

and more marked interruption of the alpha rhythm, (2) its complete disappearance, (3) large random waves, (4) random waves plus bursts of 14-per-second waves.

One subject who fell asleep while trying to carry out a set of instructions as he lay on the couch was awakened by the slamming of a door. Just before he became evidently awake his normal "alpha" brain-rhythms reappeared on the record. For at least this type of person, the experimenters stated, they have become able easily to distinguish the states of sleep.

Breathing While Reading

Did you ever try to talk or sing with your head inside a bucket?

That is what volunteers did in the psychological laboratory of Prof. Walter R. Miles of Yale University.

The subjects' heads were not exactly in a bucket, but in a roomy metal helmet with a closely-fitting but comfortable thin rubber collar around the neck, so that their breathing rates could be measured.

Contrary to what might be expected, the persons tested breathed more rapidly when they were resting than when they were reading aloud or singing. The less frequent breathing during such activities, however, tended to be deeper, and there was a larger storage of reserve air. The reserve is restored to normal level when the resting phase is resumed.

Science News Letter, May 1, 1937

PHOTOGRAPHY-NUTRITION

Obtain Rare Photograph Of Vitamin B₁ Crystals

See Front Cover

DID you ever see a vitamin? Of course, they don't really look like the alphabet letters in soup, but did you picture them in your mind as anything like the one shown on the cover of this week's SCIENCE NEWS LETTER?

In that rare photograph is shown vitamin B₁, the one found in whole cereals, green vegetables, fruit, milk and yeast, lack of which causes nervous and intestinal malfunctions, loss of appetite and weight.

The picture was taken by Professors W. A. Hynes and Leo Yanowski, of Fordham University's chemistry department. It was taken with a two-minute exposure by reflected light at a magnification of 20 diameters.

Science News Letter, May 1, 1937

GENERAL SCIENCE

Chimpanzee Is New Ally In Attack on Drug Problem

Philosophical Society Hears Reports Also on Why Chinese Are Calm; New Findings on Heredity

DRUG addiction is not limited to human beings. Sub-human animals can become "dope fiends," too, Drs. Robert M. Yerkes and S. D. Spragg of Yale University reported before the meeting of the American Philosophical Society at Philadelphia.

Drs. Yerkes and Spragg first trained a number of chimpanzees to submit, wholly voluntarily, to hypodermic injections and a number of physical manipulations. Measurements of physical and psychological reactions in the undrugged, pre-addiction stage were then made.

After this, the apes were given injections of morphine, and its effects on their bodily and mental reactions checked against those of their normal state.

One of the animals became a real addict. It would seek the drug injection before it was offered, and if given the choice between food and the needle, would choose the latter.

"It is believed," Dr. Yerkes stated, "that this is the first instance to be reported in which a pronounced desire for morphine, indicated by striving for the injection, has been convincingly demonstrated in an infrahuman animal."

Placid Races

Chinese calm, the placidity of the women of India, is partly a matter of lower life fires, of a slower burning of food into energy, Dr. Francis G. Benedict of the Carnegie Institution of Washington reported.

Studies on representative members of various races, quite literally "ranged through the world from China to Peru," have been made by physiologists trained in the study technique developed in Dr. Benedict's laboratories in Boston. A collation of their results shows that metabolism, or production of body-energy, is to a large extent a matter of race.

Oriental races in general, it was found, have a metabolism rate lower than that of Caucasians in the United States. The South Indian women of Madras have a very much lower rate—17 per cent. below the Caucasian prediction standards

—and this is further depressed about ten per cent. during deep sleep.

A striking exception to the generally low metabolism rate in the Orient was found in 24 men of the Miao race in Szechuan, in interior China. These individuals showed a metabolism rate 16 per cent. higher than the Caucasian prediction standards. Yet their pulse rate was decidedly slow—55 beats per minute as compared with an average of 75 for Caucasians.

High metabolism rates prevail for American Indians of the Maya and Chilean regions, other investigators found.

