

an excellent biography and a general index, satisfactory for authors, but quite inadequate for subjects. It is understood that Professor Olmsted now intends to write a life of Magendie, and it is scarcely necessary to say that physiologists on both sides of the Atlantic

will await his second biography with a sense of high anticipation.

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

SYMPOSIUM ON MENTAL HEALTH

PRELIMINARY ANNOUNCEMENT

THE Section on Medical Sciences of the American Association for the Advancement of Science announces a Symposium on Mental Health to be held in conjunction with the annual meeting of the association at Richmond, Va., from December 28 to 30, 1938, and cordially invites the attendance and participation of all interested persons.

A COOPERATIVE PROJECT

Collaborating in the plans for the event are the American Psychiatric Association (an affiliated body of the A. A. A. S.), the U. S. Public Health Service, the Mental Hospital Survey Committee (composed of representatives of eight national medical bodies),¹ the National Committee for Mental Hygiene and a special committee² of eminent psychiatrists who are developing the program for the symposium under the chairmanship of Dr. Walter L. Treadway, formerly assistant surgeon general of the Public Health Service.

PURPOSE OF THE SYMPOSIUM

The symposium will provide an unusual opportunity to bring the great problem of mental health before the forum of the A. A. A. S. and, through it, to the scientific and lay public of America. It will be the tenth in the series of symposia held by the Section on Medical Sciences since 1934 and the first to deal with

¹ American Medical Association, American Psychiatric Association, American Neurological Association, American Board of Psychiatry and Neurology, U. S. Public Health Service, National Committee for Mental Hygiene, Canadian Medical Association and National Committee for Mental Hygiene of Canada.

² Members of the committee, besides Dr. Treadway, are Dr. Clarence M. Hincks, general director, National Committee for Mental Hygiene, New York; Dr. Franklin G. Ebaugh, professor of psychiatry, University of Colorado, Denver; Dr. Roscoe Hall, clinical director, St. Elizabeth's Hospital, Washington, D. C.; Dr. Samuel W. Hamilton, director, Mental Hospital Survey Committee, New York; Dr. Grover Kempf, senior surgeon, Public Health Service, New York; Dr. Nolan D. C. Lewis, director, New York State Psychiatric Institute, New York; Dr. Abraham Myerson, director of research, Boston State Hospital; Dr. James S. Plant, director, Essex County Juvenile Clinic, Newark, N. J.; Dr. Harry Stack Sullivan, president, William Alanson White Psychiatric Foundation, New York; Dr. Joseph Zubin, assistant psychologist, Public Health Service, New York, and Dr. Malcolm H. Soule, director, Hygienic Laboratory, University of Michigan, Ann Arbor.

this important subject. All who have a serious interest in the subject will be welcome—scientists and laymen, professional workers and others—for the mental hygiene movement is a *public movement*, including among its adherents representatives from all walks of life and courting the good-will and support of all in its far-reaching aims and activities.

Its object will be, essentially, to present a synthesis of existing knowledge of the mental health problem, to evaluate past experience, crystallize aims and objectives and to marshal the scientific forces of the nation for a concerted, coordinated and more effective attack on mental disorders and disease. By drawing on the various scientific disciplines, within and without the field of mental hygiene, that are in a position to contribute new knowledge, we hope to light up the problem as never before and to arrive at a new and better orientation in dealing with it on its practical as well as theoretic side.

PLAN AND METHOD

The Symposium on Mental Health will be a three-day affair, with six sectional sessions, running consecutively, and with upwards of seventy scientific contributions. In addition, mental hygiene will be the topic of discussion at the final general session of the association's meeting, at which the symposium proceedings will be summarized. Headquarters for the symposium will be established at the Jefferson Hotel in Richmond, at which the administrative business of the symposium will be conducted during the conference period.³ The special sessions of the symposium will be held in the auditorium of the Commonwealth Club; the general session at the Mosque.

