

## GENERAL SCIENCE

**Teen Scientists Honored  
In State Talent Searches**

► HONORS and thousands of dollars in scholarships were given 479 outstanding science talented high school seniors during the State Science Talent Searches held this year in 41 states and the District of Columbia.

Scholarships were awarded by colleges and universities on the basis of recommendations of State Science Talent Search committees, using the entries in the national Science Talent Search.

Awards varied from state to state. The number of students honored ranged from one in each of three sparsely populated states to 36 in Tennessee, 37 in Illinois and 45 in Virginia.

In addition to many scholarships and summer research jobs, winning students were awarded books, scientific journal subscriptions, plaques, trophies, pins and certificates of merit.

Awards were made at banquets, special meetings of state academies of science, programs at university campuses and at state science fairs. Many state directors report plans for expanded programs during the 1963-64 school year.

State Science Talent Searches are sponsored by state academies of science, universities and colleges, museums and scholarship foundations, and are conducted by special arrangement with Science Clubs of America.

The annual national Science Talent Search for the Westinghouse Science Scholarships and Awards is conducted by Science Clubs of America, an activity of SCIENCE SERVICE, and is supported by the Westinghouse Educational Foundation.

• Science News Letter, 84:120 Aug. 24, 1963

## PSYCHOLOGY

**Husband Yields to Wife  
In Compatible Marriage**

► COMPATIBILITY in marriage may be a one-way street.

Psychologists have scientifically demonstrated what husbands have instinctively known—that when a husband yields to his wife's opinion on small matters, it is a sign of compatibility in marriage.

Compatibility, according to this particular psychological experiment, means having matched emotional needs. Thus a man with a strong need to receive affection and his wife with an equally strong need to give affection would be called compatible.

Yielding to the spouse's judgment was tested with electrical equipment that flashed a number of shapes on a screen for less than half a second at a time. Each partner had to decide how many shapes were to the right or to the left of a dividing line.

In three rounds of testing of 55 couples, husbands changed their judgments to go along with their wives a significant number of times. Wives, however, were not significantly influenced by their husbands.

As an explanation of these results, the researchers suggested that women's reactions to their husbands may be based on factors

other than matching needs. They said that in a different type of test, conforming behavior of husbands and wives might be different.

Drs. Irwin Katz, Melvin Cohen and Lawrence Castiglione of the Research Center for Human Relations, New York University, reported their research in the Journal of Abnormal and Social Psychology, 67:8, 1963.

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## GEOLOGY

**Earth Slides in Capital  
Due to Water in Clay**

► EARTH SLIDES are becoming an increasing problem in the National Capital area.

Places where there is heavy construction are being disturbed geologically. When water, filtering through surface layers of sand and gravel, gets into subterranean clay of the type common in the Atlantic Coastal plain, it causes "slip layers" in the ground.

When a slope is undermined or jarred by construction, it can result in earth slides along such layers, damaging buildings, highways and other property.

If adequate geological surveys are made, and precautions are taken before construction is planned, the risk of earth slides can be minimized.

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## PSYCHOLOGY

**Rats Satisfy Curiosity  
Instead of Hunger**

► ALTHOUGH SCIENTISTS have not yet explained how curiosity killed the cat, they have shown how it may starve the rat.

A search for new experiences can interfere with the natural chain of events activated in rats by hunger, a team of California researchers have found.

Instead of learning the best way to food, as any normal hungry rat would do, rats raised in constant darkness or constant light go hungry just to look at a pretty design.

These rats, deprived of sense experiences in infancy, would run through a maze to reach a chamber painted in a black-and-white checkerboard pattern and virtually ignore a plain, half-black, half-white chamber where food was located.

However, the deprived rats went to food when it was in the checkerboard chamber, researchers Gene P. Sackett, Patricia Keith-Lee and Robert Treat of Claremont Graduate School, Claremont, Calif., found.

It is generally assumed in psychological research that hunger drives the rat in search of food, that finding food satisfies or rewards the rat, and that being rewarded leads him to learn the correct route.

This study on 56 rats, reported in Science, 141:518, 1963, raises doubts about food playing such a basic role in the learning process. It indicates that learning an appropriate response may not depend solely on fulfillment of the basic drive of hunger, but that learning may be significantly affected by curiosity and other motivations.