Predestination in Noses

Babies' noses are merely comic to most persons, but to Dr. Charles B. Davenport, formerly director of the Carnegie Institution's Department of Genetics, they already bear signs of the ultimate fate of the infant's face. He reported to the meeting his measurements of many hundreds of infantile noses, and their subsequent developments.

Noses are pretty much predestined to the shapes they will finally have, even before we are born, Dr. Davenport indicated. Like everything else about us, their fate is ruled by hereditary units, the genes.

Where the gene complex of two noses is the same, as in identical twins, the result is practical identity of the nose form. Differences in genes, by family or race, will show up in characteristic family or race noses.

In some infants the eventual shape of the nose is foreshadowed pretty plainly at birth. In others, however, there are differences in rate of growth of different parts that bring about very marked changes as the child grows up.

Riddle in Heredity

Like does not always beget like, Prof. George H. Shull, veteran Princeton University geneticist, has found in his breeding experiments with the widely distributed little wild plant known as shepherd's purse. He reported a genetical riddle to the Philosophical Society.

A yellow-green plant appeared among

the offspring of one crossing of green-leaved parents. Bred further, the yellow-green color persisted through several generations, yet when the new strain was inbred it never produced uniform offspring of its own kind—there was always a mixture of fully green-leaved plants, and in larger proportion than Mendel's law affords.

A similarly anomalous genetical behavior was once observed in the case of a strain of yellow mice, that could not produce wholly yellow families.

Science News Letter, May 1, 1937

PUBLIC HEALTH

Health Authorities Fight New Yellow Fever Threat

FIVE steps to be taken immediately to fight off the yellow fever menace which now threatens the country were advocated by the Conference of State and Territorial Health Officers with the U. S. Public Health Service.

A national law prohibiting the establishment or maintenance of airports of entry within 20 miles of any community in which the yellow fever mosquito is prevalent is one of the measures recommended to fight the yellow fever menace which threatens because air travel is bringing yellow fever infested regions of South America dangerously near to this country.

In addition to this measure the federal health service was urged to develop detailed procedure for immediately controlling yellow fever in a community and preventing its spread upon discovery of a single case.

Other steps to be taken include eradication of the yellow fever mosquito from communities adjacent to airports and withholding permits for airports of entry from communities in infectible territory unless the adjacent communities institute adequate measures to control the yellow fever mosquito.

Immediate action was urged upon the conference by Surgeon General Thomas Parran.

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A Japanese physician has taken X-ray sound moving pictures of heart and lungs in both healthy and sick persons.

A bronze plaque discovered at San Francisco Bay appears to be a record that Sir Francis Drake left there in 1579, and if proved true this would show that the bay was discovered by Drake, not by Portola in 1769.



PUTTING STRAIN ON CLOTHES

A boy may stand soldier-straight to have his new suit fitted. But in the real business of play he bends and twists, and clothes have to keep up with him—or else.

ANTHROPOMETRY

To Measure 100,000 Children For Correct Clothing Sizes

Home Economics Bureau Experts Plan Survey To Show How Children Actually Fill Out Clothes During Wear

By EMILY C. DAVIS

ARE children big for their age? It sounds ridiculous. But listen to proud parents talking about Mary, who is so big for her age she wears six-year-old dresses, though she is just four. And Dicky—he lives next door to Mary—he's big for his age, too. He wears seven-year-old suits, imagine that, though he won't be five till June! If you went down Mary's street, and knocked at all the doors, you would find a lot more of these youngsters who are "big for their age."

How big are children, anyway?

To get an answer to this question, especially in its relation to the clothes problem, 100,000 American children are to be scientifically measured. For the first time a cross-section of America's

childhood will be measured, not merely for height, but for about 40 traits.

The reason why many children wear clothes so much beyond their age is that manufacturers of clothing do not know how big American children are, in their real and exact proportions. Manufacturers do have sets of statistics on which they base clothing sizes. But many of these are kept secret, and there is no uniformity among different companies. Skimp cutting—saving material here and there by making garments skimpy—is resorted to by some manufacturers.

A bewildered mother finds her Alice-in-Wonderland child, aged nine, may be size ten in one store, size nine in another, and in still another may prove so "big" she has grown right out of the depart-