

## PSYCHOLOGY

**Parents of Problem Child Found to Be Maladjusted**

► THE PARENTS of problem children contribute a lot to making them problems.

This was reported to the American Psychological Association in Washington by Drs. Wesley C. Becker, Donald R. Peterson, Leo A. Hellmer, Donald J. Shoemaker and Herbert C. Quay, all of the University of Illinois. Their results indicate that the maladjustment of the father is more critical than that of the mother.

They based their conclusions on a study of father-mother-child groups at the University Psychological Clinic. They had come to the clinic because of a behavior problem with the child.

Both parents of the problem children were found to be maladjusted. The mother was found to be active, dictatorial, thwarting, and controlling by constant suggestion. The father did not tend to enforce regulations. In other words, the mother instigated aggressive behavior in the child while the father did little to curb its expression.

In addition, both parents gave vent to emotions easily—an example which the child tended to imitate.

A comparison of the personality of each parent with that of the problem child showed that the father was more important than the mother in determining the personality of the child.

The results suggested, commented the investigators, a revision of some of our ideas about who should be treated.

Science News Letter, September 6, 1958

## BIOLOGY

**Plant Extract Inhibits Hormone Secretions**

► A STRANGE PLANT with a stone-hard seed is currently tantalizing scientists with its powerful effects on the endocrine glands.

Cold water extracts of dried preparation of the whole plant have a marked effect on the secretion of sex hormones, whether injected or given by tube feeding.

Injection of the plant extract greatly lowers the functional activity of the thyroid gland. It also reduces gland size.

It inhibits the growth of some kinds of tumors in mice and apparently can inactivate glucagon—a hormone influential in sugar metabolism. This finding may be significant in studies of diabetes.

Reporting on recent studies of the action of "lithosperm," Dr. W. R. Breneman of the department of zoology at Indiana University told the American Society of Zoologists meeting in Bloomington, Ind., that the plant extract influences hormone action both in the living animal and in test tube preparations.

So far, the endocrinologist pointed out, research with lithosperm is largely exploratory. Applications of the results may be a long way off. Scientists working with the extract still do not know what chemical or compound in the plant is causing the hormone inactivation. However, biological tests of the extract's effects are being made along

with chemical analyses of the extract. Dr. Marvin Carmack of the Indiana University chemistry department heads this part of the program.

Injection of lithosperm into roosters for ten days prevented testis growth and androgen hormone secretion. Egg-laying in hens was stopped by injections and the hens regressed to pullet development with respect to sexual maturity.

Other tests showed that the plant extract inhibits the anterior pituitary luteinizing hormone, the hormone influencing formation of the corpus luteum in the ovaries.

Lithosperm, the extract from the plant *Lithospermum ruderalis* that is found in scattered spots in Wyoming, Montana, Nevada, Colorado and Washington, was first brought to the attention of scientists in a study of the folklore medicine of some western Indian tribes. The Indians claimed the plant could prevent conception in humans.

Tests with mice and chickens have proved the Indians' claims have basis in scientific fact. Application to human biology or medicine still needs to be studied, however, Dr. Breneman warned.

Science News Letter, September 6, 1958

## GENETICS

**Bison and Cattle Crossed, Hardy Breed Produced**

► BY HYBRIDIZING the buffalo, which once dominated the western plains of America, with domestic beef cattle, Canadian animal breeders have produced a new kind of animal that promises to be of some use on the upland open ranges of western and northwestern Canada.

H. F. Peters of the Canada Experimental Farm in Alberta told the International Genetics Congress in Montreal that 130 cattalo cows, of half to sixteenth bison breeding, have resulted from an effort since 1915 to combine some of the hardy qualities of the American bison with the meat qualities of domestic beef cattle.

Sterility of the bulls resulting from the cross has prevented the production of a true new breed. The cattalo cows do forage for themselves during the winter on the upland ranges more effectively than cows of domestic breeds. Cattalo calves put on significantly greater weight than bison but less than Herefords. Their meat production decreased as the proportion of bison breeding increased.

The improvement of farm livestock is a long process but Lavon J. Sumption of the University of Nebraska and William E. Rempel of the University of Minnesota told the Congress that significant progress within the working lifetime of an animal breeder is possible, although the annual rate of evolutionary change is often indiscernible. It took six generations to produce a new line of swine, called Minnesota No. 3.

A team from the U. S. Department of Agriculture, Beltsville, Md., H. O. Hetzer, J. H. Zeller and R. L. Hiner, told how in three generations two lines of Duroc swine were developed to give fat meat in one case and lean meat in another.

