Behavior

Physical beauty can lead to rejection

A growing body of evidence shows that most of us drastically underestimate the influence of physical attractiveness on social behavior. However, past studies have usually depended on picture ratings or on studying subjects in artificial situations. Dennis Krebs and Allen A. Adinolfi, psychologists at Harvard University, have tested physical attractiveness and social contact in the real world.

They selected 60 male and 60 female university freshmen as subjects. The subjects were interviewed about their social life and given personality tests. Their grades were reviewed. They were also rated for physical attractiveness by independent judges. The findings are reported in the February JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY.

The more physically attractive females were, the more they dated. Physical attractiveness was not that crucial for how much males dated. Reasonably attractive subjects were more sought after by the same sex than subjects who were not attractive. However the most attractive subjects were rejected by members of their sex. One reason may be that they were also ambitious, independent and achieving, and these qualities, coupled with good looks, threatened other members of the same sex. Subjects who were reasonably attractive tended to be more socially stereotyped, affectionate and cooperative. The least attractive subjects were emotionally withdrawn.

How emotions influence behavior

Psychologists and neurophysiologists have ample reason to believe that emotions influence movement and behavior. But the anatomical link between the area of the brain concerned with movement and that concerned with emotions has been elusive. Now research reported in the Feb. 21 SCIENCE directly links the two areas.

Job Kievit and Henricus G. J. M. Kuypers, anatomists at Erasmus University in Rotterdam, Holland, injected a particular enzyme, horseradish peroxidase, into different parts of the frontal and parietal cortex in 17 monkeys. These areas of the cortex guide motor and sensory activities. In all cases the enzyme was transported to nerves in the basal forebrain area, which controls mood and motivation.

These findings, the investigators conclude, show that the cortical areas of the brain receive sensory fibers from the areas of the brain concerned with emotion and motivation.

Moral judgment in children

Research into the causes of juvenile delinquency has largely focused on genetic, neurological and environmental factors. Anthony Frank Campagna and Susan Harter of Yale University decided to see whether the moral judgment of sociopathic children and well-adjusted children differs.

The investigators selected sociopathic and well-adjusted children. The children were matched for high or low mental age and I.Q. They were given moral development interviews and the Wechsler Intelligence Scale for Children. The results, reported in the February JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY, revealed that the level of moral reasoning was higher for the well-adjusted children than for the sociopathic children. In addition, high-mental-age children tended to have higher moral judgment scores than low-mental-age children, suggesting the presence of a general cognitive factor underlying moral development. The poorer performance of the sociopathic children supports the theory that sociopathy is related to an arrest in moral development.

Chemistry

DDT: Growing problem in the oceans

The environmental problems attached to the use of DDT did not go away during its decade-long decline in the United States. The reason? Worldwide use of the pesticide is now as high or higher than during its peak U.S. production in the early 1960's, and DDT itself is a volatile, mobile chemical that observes no political or geographic boundaries. The world's oceans are feeling the brunt of the increased use since they are the eventual "sink" for the chemical.

This less than encouraging picture was presented in Washington at the National Institute of Environmental Health Sciences marine biomedical conference by G. M. Woodwell of the Marine Biological Laboratory in Woods Hole, Mass. Recent studies show, he says, that about 50 percent of the DDT applied appears immediately in the lower atmosphere, and that much of the rest will vaporize from the soil within five years.

Ultraviolet light may break some of the chemical down as it floats in the atmosphere, especially above the equator, but much of the rest is precipitated, unbroken, into the oceans and onto the land. The tissues of certain deep sea fish have been found with 200 parts per million of DDT in their tissues. Despite DDT's beneficial effects, Woodwell says, it will be a challenge to scientists and governments to define the global environmental hazards and to "prevent an irreversible accumulation of toxins in the oceans."

New chemical agent to 'unsickle' cells

The genetic and molecular bases for sickle-cell anemia are now well understood, but the search continues for an effective antisickling agent. Sodium cyanate has been used clinically on a small scale, but it is a suspected toxicant of the central nervous system. A California team now reports a new antisickling agent that functions differently from cyanate and appears to have few side effects.

Bertram H. Lubin of Children's Hospital Medical Center in Oakland and five colleagues from three other California institutes report the new agent in the January PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES. Dimethyl adipimidate, the new agent, is an 8-carbon molecule with two reactive sites that binds to hemoglobin and increases its affinity for oxygen. Although the mechanism by which it inhibits sickling is unknown, the team has evidence that unlike cyanate, dimethyl adipimidate might act on both hemoglobin and the red blood cell membrane to "unsickle" the abnormal cells, but does not adversely affect red cell metabolism. The chemical's action and possible toxicity must be studied before it can be tested clinically, they state.

Synthetic frog toxin a useful tool

It often happens in biomedical research that an unusual chemical from an unlikely source can be used to study tissue function in higher animals. Such is the case with perhydrohistrionicotoxin, one complex alkaloid component of the venom of a South American frog. It is a selective inhibitor of nerve transmission and has proven useful to neurologists—so useful, in fact, that chemists are trying to make large quantities of it synthetically.

Harvard chemists E. J. Corey, John F. Arnett and Gary N. Widiger now report a total synthesis of the alkaloid in the Jan. 22 JOURNAL OF THE AMERICAN CHEMICAL SOCIETY. Although the preparation is simple and clever, it does not yield great quantities, and Corey says he will continue to try for a synthesis with better yields.

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