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**IN SCIENCE**

## MEDICINE

**Anemic Pregnant Women  
Warned About Iron Drug**

► THE DANGERS of iron-deficiency anemia, present in a large number of pregnant women, can be made even worse by taking drugs with side effects.

Imferon, an iron-dextran complex produced by Lakeside Laboratories, Milwaukee, Wis., has been on and off the market in the past three years, but is now considered safe, Dr. Ralph G. Smith, acting medical director, Food and Drug Administration, told SCIENCE SERVICE.

There was one case of cancer believed traced to Imferon in a Canadian patient, Dr. Smith said, but after further tests with the drug, and with restrictive labeling, Imferon is now being marketed.

A search for less toxic drugs still goes on, however, and Dr. Jean M. Scott of Glasgow, Scotland, Royal Maternity Hospital, reported in the British Medical Journal, Aug. 10, 1963, that iron sorbitol citrate complex has been tested in 80 patients. Called jectofer in the United Kingdom, this drug is not used in the United States.

Dr. Scott said the red blood cells improved each week with daily injections of 100 milligrams. Previous urinary infection or folic-acid deficiency, however, should be a warning against its use.

Signs of folic-acid deficiency appeared in 22.5% of patients during or subsequent to treatment with jectofer. Although this was coincidental to the use of the drug, its occurrence was emphasized because toxic reactions are likely to occur in such patients.

In severe cases of iron-deficiency anemia during pregnancy, the growth of the fetus may be retarded and its susceptibility to infection may be increased. The mother may die during delivery from severe hemorrhage.

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## ENTOMOLOGY

**Heavy Breeding Reduced  
By USDA Gamma Rays**

► HEAVY BREEDING is a sure way to increase the population, but it can also be used to wipe out a species entirely.

Melon flies once infested the Pacific island of Rota. Now they have disappeared. The reason is a trick played on the flies by the U.S. Department of Agriculture's Agricultural Research Service.

The USDA raised millions of melon flies in captivity and sterilized them with gamma rays. The sterile males were then released on the island and allowed to breed.

The result: a vastly decreased number of melon flies the following season. With a few repetitions, the whole lot was wiped out.

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# CE FIELDS

## ZOOLOGY

### Stork's Snapping Bill Nature's Best Mousetrap

► THE BILL of the American wood stork can snap shut on an unsuspecting fish faster than the blink of an eye.

The wood stork, which inhabits the streams of Florida, has been equipped by nature with a "mousetrap" beak. To catch its dinner, the stork walks along, moving its bill from side to side through the water. When a fish comes in contact with the bill, the bill snaps shut. The stork does not even have to see the fish—his bill closes automatically, by reflex.

This reflex is one of the fastest known in nature—only 25 thousandths of a second elapses between the time the fish first touches the stork's bill and the moment it snaps shut. In contrast, it takes 40 thousandths of a second to blink an eye when a person is startled.

These findings were reported by M. P. Kahl Jr. and L. J. Peacock of the departments of zoology and psychology, University of Georgia, Athens, in *Nature*, 199:506, 1963.

• Science News Letter, 84:121 Aug. 24, 1963

## PSYCHOLOGY

### Negro Children Discount Own Mental Abilities

► NEGRO CHILDREN think less of their own mental abilities than white children do.

The reason may be that society teaches them to think they are not as good as other children and gives them more opportunities to feel inferior than to cultivate their talents.

Regardless of the explanation, Negro children underestimate their ability to do schoolwork to a significantly greater extent than white children. This finding emerged in a study of 823 Negro and white junior high school boys and girls.

Each child was asked to name the person he thought was his intellectual equal, to estimate whether he himself stood in the top or bottom half of his homeroom class, and to estimate his ability to do college work in the future.

Personal answers were compared with actual abilities as measured by an intelligence test.

In addition to the differences between Negro and white evaluations of ability, Dr. Ruth C. Wylie of Goucher College, Baltimore, Md., found differences between the estimates of white girls and white boys and upper and lower socioeconomic levels of children.

Girls were more modest than boys in rating their intellectual abilities, she found, and children of lower socioeconomic levels thought less of their ability to do schoolwork than children of upper levels.