Science News Letter, September 6, 1958

**IN SCIEN**

## BIOLOGY

**Lobster Hearts Used For Drug-Action Study**

► SPINY LOBSTER hearts may provide scientists with a new tool for studying the action of drugs.

The lobster heart, which contains nine nerve cells, appears to be a near-perfect model that permits the study not only of a single nerve cell in action, but its interaction with other heart nerve cells.

It is for this reason, explains Dr. Donald Maynard of the University of Michigan, that the spiny lobster heart might prove very useful to researchers for watching what happens when drugs, such as curare or barbiturates, reach a neuron. The effect of a drug on a lobster heart could illustrate a possible effect the same drug might have on human nerve cells.

Dr. Maynard, who is studying the growth of lobster heart nerve cells at the Bermuda Biological Station, has had no trouble getting all the hearts he wants. Although this bountiful clawless lobster is a delicacy on the Island, only its tail turns up on the dinner table.

At the same time that he is studying the heart's nerve cells, Dr. Maynard is also probing into the function of the lobster's pericardial organ. This organ is responsible for the release of a very powerful chemical stimulator for the lobster heart.

If Dr. Maynard can discover how this material is released, it could provide a clue to the release mechanism of certain hormones in humans. Science would then have another piece to fit into the jigsaw puzzle of how the human chemical factory works.

Science News Letter, September 6, 1958

## PSYCHOLOGY

**Lack of Oxygen At Birth Lowers IQ**

► BABIES who suffer deficiency of oxygen at birth score lower on IQ tests taken later than do children whose birth was normal.

This effect of difficult birth on intelligence was reported to the American Psychological Association in Washington by Drs. Claire B. Ernhart, Frances K. Graham and Don L. Thurston of the Washington University School of Medicine and the University of Wisconsin School of Medicine.

More than 110 children, of whom 61 suffered lack of oxygen at birth, were given standard tests of intelligence and vocabulary when they were three years old. The tests were given without knowledge of the conditions of birth. The oxygen-deprived children scored "significantly lower" in both intelligence and vocabulary than those with normal births.

Science News Letter, September 6, 1958

# CE FIELDS

## DEMOGRAPHY

### Middle East Population Grows 4,000,000 Yearly

► THE POLITICAL and economic problems of the explosive Middle East are aggravated by an exploding population. The population of the Middle East is shooting up at the tremendous rate of 4,000,000 people a year, equivalent to the population of Chicago.

This striking figure was announced by the Population Reference Bureau in Washington.

In Egypt, some 23,400,000 people are pressed into the thin green ribbon of land along the Nile Valley. Here, surrounded by some of the world's most barren deserts, some 2,370 persons per square mile try to squeeze a living from the already overtaxed soil.

In Lebanon, Jordan, Syria and the sheikdoms of the Arabian peninsula accurate statistics are not available. But it is generally accepted that the region shows some of the highest concentrations of population in the world.

In Saudi Arabia, the population density has reached a high of more than 3,000 persons per square mile.

By contrast, the density in populous United States is only 239 per square mile.

The increase in population between 1956 and 1975 will be, it is estimated, 59% in Egypt, 61% in Turkey, 81% in both Iran and Iraq, 97% in Israel and 63% for the whole Middle East as compared with only 31% for the United States.

"The job of feeding and educating an additional 4,000,000 people each year, in a region already deeply engulfed in acute and chronic poverty, is staggering," Robert C. Cook, director of the Population Reference Bureau, said. "Peace and political stability seem unlikely under such unprecedented rates of population growth."

Science News Letter, September 6, 1958

## MEDICINE

### Plastic Eye Offers Advantages Over Glass

► CUSTOM-MADE plastic eyes that move in the eye cavity like normal eyes are now in use.

Movement of the artificial eye is accomplished by attaching the muscles of the eye to a surgically implanted sphere in the eye socket. Hence, when the sphere moves, it presses against the fitted eye, which has been placed in front of the sphere.

Developed by the Army Medical Service, the eye is made from a synthetic resin material similar to that used by dentists to construct dentures. It can be moved in the eye socket to correspond to the movements of the good eye.

In addition, there is no painful irritation

caused from body acids that etch glass and no problem with extreme temperature changes, and the plastic eye can be polished if it gets scratched.

Perhaps the most important feature, to the wearer, is the satisfaction of knowing that the plastic eye looks like a normal eye, absorbing, rather than reflecting light as glass eyes do.

