

PSYCHOLOGY

"Bright" Child Has Hard Time of It, Report Shows

DON'T FEEL SORRY if your child isn't the brightest in school, because the mentally superior youngster usually has a hard time of it and makes himself a special problem in the matter of social adjustment.

In a report to the National Committee for Mental Hygiene, Dr. Leta S. Hollingworth, of Columbia University, showed that child prodigies find themselves handicapped in many respects. The brilliant boy or girl may become indifferent to school work and fall into habits of idleness and daydreaming as a result of the ease in which the ordinary lessons are mastered. Finding themselves uninterested in the same games as their older and larger classmates and becoming a constant target for their attacks, the "bright" ones suffer considerably.

For the gifted girl, particularly, the matter of recreation is difficult because her early maturity develops in her an interest in the rougher activities of boys which her sex inevitably prevents her from pursuing.

In the home, Dr. Hollingworth stated, the situation is sometimes very embarrassing to the parent of the precocious offspring. By the age of six or seven the child may be insisting on logical, satisfying answers to such questions as "Who made me? Where did I come from? Where will I go when I die?" In addition, an almost devilish cleverness as well as a marked tendency to argue may be early noted. And where the parent is less intelligent than the child the latter is likely to run the household and thus reverse the customary social order.

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PLANT PHYSIOLOGY

Sliding Frame Duplicates Effects of Wind on Trees

TO DETERMINE the effect of wind strain on the growth of trees, Dr. W. S. Cooper of the University of Minnesota botany department is carrying on an experiment with Monterey cypress trees. These cypress trees, which have always proved of interest to tourists because of their fantastic shapes, grow native on the rocky coast of California, and are constantly exposed to the wind from the ocean.

How does wind effect the growth of

the woody structure of these trees? The natural assumption is that any tree puts on wood in the plane of the wind strain to support itself.

In this experiment, Dr. Cooper has placed thirty-five young Monterey cypress trees in large flower pots. A sliding frame is attached to the trunks of the trees. This is driven by a small motor. The motor causes the frame to slide back and forth, and this makes the trees sway as if in the wind. At the point of contact of the frame and the tree, a rubber insulation is placed to protect the wood from injury. In this manner the trees have swayed nine hours every day for three years.

The results have been contrary to the natural assumption. Dr. Cooper found that until recently the trees were adding wood and getting thicker at right angles to the strain instead of along the plane of wind pressure. However, in the past few months, a slight change has been taking place. There is evidence to show that in the trunk of each tree, above the point of contact with the frame, the wood is becoming thicker in the plane of the wind strain as was originally expected.

A similar experiment was carried on by G. P. Burns of the University of Vermont several years ago. He used white pine trees, however, and conducted the experiment for one year only. His results were the same as Dr. Cooper's in that the trees put on wood at right angles to the strain during that one year. Dr. Cooper expects to continue his work another two years.

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ZOOLOGY

White Rhinoceros Strictly Protected

SIAM'S sacred white elephant bids fair to be matched with a sacred white rhinoceros in Uganda, one of the great British protectorates in Africa. The protection given this rare and diminishing species has become so absolute and exacting that even photographers going into the district to photograph the great beasts are required to obtain a license, and are warned not to do anything to frighten or enrage them. Infractions of this rule are punishable by a fine of a hundred pounds or imprisonment for six months. If the offense is repeated the fine goes up to 250 pounds and the jail sentence is trebled. Anyone killing or wounding a white rhinoceros forfeits his hunting license.

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IN SCIENCE

ENTOMOLOGY

Breezes Introduce Errors In Cricket "Thermometer"

THE NUMBER of chirps crickets of certain species make in a minute is a fairly accurate thermometer, provided there is no breeze.

Scientists have long known that changing temperature makes the insects speed up and slow down their chirping rate, and now H. A. Allard, of the U. S. Department of Agriculture, has found that a cricket in a draft chirps faster than one in still atmosphere—exactly 13 chirps a minute faster in the artificial draft Mr. Allard created with an electric fan.

If no breeze had come up but the temperature had risen three degrees Fahrenheit, the cricket would also have increased his rate of noise-making by thirteen chirps a minute.

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SEISMOLOGY

Instrument With Pendulum Measures Quake Force

AN INSTRUMENT, that will measure the force of an earthquake that shakes it, was described by Prof. J. A. Anderson of the Mt. Wilson Observatory, before seismologists meeting in Columbia, S. C., recently. It consists essentially of a pendulum free to swing in a given plane but normally resting against a stop. It can be adjusted to indicate a given force of movement by the angle of its swing.

When an earthquake strikes it, the pendulum swings away from its stop. This opens an electric circuit, and causes a semaphore on top of the instrument to drop. It is planned to use seven such pendulums on each installation, each set to indicate a different earthquake force. Then the operator, looking at the set-up after a quake, can tell by the number of semaphores which have dropped how severe the earthquake was. Then simply by resetting the semaphores, he leaves the instrument ready to register the force of the next earthquake.

