

behavioral sciences

From our reporter at the 79th annual convention of the American Psychological Association last week in Washington

Where is the memory stored?

Electronic monitoring of various parts of the brain has led researchers to believe that memory storage takes place throughout the brain. But Dr. James Olds, professor of behavior biology at the California Institute of Technology, reports that he has found evidence to the contrary indicating that there are specific sites of memory storage.

Dr. Olds, who discovered the brain's pleasure centers in rats 18 years ago, has continued to work with rats. By monitoring individual rat brain cells in the act of learning he and his group have pinpointed at least four locations of memory storage. The four areas are the ventral reticular formation (which has been related to attention, waking and basic drives); the posterior thalamus (where learning is thought to be temporary and which is compared to a computer's accumulator that quickly fills and empties with information about learning tasks); part of the hippocampus (believed to serve as a memory device much like a tape recorder) and the neo-cortex (where is believed to be stored neuronal models of memorized actual objects).

"While the four areas indicated will need to be confirmed in a further map involving a larger number of points and a finer mode of analysis, they provide a beginning for unraveling one of the oldest problems in physiological psychology, namely, where is the memory stored?" Dr. Olds concluded.

Psychology and the science adviser

President Nixon's science adviser, Dr. Edward E. David Jr., is an engineer and physical scientist. Since his appointment, he has not made a policy statement on the role of the social and behavioral sciences. There was speculation that as an invited speaker at the APA he would address himself to this topic, but his talk was aimed at scientists in general.

He did tell the psychologists, however, that "we in the physical and life sciences will be calling on you for advice" because "psychology is uniquely suited to help all of the sciences deal with their developing problems in coping with immediate and emotional issues" and because the physical and life sciences have been "traditionally less involved" with these issues.

He warned that "if as scientists and engineers, we are to be of value to society in providing a factual basis for decisions, we must maintain our objectivity in fact, but we must also make that objectivity credible to a skeptical audience."

Continuing the I.Q. controversy

"At a bonus rate of \$1,000 for each point below 100 I.Q., \$30,000 put in trust for a 70-I.Q. moron of 20-child potential might return \$250,000 to taxpayers in reduced costs of mental retardation care." With this argument, the Nobel laureate physicist William Shockley of Stanford University carried his case from the unresponsive National Academy of Sciences to the APA.

This plan to give a bonus to low-intelligence parents who submit to sterilization is Dr. Shockley's latest move

in his effort to persuade scientists that something should be done to keep genetically inferior persons from procreating. His theories are based in part on his own evaluation of an Oakland, Calif., Army preinduction test. According to his findings, the I.Q. of a black testee was one point above the average black I.Q. for each one percent of Caucasian ancestry he had.

Dr. Edward C. Scanlon, a clinical psychologist at the Schuylkill County (Pa.) Mental Health Center, described Dr. Shockley as "paranoid" and his theories as "fascist." He said his experience as an Army psychologist reveals a considerable amount of cheating among whites who are supervised by white officers. Also opposed to the Shockley plan are Drs. Jane R. Mercer of the University of California in Riverside and George W. Mayeske of the Office of Education (SN: 9/11/71, p. 167). They found that 20 to 30 percent of what I.Q. tests measure is a result of home environment and socioeconomic status. Dr. Shockley said he is "inclined to doubt" their findings and does not see how home environment can be scientifically accounted for.

Black family planning

Concern with world population and overcrowded ghettos has prompted many people to turn to family planning as a practical solution. But "no matter how the professional family planner may feel, the most pressing need in the black community is not family planning services," says Dr. William A. Darity of the University of Massachusetts at Amherst. What is needed, he feels, is a comprehensive approach to the social and economic problems of the black community. A major fact to be considered, says Darity, is that there is a large minority of black males 30 and under concerned with survival who see family planning and birth control as a subtle approach to genocide.

"Personnel dealing with family planning services must initiate programs which will raise the general socioeconomic status of the black population," he said. "Concern and support and participatory activity will only come when concrete programs which will raise the level of human dignity are evident."

Saturday morning violence

Seventy-one percent of Saturday children's television programs provide at least one incidence of human violence, according to a study of children's television conducted by Dr. F. Earle Barcus of Boston University.

Concern over this aspect of television and its possible impact on the social behavior of children has produced 25 individual research projects under the sponsorship of the Surgeon General's Scientific Advisory Committee on Television and Social Behavior.

