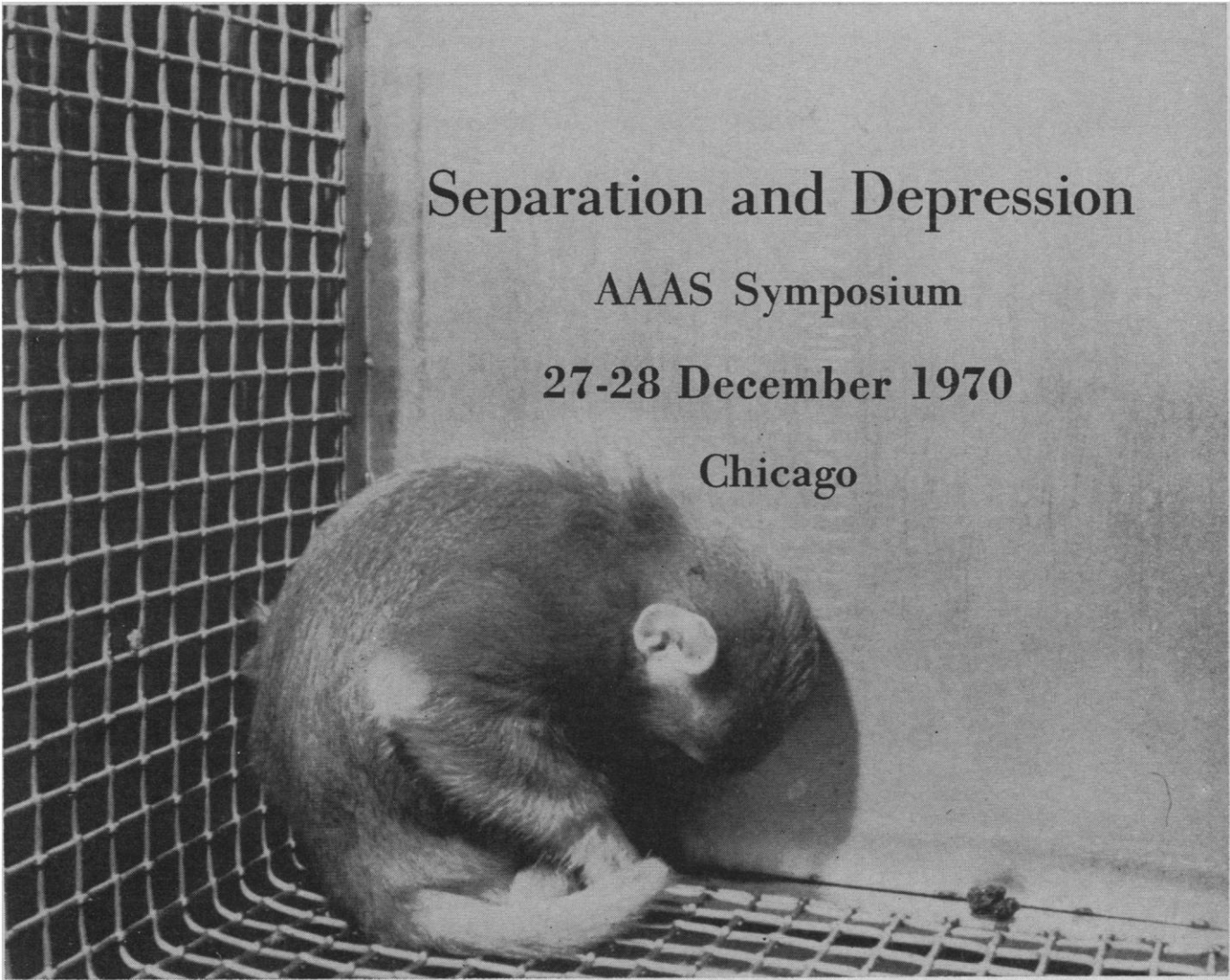


Separation and Depression

AAAS Symposium

27-28 December 1970

Chicago



For the past 20 years there has been an increasing flow of evidence from both human and nonhuman sources to the effect that one of the major causes of depression as a form of mental disease is separation from familiar individuals by death or accident, and from familiar places as a result of travel, immigration, and moving in connection with changes of occupation. While separation experiences may produce serious emotional disturbances at any time in life, the link between separation and depression was first confirmed in infancy by Bakwin, Spitz, and others in the early 1940's. John Bowlby, who has since been a moving spirit in this research, has suggested that prolonged separations occurring in infancy may have particularly drastic consequences. The problem is one that can be explored experimentally with nonhuman animals, and observationally and clinically with human subjects. This symposium will bring together information from diverse laboratories,

animal species, and scientific disciplines.

