

various methods of inducing fever. One of the most scientific, Dr. Clarke said, is that in which tests are made to determine how long it takes to kill the germs in each case at a temperature of 106.7 degrees Fahrenheit. The patient is then given fever treatment for the time indicated as necessary to kill his particular germs.

Third weapon against gonorrhea is sulfanilamide, the new chemical remedy which is conquering a great number of other infectious ailments. For best results with this treatment, the patients should be in bed in the hospital. Under these conditions, over three-fourths of acute cases and almost 100 per cent. of the chronic cases have been apparently cured. Results when the patients are not in bed are not so good. Only about one-half the patients were cured under these circumstances.

Dogs Are Fever Drag Nets

Dogs probably play a more important part in spreading deadly Rocky Mountain spotted fever than is generally recognized. Dr. Carl F. Jordan of the Iowa State Department of Health reported that dogs were implicated as having spread the ailment in over one-third of the cases recently reported in Iowa.

The germ or virus of the disease is carried in the bodies of ticks, but dogs carry the ticks, Dr. Jordan pointed out.

"Dogs serve as a drag net in gathering ticks from surrounding territory and bringing them close to children and adults in the home," Dr. Jordan said. "As an example, in an Indian home in which two children developed spotted fever, ticks numbering 275 were taken from four dogs belonging to the family."

Dogs themselves are susceptible to the virus or germ of the disease, recent experiments show.

Persons who live in or frequent rural areas, Dr. Jordan warned, should be "tick conscious" during the tick season.

Sickness Among Children

MORE than 100,000 cases of disabling illness occurred in one year among a little over half a million of the nation's children, George St. J. Perrott and Dorothy F. Holland of the U. S. Public Health Service reported.

These figures, obtained in the National Health Survey, show that the sickness rate among children under 15 years is 32 per cent. higher than the sickness rate for all ages.

Four out of every five disabling illnesses among children under 15 years of

age were included in the group of acute infectious diseases and respiratory diseases. Of the acute infectious diseases, measles, chicken-pox, whooping cough, mumps, and scarlet fever were most frequently reported. Tonsillitis, influenza, colds, pneumonia and bronchitis, in that order, were the most frequent respiratory diseases.

Malaria takes its toll of child health in the South, accounting for four-fifths of all disabling illness among children under 15 years due to the infectious and parasitic diseases.

Both high and low income families failed in a large number of cases to call a doctor when a child had one of the acute infectious or respiratory illnesses, except tonsillitis and pneumonia. Upper income families, when they did call a doctor, however, provided more intensive medical care for all diseases of childhood than the families in low income groups who had medical attention for sick children.

Children in small cities received less medical care for their illnesses than those in large metropolitan centers. In the South, sick negro children received notably less medical care than sick white children.

Parents need to be educated to the importance of medical care of children, the federal health workers concluded from the survey.

Whooping Cough Vaccine

VACCINATION against whooping cough, dangerous as well as trying childhood disease, got a good rating in a report by Dr. Pearl Kendrick of the Michigan State Department of Health and Dr. Anthony K. Borowski of Mount Clemens, Mich.

The number of cases that developed in 1,815 vaccinated children was 52, whereas, there were 348 cases among 2,397 unvaccinated children. When vaccinated children did get whooping cough they had less severe attacks than the unvaccinated children.

Birth Control Program

NORTH Carolina is the first state in the nation to have a birth control program sponsored by the state health department. The success of the program during its first 18 months of existence was reported by Dr. J. W. R. Norton of the state board of health.

Nearly half the counties of the state now have birth control clinics, Dr. Norton reported. There has been no local

opposition to the service or the method adopted for rendering it. Social, religious and other civic leaders have given their full endorsement and cooperation.

The patients have been selected from poor married women who need to limit the size of their families or space their children for the sake of their own and the children's health. Women who are able to pay a private physician are encouraged to do so. Practising physicians in the communities served have been glad to find that they may legally give this service to their private patients.

A total of 1,141 patients has been served, with only 6 failures reported. In three of these the mentality of the woman was very low.

Science News Letter, November 5, 1938

PHYSICS

Earth's Magnetism Is Still Mystery

THE MYSTERY of magnetism has been puzzling the best minds of the world ever since that unrecorded day when man first picked up a natural lodestone and found that it strangely attracted bits of iron to it.

For thousands of years only a curiosity, the lodestone was finally discovered—probably in China—to have the additional power of indicating north if it was suspended on a string. The earth itself was later found to be a giant magnet.

Through the ages man's uses of magnetism have increased to all the ramifications which make possible today's present electrical era; for magnetism and electricity were found to be closely related. But ever the mystery of the potent power of earth magnetism was present, and only partially explained.