While the glass eye is made in standard sizes, the plastic eye is individually fitted to the eye socket of the patient, Sergeant Gene A. Stewart of the plastic eye section of the main eye clinic, Walter Reed Hospital in Washington, said.

The iris, or colored portion of the eye, is painted a color that most closely matches the good eye. Then the eye is baked, repainted to catch the exact hue of the good eye, and baked again. The entire process usually takes seven days.

Particular care must be taken when casting and molding the plastic eye, since the eye itself is not a perfect sphere. After the eye is fitted, more natural movement, and particularly, movement that corresponds to the movement of the good eye, is then possible. However, the cosmetic appearance of the artificial eye depends mainly upon the condition of the eye socket.

For those persons that have lost the visual use of an eye, but not the eye itself, a plastic "cosmetic shell," similar to a contact lens, is also available.

Science News Letter, September 6, 1958

## BIOLOGY

### Raw Fish Makes Mink Anemic

► RAW FISH, a fairly standard part of a mink's diet, may cause anemia in mink.

Young mink fed diets containing large amounts of raw coalfish and whiting were found to develop anemia, two Norwegian scientists report in *Nature* (June 6). Young mink or kits fed boiled fish, on the other hand, showed no signs of this blood deficiency.

Sick kits lost their appetite, did not grow well, their coats were dull and the underfur was white or grayish. Mortality was about 20% to 30%.

Apparently, the scientists say, there is some "heat-labile factor capable of producing anemia, probably an enzyme in the raw fish." Some species of fish, such as catfish and blue halibut, had no effect on the minks when fed to them uncooked.

A. Helgebostad and E. Martinsons of the Research Station for Furbearing Animals, Norwegian Veterinary College, Oslo, studied 350 mink. In addition to the presence or absence of raw or cooked fish, the diets of all the mink included vitamin supplements. Some of the animals also were fed raw meat. Only those animals fed raw coalfish and whiting developed anemia and light underfur.

Organic preparations of iron, especially when administered parenterally rather than orally, brought the anemic animals back to normal.

Studies are underway to identify this anemia-producing factor in some raw fish.

Science News Letter, September 6, 1958

## MEDICINE

### Lifesaving Insulin Can Kill When Misused

► ALTHOUGH INSULIN has life-sustaining properties that are essential to many diabetics, it can also snuff out a life as effectively as any known murder weapon.

This possibility was considered and executed by a male nurse who was accused and convicted of his wife's murder, six investigators report in the *British Medical Journal* (Aug. 23).

Ironically enough, it was the husband's inaccurate account of his attempt to save his wife's life that led to further examination of the body. Scrutiny of her skin tissue revealed injection marks, after which 84 units of insulin were recovered from the surrounding tissues. Before the injection marks were discovered, death had been attributed to accidental drowning in the bathtub.

Death from accidental overdoses of insulin are known to have occurred in diabetics, psychiatric and insulin-sensitive patients, the investigators explain. They are Dr. M. R. Gurd, V. J. Birkinshaw and S. S. Randall of Boots Pure Drug Company, Nottingham, and Dr. A. S. Curry, Forensic Science Laboratory, Harrogate, Yorkshire, D. E. Price, Beckett Hospital and Forensic Science Laboratory, and P. H. Wright, department of chemical pathology, Guy's Hospital Medical School, London.

They believe this to be the first occasion on which a murder-by-insulin charge has been substantiated although known cases of attempted suicide by insulin have been recorded.

An overdose of insulin triggers a drop in the blood sugar level, followed by vomiting, perspiration, gross dilation of the pupils, and finally unconsciousness.

Science News Letter, September 6, 1958

## AGRICULTURE

### Agriculture Department Forecasts Plant Diseases

► OUTBREAKS of mildews, blights and molds can now be forecast ahead of time, just as the weather.

A USDA forecasting service predicts the occurrence of many diseases affecting important food crops so that farmers can take steps to protect their crops. Advance notice of conditions favoring an epidemic of a specific disease may come several weeks or months ahead of time, Dr. Paul R. Miller told scientists attending the American Phytopathological Society meeting in Bloomington, Ind.

The relationship between weather and disease development has provided the basis for accurate prediction of disease outbreaks. Both laboratory tests and studies of past temperature-disease figures are used to help the forecasters.

Recent developments in instruments to measure and record weather conditions include automatic recorders of temperature, relative humidity and duration of the dew.

Science News Letter, September 6, 1958