The first two sessions will deal with the biological basis of depression. Scott will introduce the subject with evidence from work with young puppies that the pathological conditions associated with separation are based on disturbances of a major motivational system that normally results in social attachment, or primary socialization, and attachment to particular places, or the establishment of a home. Results of training in separation experience in young puppies will be reported.

Parallel experiments with rhesus and other species of monkeys in several different laboratories involve the separation of an infant monkey from its mother, usually by removing the mother from the group. Kaufman will point out that this produces an experimental model of great value because of the similarity of the monkey and human reactions following separation. Generally, the initial reaction to separation is dis-

tress and agitation, followed by depression (in some species of monkeys) and eventual recovery. McKinney, Suomi, and Harlow will report the results of detailed experiments that test the effects of age, the kind of objects that are removed, the number of separations, their duration, and the nature of the environment before, during, and after separation.

Using a similar technique, Boelkins and Cady have experimented with drug therapy and find that amitriptyline remarkably ameliorates the symptoms of separation. According to Klerman, this and other derivatives of imipramine, plus the use of the monoamine oxidase inhibitors, have markedly advanced the drug treatment of depression in human patients. He will present a model which integrates drug action on central affective regulatory systems with the

Caption for above: Monkey in a depressed state. [Regional Primate Research Center, University of Wisconsin, Madison]



Normal monkey (left) and depressed monkey (right). [Regional Primate Research Center, University of Wisconsin, Madison]

relief of depressive symptoms. Along similar lines Bunney and Goodwin will discuss the relation between brain biochemistry and depressive symptoms and will present data on the results of treating patients having emotional disorders with specific amine precursors and synthesis inhibitors.

Genetic variations in susceptibility to the effects of separation are apparent in the differential reactions of different species of monkeys. Fuller will present more detailed evidence from experiments with dogs that these effects have a strong genetic component. This implies that great variation among human individuals would be expected. This expectation is borne out by the work of Winokur who has been able to separate two types of emotional illness by genetic techniques. One of these in turn can be separated into two subtypes, one of which manifests itself as depression in the female and depression and alcoholism in the male.

The third session will concern itself with the kinds of experience that are predictive of depressive conditions. Heinicke will show that parental bereavement in childhood has effects which are strong at 0 to 5 years and

particularly strong in the 10 to 15 age interval. Holmes has constructed a Social Readjustment Scale consisting of 43 life events requiring change in adjustment. As measured by a separate schedule of recent experience, the magnitude of life change is highly related to the time of disease onset. Similarly, Paykel finds that there is a diverse range of life events that may lead to depression, but separation and threats of separation are particularly important. Finally, Schmale will present a unifying theory of depression, and Senay will summarize the results of the conference, with emphasis on integrating feelings experienced by depressive patients, such as hopelessness and helplessness, with changes in brain metabolism. The symposium will demonstrate that significant advances have been made in the understanding of this one variety of mental disease and will indicate where future research can profitably be done.

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Speakers and Topics

27 December (afternoon)

Biology of Depressive States

Pharmacological Aspects of Depression, Gerald Klerman (Harvard University).

Psychobiology of Affective Illness, William Bunney and Frederick Goodwin (National Institute of Mental Health).

Social Deprivation in the Dog: Genetic Variation in Vulnerability, John L. Fuller (State University of New York at Binghamton).

Genetic Aspects of Depression, George Winokur (Washington University School of Medicine).

28 December (morning)

Separation in Human Clinical Practice

Parental Deprivation in Early Childhood: A Predisposition to

Later Depression?, Christopher M. Heinicke (Reiss-Davis Child Study Center, Los Angeles).

Life Change and Illness Susceptibility, Thomas Holmes (University of Washington, Seattle).

The Role of Depression in Health and Disease, Arthur Schmale (University of Rochester School of Medicine).

Life Events and Acute Depression, Eugene S. Paykel (Yale University School of Medicine).

A Theory of Depression: Summary and Overview, Edward C. Senay (University of Chicago Medical School).

A general discussion will take place the evening of 28 December.

Arrangers: J. P. Scott (Bowling Green University) and Edward C. Senay (University of Chicago).

27 December (morning)

Separation and Its Effects in Animal Groups

Separation in Infant Dogs: Emotional and Motivational Aspects, J. P. Scott.

Mother-Infant Separation in Monkeys: An Experimental Model, I. Charles Kaufman (University of Colorado Medical Center).

New Models of Separation and Depression in Rhesus Monkeys, William T. McKinney, Stephen J. Suomi, and Harry F. Harlow (University of Wisconsin).

Drug Therapy in a Model of Infant Depression, R. Charles Boelkins and Paxton Cady (Stanford University).