

Physiological Insight Grows

by Patricia McBroom

The year 1966 saw an acceleration of the trend toward establishing a physiological understanding of human psychology. Partly because of increasing-



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ly sophisticated tools, scientists were able to reach deep into the brain, to produce new knowledge of sleep, dreams, memory and the electrical and chemical activity of the brain.

Microelectrodes, for instance, were used to tap single brain cells and to identify their particular function. Computers were used to summarize brain waves, revealing that each individual has a unique "brain print" just as he has a thumbprint.

In mental health, the trend toward deploying services more democratically, toward bringing psychiatric help down to "mainstreet" America, was realized in concrete terms—money. Many communities throughout the nation received grants this year for new community mental health centers, which will provide a host of services, from counseling to hospitalization.

Taken together, the two trends—brain research and community concern—encouraged scientists to expand their research into the impact of poverty, leading to the discovery that deprivation can cripple the brain physically and measurably.

During the year:

Experiments on baby monkeys added weight to the theory that fear is an in-born response but does not emerge until weeks after birth when the nervous system has reached a particular level of maturity.

Animal dreams decrease in number as the individual matures and may be an indication of his emotional maturity, a psychologist proposed.

Alcoholic women of the upper and middle classes characteristically have cold dominant mothers followed by cold dominant husbands, alcoholic fathers and a "miserable" self-image, according to one study.

By studying prisoners who had threatened the lives of U.S. presidents, one of the psychiatric consultants to the Warren Commission said he was

able to define a "presidential assassination syndrome."

Confronted with something complex, ambiguous, novel or puzzling, a person becomes physiologically aroused, indicating that "conflict" may be as basic a driving force as hunger, thirst, pain, or sexual appetite.

Games of fantasy offer a means by which little children communicate feelings to each other and develop emotional depth, a psychoanalyst found.

Fearfulness, bedwetting and nailbiting in children aged 6 to 12 are probably temporary phases in normal development rather than an indication of deviant behavior, a study indicated.

Demographers now believe the "population tide" can be turned back because of rapid acceptance of family planning programs in newly developing countries over the past two years.

A close study of films revealed that the human body "dances" to the rhythm of speech. For every break and stress in language, there was a corresponding change in body movement; however, this relationship was lacking in mentally ill patients.

A mathematician simulated for the first time a psychiatric interview between therapist and patient, with the computer acting as patient.

LSD shows promise of being useful in the treatment of schizophrenic and autistic children by making them more approachable.

Analysis of a slum rehabilitation project in New York revealed that the new community is virtually free of vandalism and crime because the people were allowed to participate in its planning.

Evidence emerged to indicate that courses in African and American Negro history may correct the negative concepts many Negro boys have about their race.

Juvenile delinquency has become a problem in the Soviet Union and rather than in violence Russian delinquency manifests itself as drunkenness, a survey shows.

The elderly are slow to respond under pressure because of anxiety, not because of reduced capacity to learn, a study proposed.

A man suffering from brain cancer had his entire left cerebral hemisphere removed and, contrary to all medical expectations, regained some ability to speak, write, comprehend speech and

move his right limbs. The brain may have a much greater capacity to reorganize itself than was believed.

A drug used as a stimulant in Europe was found to have memory enhancing qualities in U.S. tests on rats. The "memory pill"—magnesium pemoline—was then tested on elderly patients with controversial preliminary results.

An "alarm" chemical called ketone was found in the mandibles of harvester ants. It acts as a means of communication and warning.

Memory could be three processes instead of one—an "immediate" memory for remembering digits and the ends of sentences, a "temporary" memory that takes a few seconds to develop and lasts for several hours, and a "permanent" memory that consolidates slowly over time. If so, the search for a single physical memory structure is doomed to failure, a biologist proposed.

Newborn infants, and probably fetuses as well, spend far more time dreaming than do adults. On the basis of this fact, noted sleep researchers theorized that dreaming plays a central role in preparing the immature brain and nervous system for sensory experience.

A rare medical condition that left uncovered a piece of a man's intestine revealed that contractions in the ileum increased when he was furious, but decreased when he was content, sad or yearning. They almost disappeared during elation or horror.

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