats were between 30 and 33 days old.

Science News Letter, May 18, 1940

PHYSIOLOGY

Women More Efficient Metabolically Than Men

WOMEN appear to be more efficient than men in their adjustments to warm and cold environments so that in cold weather they are able to preserve their body heat and in warm weather can reduce the production of heat and therefore have to exert less effort in eliminating excess heat from the body. Such appear to be the indications of experiments reported by Drs. Eugene F. DuBois and James D. Hardy of Cornell University Medical College before the meeting of the National Academy of Sciences.

The two physiologists measured the rate at which heat is produced within the body and the rate at which heat is lost from the body surface of six young women. These data were compared with those obtained in similar tests with men. Men, it was found, produce internal heat at the same rate regardless of the temperature of the surrounding air. At low temperatures women produce heat at the same rate as men but in warmer environments their heat production decreased about 12%, thus making it unnecessary for them to sweat as much as the men.

"This is the first evidence that we have been able to find of the chemical adjustment to temperature and this response appears to be a response to heat and not cold," Dr. DuBois stated.

Women's skin temperatures change through a wider range than men's, it was found. Their average skin temperature in the cold environments was colder by one degree Centigrade than that for the men, and in the warm environments was two degrees Centigrade higher.

The above evidence indicates, Dr. DuBois stated, that women have more body insulation against cold than men and also have a spontaneous adjustment of their heat production in warm environments which makes it unnecessary for them to perspire as much as men.

Science News Letter, May 18, 1940

BIOLOGY

Organization to Promote Study of Species Origins

A NEW, informal organization, the Society for the Study of Speciation, is in process of formation, with Prof. Alfred E. Emerson of the University of Chicago serving as secretary, and an executive committee representing a number of other leading scientific institutions.

Object of the new association will be the study of the origins of species and races as a dynamic process. Scientists interested include anthropologists as well as zoologists, botanists and bacteriologists. Approaches to problems range from the study of specific and racial classification systems to life processes as manifested either in the field or in the physiological laboratory.

Science News Letter, May 18, 1940

PHYSIOLOGY

Early Nerve Responses Long Before Birth

NERVE responses of the reflex type begin at a very early age in human beings. The first to appear are those of the jaw regions, which can be detected as early as the eighth week of prenatal life, Prof. Ira D. Hogg of the University of Pittsburgh reported to the American Association of Anatomists.

These remain the only nerves capable of producing reflex reactions until the eleventh week, Prof. Hogg continued. From then on until the fourteenth week there is a gradual expansion of the reflexogenic areas until the whole body becomes sensitive and most of the recognized sensory reflexes are present.

Science News Letter, May 18, 1940

IN SCIEN

PUBLIC HEALTH

Danger of Spring Epidemic From Poland Believed Past

DANGER of any serious epidemic disease breaking out in Poland and spreading with coming of spring is now believed past, according to James T. Nicholson, American Red Cross official, returned from six months' relief work in German-occupied Polish territory. Food is so scanty, however, that famine threatens this area in the interval before autumn harvest.

All winter, Mr. Nicholson states, immunization against typhoid and paratyphoid has been pushed in the area. To prevent typhus outbreaks, de-lousing and other sanitary precautions have been carried on. Disease incidence has been less than normal.

Science News Letter, May 18, 1940

DENTISTRY

Novocaine for Drilling May Lead to Injury

THE ALMOST universal custom of giving a patient with sensitive teeth a shot of procain or novocaine to prevent pain during drilling or other dental operation has its dangers, Dr. Charles F. Bodecker, Columbia University, declared at the Dental Centenary.

To guard against injury to the tooth, the dentist who gives an anesthetic before starting to drill must remember to work more slowly than he would if no anesthetic had been given. When pain is eliminated, Dr. Bodecker explained, "the tissue of the tooth no longer has the faculty of protesting against heat by fast operation and may be injured."

Anesthetics are often used unnecessarily by dentists, Dr. Bodecker charged. Some patients have more sensitive teeth than others. Unfortunately, the most sensitive are usually the ones needing most dental attention.

The sturdy man who feels no pain in the dentist's chair is wrong when he says it is all a matter of will power. He feels no pain because he has thoroughly calcified, non-sensitive teeth.

Science News Letter, May 18, 1940

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CE FIELDS

ARCHAEOLOGY

Unique Deer Horn Tool Solves Ancient Mystery

A UNIQUE deer horn tool unearthed near Kansas City clears up a mystery regarding America's prehistoric Mound Builders—how they made certain intricate designs on their clay bowls.

Tried out by Dr. Waldo R. Wedel of the Smithsonian Institution, the ancient tool enabled him to duplicate curving indented lines just as ancient Indians made them. The tool is tiny and resembles a notched wheel which can be rolled back and forth on soft clay. A good labor-saving device, it does easily a job that would be hard by a stamping process.

