

behavioral sciences

NEUROPHYSIOLOGY

A step beyond Pavlov

Experiments at the Rockefeller University have demonstrated that the autonomic nervous system, which controls many vital bodily processes, can be profoundly influenced by learned behavior.

This contradicts the widely held belief that only the classical or Pavlovian method of conditioning could influence the autonomic nervous system.

In the Pavlovian experiment, a bell was sounded before giving meat to a hungry dog. The dog salivated eventually at the mere sound of the bell. The Rockefeller experiments eliminate the need for an outside stimulus.

The experiments were performed by Prof. Neal Miller and his colleagues in the physiology laboratory, and reported in the Jan. 31 issue of *SCIENCE*.

By employing rewards, Miller demonstrated that such involuntary functions as salivation, heart rate, intestinal contractions, kidney function and blood pressure could be either speeded up or slowed down.

Learning by reward is considered much more sophisticated than classical Pavlovian conditioning it had been thought that the autonomic nervous system could not achieve this level of sophistication.

SOCIOLOGY

Progress and poverty

Michael Harrington, who has been called the father of the war on poverty, has some harsh things to say about his child. Harrington is the writer whose book "The Other America" depicted the squalor amid America's affluence, and is credited with having convinced President Kennedy to begin the anti-poverty campaign.

In an article written for the Center for the Study of Democratic Institutions in Santa Barbara, Calif., Harrington states that although the condition of the poor "is not quite as evil as it was" before the Federal program began, "politically and morally it is worse than ever."

Harrington says that despite the Government's "unconditional" war on poverty, tens of millions of Americans still inhabit a social underworld and even more are only one recession, one illness, or one accident removed from it.

But he does credit the anti-poverty crusade with reducing the poor from 25 to 18 percent of the nation's population.

The biggest breakthrough so far has been a psychological one, Harrington wrote. It is "the increase in our knowledge of the needless suffering that we tolerate. So, since the poor have become less invisible, the society has become even more guilty. Now it knows its callousness."

DRUGS

Pot dangerous for unstable youths

Based on a study of 11 schizophrenics, Dr. Doris H. Milman concludes that "marijuana used by young people with unstable personalities is capable of precipitating acute psychoses, may contribute to the production of chronic psychoses, disrupts the youngster's way of life, and is associated with multiple drug usage."

Dr. Milman, associate professor of pediatrics at the Downstate Medical Center of the State University of New York in Brooklyn, reported her findings in the February *JOURNAL OF PEDIATRICS*.

Ten of the patients were adolescents and one was a young adult. Dr. Milman, a child psychiatrist, reported that "all had quick tempers, little tolerance for frustration or postponement, and little tolerance for anxiety. They demanded instant gratification and relief, and found that drugs offered both of these."

Dr. Milman concluded that adolescent drug usage allowed the patients to defer problems which should have been solved at that stage of their lives, and thus would lead them into adulthood as immature, poorly integrated personalities dependent upon drugs.

MOTIVATION

Diet urge different for men and women

Fat men don't see their doctors about being overweight as often as fat women do, but they follow the resultant advice more faithfully. This conclusion was reached by Prof. John Yudkin of the nutrition department at Queen Elizabeth College, London University, after a survey of 1,562 doctors.

Prof. Yudkin says the likely reason is that women are more concerned about the esthetic disadvantages of being overweight, but that this is not a strong enough incentive for them to eat less.

Men are likely to want to lose weight to forestall heart attacks and other ills associated with obesity, and this is often a strong enough incentive for them to turn down that extra piece of chocolate cake.

The diets most commonly prescribed were based on a lowered carbohydrate intake, Prof. Yudkin said. But the doctors reported that results in terms of weight reduction were generally rather poor. Half of the women and one-third of the men failed to lose weight despite their dieting.

VIOLENCE

Campus demonstrations under study

A three-year national study of upheavals in U.S. campuses has been started by the American Council on Education under a \$114,400 grant from the National Institute of Mental Health. Dr. Alexander W. Astin, director of research for the council, will supervise the project.

Behavioral scientists have been anxiously calling for such a study since last year. They have labeled the situation on many campuses as a crisis in education. Now the age-old cry of the academics for more research is about to be answered.

The scholars will be trying to find out why demonstrations occur, why they happen at some places and not at others, why some protests are relatively benign while others are ferocious and what current trends in campus-wrecking bode for the future.

Among the members of the advisory committee for the project are Professors Amitai Etzioni of Colombia, Kenneth Keniston of Yale, David Riesman of Harvard, and M. Brewster Smith of the University of Chicago.

15 february 1969/vol. 95/science news/167