The symposium will be, in some respects, a unique affair, in that most of the contributions will not be read at the meeting but will be published in advance, in a series of six brochures, one for each session, which will be used as a basis for discussion at the meeting. The various sessions of the symposium will be arranged and conducted under the leadership of section chairmen, who will summarize and critically analyze the

³ Until then, correspondence in relation to the symposium should be addressed to the Administrative Office, Symposium on Mental Health, A. A. A. S., Room 822, 50 West 50th Street., New York City, Paul O. Komora, Administrative Secretary.

individual contributions, which will then be formally and informally discussed by persons to be selected by them and to whom the brochures will have been sent for study well in advance of the meeting. In addition, there will be opportunity for general, open discussion at each session. All the discussions and summaries will be included, with the advance papers, in the published proceedings of the symposium, which will be issued and sold by the A. A. A. S. after the meeting.

This plan of advance publication of a majority of the papers will make for the most effective use of the symposium technique, by providing the fullest time for free discussion and debate during the conference period. It will also insure a coordinated and integrated arrangement of the material to be presented, in that the various papers will be carefully edited, before use, to assure continuity, proportion and unity of thematic treatment. This procedure, by controlling the selection of topics and the areas to be covered, will tend to focus the discussions on basic issues and considerations of primary importance.

PROGRAM DEVELOPMENT

With this in view, the committee is constructing a special kind of program, having in mind the practical usefulness of the material in furthering the immediate and long-range objectives of the symposium, as well as its general scientific value. The program will thus be geared to the special purpose of the symposium, in which the whole field of mental hygiene will be staked out and the individual contributions fitted into a definite scheme and framework of discussion. It will present a wide range of data, covering all phases of mental health, but kept down, as far as possible, to fundamentals. The contributions will aim, on the one hand, to bring out what is definitely known in regard to a particular problem, and on the other, to expose for discussion and study questions and issues that are in the forefront of present-day scientific thinking in psychiatry and mental hygiene.

In formulating the program, the committee has adopted what it calls a "functional approach," in which the phenomena of mental disease and disorder are visualized, in the first place, as *intra-personal conditions*, that is, problems that arise within the individual; and, in the second place, as *inter-personal conditions*, in which environmental and social pressures are recognized as contributing factors in the production of mental and emotional stresses.

In the first category consideration will be given to well-known mental-disease entities of the functional and organic variety, such as schizophrenia, the manic-depressive psychoses, epilepsy, those associated with structural changes in the nervous system, with alcoholism, syphilis and other endogenous and exogenous

factors. In the second category attention will be centered on the geographical, physical and cultural environments conducive to mental health or ill-health, in which training and education, social and economic influences play significant rôles.

Half of the program will deal with problems of a medical nature that are the primary concern of the psychiatrist, neurologist, physiologist, biologist, biochemist and public health specialist; half will cut across non-medical fields and take in the sociologist, psychologist, anthropologist, economist, educator and political scientist. The latter will stress issues coming under the broad heading of "positive" mental hygiene and looking to the conservation and promotion of mental health.

TIME TABLE OF THE SYMPOSIUM

In line with this conception of program structure and function, the committee has made a careful canvass of the field, selecting contributors who will present the most authoritative and pertinent communications on the subject-matter to be covered by the various sessions. The topical material will be developed in sequence, one section leading logically to another, with an even flow of movement throughout the total symposium. The sectional headings and schedule of sessions are provisionally as follows:

Session I, Wednesday morning, December 28

Orientation and Methods in Psychiatric Research: Dr. Nolan D. C. Lewis, session chairman.

Introductory Address on Aims and Scope of Symposium: Dr. T. M. Rivers.

Session II, Wednesday afternoon, December 28

Sources of Mental Disorder and Disease, Their Amelioration and Prevention: Dr. Abraham Myerson, session chairman.

Session III, Thursday morning, December 29

The Economic Aspects of Mental Health: Dr. Joseph Zubin, session chairman.

Session IV, Thursday afternoon, December 29

Physical and Cultural Environment in Relation to the Conservation of Mental Health: Dr. Harry Stack Sullivan, session chairman.