Here again, the reason may be that society teaches a girl to minimize her intellectual talents and teaches a lower class child that he will not get too far by merely exercising his brain.

Differences between Negroes and whites, Dr. Wylie said, may stem from the same conditions as the differences between social classes.

Reporting in the *Journal of Personality*, 31:201, 1963, she pointed out that all the children had a tendency to rate themselves as better than they actually were. However, the fact that all children overestimated their abilities did not obscure the differences between white and Negro, boys and girls, and upper and lower classes.

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## EPIDEMIOLOGY

### Europe First Continent To Stamp Out Malaria

► EUROPE has stamped out malaria.

The World Health Organization in Copenhagen, Denmark, announced that only 882 malarial infections occurred last year in a population of 648 million, including all of the Soviet Union. Only 194 of the cases stemmed from inside Europe.

Dr. Paul van de Calseyde, WHO regional director, who made the announcement in his annual report, warned against the danger of malaria being re-established. Most of the new cases last year were imported from outside the continent, he stated.

More than six million blood samples were examined to detect the 882 European cases. Blood transfusions accounted for 52 of the cases.

Before WHO launched its anti-malarial program in 1959 there were 6,079 registered cases in Europe, 4,225 of them of native origin.

The United States and Canada are considered free of malaria, although the entire North American continent is not. Europe claims the honor of being the first continent to eradicate the disease.

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## TECHNOLOGY

### Mushmobile Tested by Department of Defense

► A TRULY amphibian vehicle, capable of traveling through water, mud, slush and snow has been successfully tested.

Designed and built by the Chrysler Corporation for the Department of Defense, the 2,300-pound vehicle can go virtually everywhere. The unusual machine is known as the Marsh Screw Amphibian. It is powered by an internal combustion engine and propelled by two giant revolving screws that enable the craft to bore its way through any kind of mush, no matter how deep.

The screws are large hollow cylinders filled with styrofoam and fitted with continuous spiral blades. They act as pontoons, enabling the vehicle to float in water. The vehicle can carry six passengers plus the driver or a cargo of more than a thousand pounds.

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## AGRICULTURE

### Cotton Growers Depend On Weather Service

► THE U.S. WEATHER BUREAU is a cotton grower's best friend. In recent years the Bureau's Agricultural Weather Service has saved the cotton growers many millions of dollars.

Like most farmers, cotton growers are highly dependent on the weather—knowledge of the next rainfall or temperature change can make the difference between profit and loss on a year's crop. Since a cotton crop remains in the field eight months, it is exposed to the weather even more than other crops and information about the weather is especially important.

The Agricultural Weather Service aids the cotton growers in many ways. It provides specialized farm weather forecasts and around-the-clock weather teletypewriter service, as well as conducting research on agriculture-weather relationships. It provides an extension advisory service to tell farmers whether crop conditions are favorable, and whether or not to plant, spray or harvest.

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## MEDICINE

### Twins Bear Children After Kidney Transplantation

► IDENTICAL TWINS have had five children between them following a successful kidney transplantation from one to the other.

This "happy ending" was reported seven years after the transplant between 21-year-old sisters, both married but childless. The sister who needed the kidney was in danger of death at the time, having a three-year history of kidney inflammation, high blood pressure, congestive heart failure and severe gastrointestinal hemorrhage.

Slightly more than a year after receiving the kidney, the formerly ailing sister became pregnant. She was delivered by cesarean section, and later had a second child, also delivered by cesarean surgery. Her doctors used this method as a precaution, but believe it may not have been necessary.

The donor sister had three full-term babies with no complications from her solitary kidney. One healthy kidney can perform the function of two.

The team of Harvard Medical School and Peter Bent Brigham Hospital surgeons reporting these cases said the kidney had been transplanted into a new location because of the difficulty of procedure, but that "further refinements in operative techniques" need not be sought because of the gratifying results.

Drs. Joseph E. Murray, Duncan E. Reid, J. Hartwell Harrison and John P. Merrill reported the findings in the *New England Journal of Medicine*, 269:341, 1963, published in Boston.

Drs. Merrill, Murray and Harrison performed a precedent-breaking kidney transplant in 1960 between non-identical male twins.

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