



NIGHT FIRE

This photograph of the Curtiss P-40E, or Kittyhawk, on the new Curtiss-Wright firing range at night, is taken by the illumination of the tracer bullets being fired. Details of the firepower of this plane's successor, the new Warhawk, are being kept a military secret, so pictures like this cannot be taken of the new plane. (See facing page.)

PSYCHOLOGY

War Toys Not Harmful To the Minds of Children

**Wise Parents May Be Able To Use Such Playthings
To Acquaint Their Youngsters With the Facts of War**

MOTHERS need not worry when their children "blitz" lead soldiers, with toy machine guns, bombing planes and tanks.

Leading psychologists and child experts say it is all right. Approval was voiced in a poll of 69 experts reported to the meeting of the Midwestern Psychological Association, by Dr. Martin L. Reymert, of the Mooseheart Laboratory for Child Research, Mooseheart, Ill.

War toys do not necessarily undermine the child's mental health. They do not instill into the children the viciousness of war.

In fact, in the hands of intelligent

parents, war toys can be used effectively to acquaint children with the facts of war. This is important, since the most harmful fears are the irrational fears of the unknown.

Parents should worry about their children rather when they refuse to play war games, Dr. Reymert indicated.

In England it has been found, he said, that such refusal is a symptom of repressed tensions and anxieties.

Psychologists, although they differ on many points in regard to the harm or benefit of war toys, agree, Dr. Reymert found, that it all depends upon the personality of the individual child.

Science News Letter, May 16, 1942

Growth Changes Continue

THE CHARACTER of brain activity, which changes with increasing age all during childhood, still continues to change in adult life, it was revealed in a report by Dr. J. R. Knott, of the State University of Iowa, and Dr. Frederic A. Gibbs of Harvard Medical School.

This type of growth is indicated by brain waves, electrical impulses that originate in the brain cells themselves. These occur over a span of frequencies that may be thought of as like the light spectrum. With increasing age the red end (frequencies lower than 8 per second) grows dim while the blue end (above 8 per second) grows bright.

In the research reported, Dr. Knott and Dr. Gibbs studied the changes with growth of voltages obtained for each frequency from one to fifty cycles per second. They tapped the brain waves of individuals ranging in age from prematurely born babies of only nine days to young men of 19 years. Only males were studied, to rule out possible sex differences.

Energy below eight per second decreases with increasing age. Above eight per second, it increases as the individual grows older.

In other words there is a shift to the blue, or a shift to the fast end of the brain frequency spectrum.

Science News Letter, May 16, 1942

Taste a False Guide

WHEN people are faced with scarcity conditions and some important elements of the diet are short-rationed or completely lacking, taste and smell become unreliable guides in selecting foods that will preserve life and health.

This is the warning from researches reported to the Midwestern Psychological Association by Drs. Paul Thomas Young, Leon D. Shapiro and James P. Chaplin of the University of Illinois.

Rats were used in the experiments because their diet is so closely like that of humans and because when all the elements of diet are made freely available to them, cafeteria style, rats are able to select just what they need for their own best development.

The effect of deprivation of one food element such as the milk protein, casein, was subject of one experiment. One method was used that forced the animals to choose their food on the basis of taste and smell.

Another method forced them to choose on the basis of organic appetite — the chemical state of the body.

Taste and smell deceive; the deeper cravings of the body are wiser, it was found. When the rats chose what they liked the taste or smell of, they continued to select sugar rather than casein even after 29 days of being deprived of the needed casein. They preferred casein, however, when they judged on the basis of the body craving.

Unreliability of taste was confirmed in another experiment conducted by Dr. Shapiro in which the animals went for several days without either food or water. When relying on taste to make their choice, the rats took dry food. When they followed the dictates of their organic state, they drank instead, even though the period of total deprivation was shorter.

Science News Letter, May 16, 1942

Fast Talkers and Spenders

YOU CAN be on your guard against the smooth talker who wants your bank roll if you follow the tips given to psychologists by Dr. J. E. Janney, of Western Reserve University, speaking before the Midwestern Psychological Association meeting.

"Fast talkers and fast spenders," is how Dr. Janney summed up the personalities of both large-scale and small-time swindlers, on the basis of the experience of 40 Better Business Bureaus throughout the nation.

The small operator tends to be flashily dressed, he wants to put over his deal in secret, probably has a bad retail credit rating, will lie when investigated and feels persecuted when convicted.

The big-time operator comes right out in the open. He advertises widely, is well and conservatively dressed, and is careful to keep an excellent credit rating. But he is more likely to be truthful when investigated and sportsmanlike when convicted.

The appeals with which they work on you differ, too. If you are small prey, the swindler will play on your love for your family, any superstitions you may have, and on your desire for health and beauty.

In big frauds, prestige is used more extensively as a lever.

Big and small, swindlers make the most of the human weaknesses of gullibility, cupidity, conceit and concealment.

Science News Letter, May 16, 1942

CHEMISTRY

Japs Have Reproduced Nylon In Preparation for Post-War

Articles Found in Japanese Chemical Journals Show Oriental Rayon Company Is Ready To Compete in Field

JAPANESE industrial chemists are already preparing for an industrial struggle to follow cessation of the shooting war.

This is the conclusion that may be drawn from three articles published in Japanese, in the *Journal of the Chemical Society of Japan*, during 1940 and 1941. The author, K. Hosino, research man for the Oriental Rayon Company, Ltd., tells how he analyzed nylon, the synthetic plastic fiber that has made the U. S. A. independent of silk. After he had determined how the molecules were put together, he duplicated them and then made modifications which he claims are improvements over the American product.

This procedure, reminiscent of pre-war tales of how Japanese mechanics would build a duplicate of any machine that Occidental manufacturers would sell to their employers, might give Japanese textile factories the means to compete

to great advantage with nylon mills in this country and Europe. Japan has persistently refused to enter into any patent treaty with any foreign country, so that the du Ponts, originators of nylon and owners of basic patents thereon, will have no protection against Japanese attacks on their business.

Nylon, the Japanese chemist states as a result of his analysis, is a "polyamide of hexamethylenediamine combined with adipic acid."

If Japan goes into the nylon business, the silk industry, already hard hit first by rayon and then by the cessation of American silk purchases even before the outbreak of war, may never come to full revival. It is reported that hundreds of thousands of mulberry trees have already been felled in Japan, to make room for more food-crop production. These groves may never be replanted.

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BELOW

This is how the root development in the water vapor culture box looks. These plants are three months old. This photograph and the one on the facing page are from the Pineapple Research Institute.