Session V, Friday morning, December 30

Mental Health Administration: Dr. Clarence M. Hineks, session chairman.

Session VI, Friday afternoon, December 30

Professional and Technical Education in Relation to Mental Health: Dr. Franklin G. Ebaugh, session chairman.

General Session, Friday evening, December 30

Summary and Address: Dr. C. Macfie Campbell.

SCOPE OF SCIENTIFIC CONTRIBUTIONS:

A PRE-VIEW

The first day will be devoted to a critical survey of concrete scientific problems in the domains of psychiatry, psychopathology and contributory fields, the sources and ramifications of mental disease and disorder, methods of investigation, diagnosis and treatment, and measures for the amelioration and prevention of mental disorders. The discussions will deal with the genetic and biological bases of mental disorders on the one hand, and the maladjustments between environment and biological functioning on the other. The philosophy of psychiatric research, the relationship of fundamental to applied research, the present status of psychiatric investigation and the rôle of academic and tax-supported research will be evaluated and discussed.

The second day will see the statisticians, economists and social scientists appraising the magnitude and scope of the mental health problem, its financial and human costs, the manifold social problems associated with mental disease, and its broad community and social aspects, in terms of environmental causes and conditions, their modification and control. The discussions will show, on the one hand, the enormous loss due to mental disease, in terms of curtailed earning power and of public taxation for institutional maintenance, and on the other, how economic factors contribute to mental breakdowns through maladjustments in the industrial and social order. They will assess the complex influences of modern civilization on human adjustment in terms of technological advancement, social lag, political and governmental factors, education and other social and cultural forces.

The third day will be focused on the practical aspects of the management and control of mental disease and disorders, public policy in the care and treatment of the mentally ill, the organization of mental health services and related matters. The discussions will concern themselves with the problem of developing more adequate measures and a wider and more equal distribution of facilities for the early recognition and treatment of mental ill-health, and the promotion of better public administration and of ways and means to implement mental health programs. Particular attention will be given to the pressing need for trained workers in the mental-hygiene field and the problem of developing a technical personnel adequate to the need.

MOTIVATION AND AIMS

The Symposium on Mental Health should be one of the most interesting and, if we consider the extent and character of the mental health problem, one of the most important conferences ever sponsored by the Section on Medical Sciences. It will be the first time

in the history of the A. A. A. S. that this subject will have received special attention as a major topic on the agenda of its meetings. Mental diseases are among the most challenging of all medical problems, the most disabling and, in their personal, social and economic consequences, the most serious in the whole category of diseases. They occupy more hospital beds in this country than all others combined, yet they have been comparatively neglected, until relatively recently, so far as the general medical profession and the medical sciences are concerned. With the rapid advance of psychiatry and mental hygiene during the past few years, however, with their impressive achievements in research, therapy and prevention, mental disorders are receiving increasing recognition as a major problem of medicine worthy of serious attention and study by every medical discipline and offering great scientific promise.

Mindful as they are of its scientific value, those who are organizing the symposium rightly regard it, nevertheless, as something more than an opportunity for discussion and study. They look upon it as a stepping stone to practical accomplishment, as a vehicle for the larger objective, which is to secure fruitful, nationwide action toward the solution of the mental-disease problem in its immediate and remoter aspects. A glance at the present status of mental health administration in the United States will show that no community, no state or local jurisdiction has kept pace with the needs of the mentally ill. Rapid growths of population, coupled with the necessity for securing institutional provisions for the more urgent cases, have resulted in the development of piecemeal facilities and policies, without regard to an adequate and balanced program to meet these needs.

It is hoped that one result of the symposium will be an authoritative and comprehensive formulation of fundamental principles that may serve as a practical guide to state and local governments in developing sound, progressive and more uniform policies and measures in the care and treatment of the mentally ill.

