

PSYCHOLOGY

Study Parental Behavior

A series of long-range studies of maternal attitudes and behavior point to the possibility of predicting a child's mental growth and development.

► **JOHNNY'S PERSONALITY** may be predictable before Johnny is born. One day, child psychologists may be able to spot a family situation where offspring will grow up to be juvenile delinquents.

These possibilities exist because mothers and mothers-to-be say and do things which permit psychologists to study their behavior and attitudes and relate them directly to a predictable picture of a potential son's or daughter's mental growth and development.

Research on child development involving a number of long-range studies is being undertaken by scientists at the National Institute of Mental Health. It is hoped that the studies will lead to a better understanding of childhood aberrations and abnormalities.

These studies are beginning to yield much information on the psychological development of the infant in relation to its family. One study, for example, indicates that higher intelligence scores during the first year of life are earned by babies whose mothers are dominating and punitive.

By the time school age is reached, however, the reverse is true. Children with high scores have mothers characterized as cooperative, positive, affectionate and more permissive.

Another study is attempting to organize a set of concepts that can be used to predict what a child's personality will be. It is based upon maternal attitudes and maternal behavior.

This personality prediction picture is drawn from studies of mothers and children and how they interact. Although still in the theory stage, the picture has been used already and the hope is that sometime in the future, a child's personality will be predictable long before it is born.

To arrive at a set of concepts that can be charted, the scientists have first watched countless mothers in their relationships with their husbands and children. These relationships are then broken down into four major groupings called autonomy, hostility, control and love. Within each grouping there are varying shades of a mother's reaction to her family and varying intensities.

To decide what constitutes hostility, for example, the scientists have found that irritability of the mother, rejection of the home-making role and inconsiderateness of the husband all fall comfortably into this category.

When applying these concepts to unmarried women or childless women, the psychologists use a personality pinwheel with each of the groupings set at a pole. Autonomy or freedom for the child is at the west; hostility or rejection is at the north; control or possessiveness is at the east and love or acceptance of the child is at the south.

By testing and watching a potential mother, the personality of her still unborn children can be plotted on the pinwheel. If she is found to be democratic, for example, this factor falls in between love and freedom. A dictatorial attitude is considered northeast, that is, almost midway between being hostile and possessive.

Ideally, a woman whose attitudes and behavior showed love and freedom on the personality pinwheel, could expect to bear and raise normal children. Love and control, on the other hand, might very well result in neurotic children, or children considered to be inhibited, submissive and obedient.

A combination of hate and freedom results in juvenile delinquents and a combination of hate and control could show up in the children in the form of schizophrenia.

The psychologists engaged in this study emphasize that it is a theory and because of the many factors involved, it is rare, indeed, when the ideal attitudes and behavior combine in a mother to result in any pat personality for her children.

In addition, the father's attitudes and behavior are involved, together with those of others. They all play a part in shaping the personality of children.

The scientists do point out, however, that maternal attitude and behavior cannot be ignored and the cumulative effect of a mother's relationship with her children goes far beyond the first year of a child's life.

Science News Letter, August 30, 1958

MEDICINE

Desert Rodents Transmit Disease to Man, Wild Life

► **SOME FLESH-EATING** members of the rodent family native to the Great Salt Lake Desert in Utah have been found to be propagators of tularemia.

This infectious disease is a problem for both man and wild life. Infected wild rabbits and hares, unless thoroughly cooked before eaten, can transmit the disease to man. The bite of a tick or fly, contaminated water or contact with body fluids of the infected animal can also cause the disease.

Harmless looking little rodents were found to be carrying the infectious organism, *Pasteurella tularensis*, after digesting the flesh of infected carcasses, E. Dean Vest and Nyven J. Marchette of the University of Utah report in *Science* (Aug. 15).

Most of the ground squirrels and chipmunks readily consumed infected carcasses that were provided. Some rodents ate only the anterior part and still others were reluctant to eat the dead flesh unless regular food supplies were withheld for 48 hours, the investigators say.

Every rodent that ingested infective flesh contracted tularemia; those that did not eat the flesh did not contract the disease.

Apparently, carnivorousness contributes to the spread and perpetuation of tularemia, a potent factor in the destruction of wild life populations.

Tularemia causes swelling of the lymph nodes in man. It also causes high fever and vomiting. There have been about 10,000 cases observed in man.

Those rodents that readily ate infective flesh included: northern grasshopper mouse, western harvest mouse, deer mouse, canyon mouse and pinyon mouse; antelope ground squirrel; and the least chipmunk. The chisel-toothed kangaroo, Ord kangaroo rat, desert wood rat, and the Great Basin pocket mouse did not readily eat the flesh.

Science News Letter, August 30, 1958

● RADIO

Saturday, Sept. 6, 1958, 1:30-1:45 p.m., EDT

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio network. Check your local CBS station.

Dr. Harold A. Edgerton, chief of the Science Youth Division, Science Service, Washington, D. C., will discuss "Science for Youth."

ASTRONOMY

Find Connection Between Solar Flares and Satellite

► **AN APPARENT** relationship between solar flares and changes in the rate of decrease of the rotation period of sputnik II has been found by an Irish scientist.

Dr. T. Nonweiler of Queen's University, Belfast, has plotted the daily flare activity of the sun, then compared this to a plot of the observed rate of decrease of the second Soviet satellite's period from November, 1957, to April, 1958.

"The similarity of the two sets of fluctuations, even in some small details," he reports, suggests a correlation. Dr. Nonweiler urges further investigation to establish a reason for the dependence, in *Nature* (Aug. 16).

He says the relation is such that flares would have to be associated with a temporary decrease in air density and/or temperature within the lower ionosphere. To account for his diagrams, this reduction would have to happen on a worldwide scale, since the low point in the satellite's orbit ranged during its lifetime from middle to equatorial latitudes and through daylight and night zones.

Science News Letter, August 30, 1958

ENGINEERING

Net Stops Jet At Runway End

► **AN IMPROVED** barrier to halt runaway aircraft at the end of the runway has been shown at Andrews Air Force Base, Md. The device can safely stop a jet fighter and heavier aircraft. Carriage-like friction brakes operate along 200-foot tracks that flank the runway. A steel cable connects with a nylon net stretched across the path of the rolling jet, oversize brake shoes bring the system to a gentle halt.

Science News Letter, August 30, 1958