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ANTHROPOLOGY

Seek "Black Sand" Indians In Illinois Mound

A PARTY of sixteen University of Chicago students under the supervision of Dr. Fay-Cooper Cole has begun excavation at Indian mounds near Lewistown, Ill., in the hope of discovering information about the oldest known inhabitants of the region.

These most ancient inhabitants have been named the "black sand" people. The name was given them because nine skeletons were found buried in black glacial sand beneath Indian mounds last summer. This year the expedition hopes to recover implements and ornaments which will shed light on the home life and customs of the ancient tribe. The black sand Indians are estimated to have lived at least 2,000 years ago.

Declaring that the search for early inhabitants of the Mississippi Valley is highly important in solving problems of American prehistory, Dr. Cole stated that Fulton County, where the excavations are being made, contains "the most complete data for culture sequence yet found in the Mississippi Valley."

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CHEMISTRY

Cheaper Hydrogen For Industry Promised

CHEAPER methods of making hydrogen from powdered fuel were discussed by Dr. Thau, Berlin engineer, at a meeting of the Institute of Fuel and the Institute of Gas Engineers recently in London. Apart from its use in domestic gas, industrial hydrogen is in increasing demand for the synthesis of ammonia gas, for the hydrogenation of oils and probably in the near future will be used for the liquefaction of coal.

The hydrogen is separated from so-called water gas which is made by the action of steam on red-hot coal or coke.

Great efforts have been made in recent years to reduce the price of water-gas by utilizing a cheaper fuel, as production costs are comparatively high. At present the process depends on the use of high-

class lumpy fuel such as coke or coal which is free from small particles.

Dr. Thau pointed out that the size of the fuel is not of so much importance as evenness of grain, which allows an evenly distributed passage of gas over the whole area of the fuel bed in the "producer," where the chemical action takes place.

The first continuously operated water-gas producer to consume powdered fuels instead of lump fuel, continued Dr. Thau, was designed by Dr. Oswald Heller of Aussig, Czechoslovakia. Exhaustive trials of the system have been conducted at the Tegel works of the Berlin Gas Company. The producer is of horizontal cylindrical shape and superheated steam is blown into it at seven different places.

The trials have not yet reached a conclusive end, but water gas can be produced by this process considerably cheaper than previously.

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PSYCHOLOGY

Worried, Tired Children More Apt to be Hurt

EVEN CHILDREN who have been given plenty of safety instructions are injured in accidents. This is often due to the mental or physical state of the child at the time he is exposed to danger, Dr. Herbert J. Stack, lecturer in safety education at Columbia University, says in a report to the National Committee for Mental Hygiene.

The worried child, because his mind is preoccupied, is especially prone to accident, Dr. Stack has found. As an example he cited one little girl who was seriously injured by an automobile. The police report read, "Crossing street at intersection against the lights." But Mary said, "I was worried about Mother. Mother has been sick, you know. I wanted to hurry to get home to her, and so I ran fast."

Parents and teachers are urged to provide safe adventures such as scouting and camping for the venturesome youngster who would otherwise hang on the rear end of trolley cars. They are also urged to protect the child from fatigue, because the children who are mentally and physically tired are more susceptible to accidents.

"Those of us who have to dodge taxicabs and other vehicles on our busy streets and highways know how many narrow escapes we have had when we were tired," Dr. Stack said.

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PSYCHOLOGY

Smaller Families Not Lowering Mentality

A FALLING birth rate apparently is not lowering the average intelligence of our population. Modern families of three children are just as likely to be bright on the whole as the once customary groups of ten or twelve.

At least the claim of some psychologists that mental capacity increases with order of birth is not substantiated in a study of 2127 cases made by Dr. Hsiao Hung Hsiao at the University of California. In a report published in *Genetic Psychology Monographs*, he concludes that the eldest in the family may have as much or even more brains than his younger brothers or sisters.

First-born children made practically the same scores on a mental test as did the second-born, but the later-born children, he points out, have the advantage of the mother's experience in rearing offspring, the greater chance of intellectual gain from association with brothers and sisters, and frequently the asset of the improved economic or social status of the family. In spite of these handicaps the first-born shows up well by comparison.

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BOTANY

Huge 1,000-Year-Old Pine In Crater Lake Park

A GRAND old western white pine, believed to be one of the largest of its kind in the world and estimated to be over 1,000 years of age, has been discovered recently in Crater Lake National Park, Ore. It is 23 feet 2 inches in circumference, the measurements being taken breast-high in accordance with the Spalding rules of measurements. Its height is 140 feet.

The pine is located in a canyon on the middle fork of Anna Creek, two and a half miles south of Government Camp. The east side of the gorge has been subject to heavy erosion, causing the roots of trees in that section to become almost trunks in their own right. But this great tree, growing on the west side of the canyon, has never suffered from the effects of such action.

The great size of this giant tree is particularly striking because Idaho, and not Oregon, is recognized as the real home of the western white pine.

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