Drs. Robert M. Liebert and Robert A. Baron of the State University of New York at Stony Brook and Robert H. Baron of the University of South Carolina have studied the short-term effects of televised aggression on children's aggressive behavior. "The present entertainment offerings of the television medium may be contri-

buting in some measure to the aggressive behavior of many normal children," they say. They have found "a direct, causal link between exposure to TV violence and an observer's subsequent aggressive behavior."

Drs. Jack Lyle and Heidi R. Hoffman of the University of California at Los Angeles studied 1,300 children and found that they use what they see on TV as a model for their games. They also found that the children who liked violent programs most had more fights with their parents.

Ineffective leadership training

The results of 20 years of studies involving business executives have led Dr. Fred E. Fiedler of the University of Washington in Seattle to conclude that about one-third to one-half of an organization's managers may become less effective, rather than more effective, as a result of leadership and management training.

He describes two types of leaders: the task-motivated who bury themselves in work when the going gets rough, and the relationship-motivated who want support and close relations with others when they run into trouble. Both are good leaders, he says, but under different circumstances. Leadership training has always tried to change these persons. "What we are really doing," he says, "is changing the leader's control and influence. As a result, training for situations in which the task-motivated leaders perform best will be detrimental for relationship-motivated leaders. Training which improves the performance of relationship-motivated leaders will make task-motivated leaders less effective."

A sense of humor

Having a sense of humor is often defined as the ability to be amused at one's own expense, but Dr. Lawrence E. La Fave of the University of Windsor has conducted experiments that lead him to believe that people are only amused at the expense of those they consider to be the "bad guy. There is no such thing as a sense of humor," Dr. La Fave says. "No one in the history of the human race has ever been amused at his own expense."

For example, pro-male males found pro-male-anti-female jokes funnier than did Women's Libbers, and vice versa. Also, as he predicted, males who said both sexes ought to rule equally were less male in their humor judgments than males who said only males should rule.

"To deny that a sense of humor exists is not of course to deny that humor exists," notes Dr. La Fave.

APA on mental health

In a letter to Rep. Wilbur D. Mills (D-Ark.), Dr. Kenneth B. Little, executive officer of the APA, expressed concern over a national health insurance plan and released the APA's official position paper on the subject. It requests more attention to mental health needs.

"Any catalogue of health priorities will surely show mental health needs close to the top," wrote Dr. Little.

"It is hoped, therefore, that you give serious consideration to the inclusion in your bill of a full range of preventative, diagnostic, remedial and rehabilitative services in the area of mental health and emotional disorders."

In its position paper the APA emphasizes that "although it is difficult to determine the number of people suffering from emotional disturbance, it is generally accepted that approximately 10 percent of the non-institutionalized population of the United States is, at any given time, afflicted with some form of mental or emotional illness requiring professional care. To ignore or minimize assistance for this component of the health of the nation's citizenry would be unpardonable."

The creative pot smoker

"The personality dynamics of the marijuana user are becoming increasingly clear," say Drs. Jan Carl Grossman and Russell Eisenman of Temple University and Ronald Goldstein of Pennsylvania State University. "Some evidence does seem to point to the fact that within the normal range, there are obvious personality differences."

They administered a battery of tests to 316 undergraduates. The students then gave biographical data and rated themselves as either a nonmarijuana user, an experimental user (tried pot two or three times only), an occasional user (three or less times a month) or a regular user (at least once a week). "The most important finding of this study is that as marijuana use increases, creativity and adventuresomeness increase and authoritarianism decreases," say the researchers. "Also," they continue, "the heaviest users report no more manifest anxiety than nonusers and did just as well academically." The psychologists warn, however, that the results, "while probably applicable to the large Eastern city college student, may not be applicable to individuals in other life situations."

Control environment to control ulcers

Rats subjected to stress, but which are able to control the factors causing the discomfort, develop fewer and smaller ulcers than rats which either have no control over their environment or are frustrated when attempting to change their life situation. This was reported by Dr. Jay M. Weiss of Rockefeller University who has a new theory of ulcers and behavior and supporting laboratory experiments that may have implications for human disease and behavior.

He and his investigators found that if a signal is given to a rat before it receives a shock, so that it can predict when shock will occur, the rat will develop smaller and fewer ulcers than one that receives the same shocks but cannot predict when the shocks will occur. Moreover, if the rat is able to take action to avoid or escape the shock, it will develop fewer ulcers than an animal that receives the same shocks but has no control over them. This research, Dr. Weiss indicates, "may well have implications for the understanding and treatment of various psychological disorders."