The discoverer, H. M. Trowbridge of Kansas City, suspected the significance of the tiny object and sent it to the Smithsonian scientists to study, Dr. Wedel said.

Mound Builders at their highest form of culture were the most advanced aborigines of central North America; and their decline and disappearance are problems of great interest to America's archaeologists.

Science News Letter, May 18, 1940

PSYCHOLOGY

Critical Persons Were Not Scared by Mars Broadcast

ABOUT a year and a half ago Orson Welles arranged for some Martians, brain children of H. G. Wells, to invade this earth via radio. Dr. Hadley Cantril has directed a factual and psychological study which resulted in "The Invasion from Mars" (Princeton University Press).

Through extensive interviews, he found that persons who were frightened by the broadcast were highly suggestible, they believed what they heard without making sufficient checks to prove to themselves that the broadcast was only a story. Those who were not frightened and those who believed the broadcast for only a short time were not suggestible. They were able to display what psychologists once called a "critical faculty."

The findings of "The Invasion from Mars" inquiry will interest all those who deal with the public, teachers who educate them, editors who inform them, public officials who are responsible for law and order. Therefore the generalizing conclusion in this quote and unquote from Dr. Hadley Cantril:

"Our study of the common man of our times has shown us that his ability to orient himself appropriately in critical situations will be increased if he can be taught to adopt an attitude of readiness to question the interpretations he hears. But when he achieves this healthy skepticism he must have sufficient and relevant knowledge to be able to evaluate different interpretations. If he is to judge these interpretations intelligently, his knowledge must be grounded in evidence or tested experience. If this skepticism and knowledge are to be spread more widely among common men, they must be provided extensive educational opportunities. And if this final critical ability is to be used more generally by common men, they must be less harassed by the emotional insecurities which stem from underprivileged environments."

Science News Letter, May 18, 1940

MILITARY SCIENCE

French in 1900 Had Tumble-Home Topsides

NO NEW thing upon the sea. Proposals to build our new battleships with "turtleback topsides" as protection against airbombs revive, in old-timers' memories, the profiles of certain French warships, vintage about 1900, that had what were then called "tumble-home topsides." Russia, then under strong French influence, had a few ships built the same way. They were reported to be ill ventilated and quite uncomfortable for their crews. But perhaps the ships of today, with three or four times their displacement and better ventilating systems, would offer better housing for seamen.

Science News Letter, May 18, 1940

PHOTOGRAPHY

Candid Cameras in Use Eighty Years Ago

CANDID and miniature cameras were in use some 80 years ago and detective cameras, some of them in such unusual forms as neckties and books were devised long before amateur photography rose to its present heights. They are shown in the Eastman Historical Photographic Collection now on display at the New York Museum of Science and Industry.

Science News Letter, May 18, 1940

ZOOLOGY

Two-Foot-Long Rat To Come from Liberia

IF YOUR property is by any chance pestered with rats, be thankful they didn't come from Liberia. In the canebrakes there, lives a rat species two feet in body length, specimens of which have been captured by Dr. Wm. M. Mann, now in the jungles of Liberia to obtain new beasts and birds for the National Zoological Park.

Other prizes captured by Dr. Mann include a pygmy squirrel, mouse-sized and equipped for gliding like our native flying squirrels; a potto, which is a big-eyed, nocturnal lemuroid, among the lowest of the ape-monkey tribe; and a number of duikers, which are tiny antelopes believed by the natives to possess four eyes apiece. The extra "eyes" are really slit-like glands near the nostrils.

In radioing his report of the new finds, Dr. Mann described also a great "beat" which resulted in the capture of a fine Liberian antelope. A large section of the jungle was surrounded by a cordon of 1200 natives, who advanced through the bush like a living net, driving whatever was enclosed toward the center. Among the animals thus captured, this rare antelope was the prize specimen.

Science News Letter, May 18, 1940

BIOLOGY

Try Colchicine on Animals Without Much Success

PLANT breeders have had such brilliant success recently in producing new genetic varieties with the drug, colchicine, that their colleagues who work with animals are anxious to go and do in like manner. However, they have their troubles because colchicine seems to be more highly toxic to animal tissues than it is to plants. Drs. H. A. Davenport and Frank B. Queen, Northwestern University, told the American Association of Anatomists of the difficulties that have attended their first attempts to modify the heredity of rats by the drug.

In concentrations sufficiently strong to have any effect, it had too much effect, causing local killing of the tissues around the areas where it had been injected. In lower concentrations, it did nothing to the rats' hereditary character.

Most hopeful, for possible future results, would seem to be injection of mild concentrations directly into the sex glands themselves. Experimental injections of this kind so far given have at least done the animals no demonstrable harm.

Science News Letter, May 18, 1940