Seeking some answer to the riddle scientists, the world over, have probed deeper and deeper into matter and into smaller and smaller chunks of matter

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until they were studying the magnetism present in the atoms themselves.

But let Dr. M. A. Tuve of Carnegie Institution of Washington tell the story as he does in *Scientific Monthly*. ". . . there is one really outstanding puzzle which all our knowledge of physics is still unable to explain, namely, the enormous permanent magnetic field of the earth . . . We now have measured the deepest forces within the atom, we have, so to speak, chased magnetism

all the way down to the smallest particles inside the atom, but we still have no clue to why the earth and the sun have such large magnetic fields, each related to their direction of rotation."

Dr. Tuve is referring to studies measuring the fundamental force which is found in the nucleus of atoms and which binds them together. The discovery of this attractive force has been one of science's outstanding finds of recent years.

Science News Letter, November 5, 1938

PALAEONTOLOGY

Third Java Ape-Man Skull Resembles Peking Man

A NEW-FOUND skullcap of *Pithecanthropus*, ancient ape-man of Java, is unique in showing a marked resemblance to the skulls of the Peking race found in caves in northern China. This resemblance consists in a noticeable arching or doming of the top of the skull, which is not present in the two previously known *Pithecanthropus* skulls, one discovered in 1937 and the other in 1891.

The new find is described (*Nature*, Oct. 15) by Dr. G. H. R. von Koenigswald, who works under the auspices of the Carnegie Institution of Washington, and Dr. Franz Weidenreich of Peiping Union Medical College, leader of researches at the Choukoutien caves where remains of Peking man are found.

The third *Pithecanthropus* skull, like its two predecessors, is a large fragment. It consists of the complete right parietal bone, which makes up most of the side of the skull, with part of the left parietal and a piece of the occipital bone, which forms the back of the skull.

The fragment exhibits a crest along

the top, together with a depression on the side, which the two researchers state "entirely correspond to those which are characteristic of the *Sinanthropus* skulls. The pronounced flattening of the cap, so specific for the two *Pithecanthropus* skulls known hitherto, is completely missing in the case of this new *Pithecanthropus* skull."

On the other hand, they point out, the new skull has certain features in common with both Java and Peking skulls, especially in a general lowness of the entire cap as compared with the higher doming in skulls of modern man, and in having its greatest width at the sides of the face just forward of the ears, instead of much higher up as in present-day races.

The condition of the sutures or seams between the bones indicates that the skull is that of a juvenile individual.

"All the new *Pithecanthropus* finds," the investigators remark in concluding, "demonstrate how important and promising it is to search for fossil man in Java."

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MEDICINE

One of World's Worst Pains Relieved by Vitamin B Doses

RELIEF for sufferers from tic douloureux, a facial neuralgia so painful that some victims commit suicide, has been obtained by massive doses of vitamin B administered by a clinic conducted at California Institute of Technology.

Of 12 cases just reported to the medi-

cal profession, eight are free from pain and four are so free that the pain bothers the victims very little. The research is being conducted by Dr. Henry Borsook, biochemist, Dr. C. G. Wiggins, oral surgeon, and Dr. M. Y. Kremers, physician.

Ten times the amount of vitamin B re-

quired by a normal person is administered by mouth and by injection. In a month patients begin to feel relief from pains. In another month, there is marked freedom from pain. Some who have suffered shooting pains for 20 years obtain relief for the first time.

This nerve disease, one of the most painful ills affecting mankind, previously was curable only by brain surgery, with alcohol injection of the nerve the only palliative.

One of the present patients of the clinic was on the verge of ending her life when she was picked up by the police. Detective William Cropsey of Pasadena realized that the pain shooting through her face might be relieved at Caltech. He took her to the clinic and now she is enjoying more freedom from pain than she has known in years.

The clinic started in April when a sufferer from this spasmodic trigeminal neuralgia walked into the Institute's Kerckhoff laboratory and inquired if vitamin B treatments would cure the disease. Dr. Borsook, who in previous experiments had achieved good results in relieving neuritis, started this new research, using highly concentrated vitamins.

Investigators Cautious

While astonishing results have been obtained, the medical men are not certain yet that the result will be permanent. However, they have no reason to be pessimistic. At the outset, they did not expect to secure any results for six months or a year. They were agreeably surprised in getting noticeable improvement in a month.

The patients, ranging in age from 21 to 79, with the majority over 45 years, visit Caltech each day for treatment and all come together once a week at a clinic. Treatment is free with Caltech defraying the expense.

The experiments enable observers to make an excellent study of the physiology of pain.

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