It is hoped, further, that from the symposium will come a fresh approach and new points of view that may with advantage be brought to bear upon the whole problem of the cure, control and prevention of mental and nervous disorders. Dr. Treadway strikes the keynote of the symposium in the following epitome of its aims and purpose:

It is high time that we mobilized all our scientific resources and explored all promising approaches, in order to realize the potential contributions inherent in the various scientific disciplines, within and without the field of psychiatry. The Symposium, we feel, will illuminate the mental health problem as never before and will lead

to a new and better orientation in dealing with mental diseases and disorders, both as to treatment and prevention, in their personal and more general aspects. Out of this undertaking, we hope, will come a publication of the highest scientific and practical value, one that will provide a secure base for future operations against this scourge

of mankind, and will influence the development of mental hygiene for years to come.

MALCOLM H. SOULE,
Secretary, Section on Medical Sciences, American
Association for the Advancement of Science

SPECIAL ARTICLES

RECOVERY OF EASTERN EQUINE ENCEPHALOMYELITIS VIRUS FROM BRAIN TISSUE OF HUMAN CASES OF ENCEPHALITIS IN MASSACHUSETTS

DURING late August and early September, 1938, there occurred an unprecedented outbreak of Eastern equine encephalomyelitis in southwestern Massachusetts. This was accompanied by cases of fatal encephalitis in children nearby. Fothergill, Dingle, Farber and Connerley¹ have just reported the isolation of Eastern equine virus from one of these fatal human cases, and our report confirms their results and describes positive findings in four additional cases.

Brain tissue from seven cases has been sent to us for study by Drs. Pope and Feemster, of the Massachusetts State Department of Health. Five of them yielded the Eastern equine virus as follows.

Brain tissue from each case received in sterile glycerine was triturated in a mortar and diluted in hormone broth to make a 10 per cent. suspension. 0.03 cc of the supernatant was injected intracerebrally into 3-weeks-old Swiss mice.

Forty-eight hours later most of the mice from four cases showed ruffled fur, slowing of activity, alternating with convulsive twitchings. They rapidly became prostrate with occasional accompanying convulsions and succumbed in 48 to 72 hours. Cultures from brain and organs proved sterile. Certain prostrate mice were sacrificed and their brains removed, prepared as above, and injected intracerebrally into further mice.

The mice receiving the second passage material became ill in 48 hours and died or were sacrificed within

¹ L. D. Fothergill, J. H. Dingle, S. Farber and M. L. Connerley, *New England Jour. Med.*, September 22, 1938.

72 hours. Further passages have given similar results.

Third and fourth passage brain suspensions were filtered through a Seitz pad and injected intracerebrally into mice. The animals succumbed promptly after 2 to 3 days, indicating that the transmissible agent was a virus of relatively small dimensions.

Similar material was titred intracerebrally in 30-day-old mice and subcutaneously and intraperitoneally in 12- to 16-day-old mice. All mice died through the 10⁻⁸ dilution. The high virulence of the agent in

TABLE I
DIFFERENTIAL VIRULENCE (INTRACEREBRAL) IN LABORATORY ANIMALS OF VIRUSES ASSOCIATED WITH PRIMARY ENCEPHALOMYELITIS IN MAN

Virus	Rabbit	Guinea pig	Mouse	<i>M. rhesus</i> monkey	Young sheep
Rabies	++	++	++	++	++
Eastern equine encephalomyelitis	+	++	++*	++	++
Louping-ill	0	0	++	++	++
Japanese B encephalitis	0	0	++	++	++
St. Louis encephalitis	0	0	++	0 ⁺	0
Poliomyelitis	0	0	0	+	0

* Virulent peripherally in high dilution for 16-day-old mice.

young mice by the subcutaneous and intraperitoneal routes is characteristic of the Eastern equine encephalomyelitis virus.² Moreover, the extremely short incubation period of 48 hours is likewise suggestive of the equine virus.

The virus was highly infectious for mice by the nasal route. Third passage mouse brain virus was fatal to monkeys and guinea pigs when injected intracerebrally in large doses. Temperatures rose to 105°

² A. B. Sabin and P. K. Olitsky, *Proc. Soc. Exp. Biol. and Med.*, 38: 595, 1938.

TABLE II
NEUTRALIZATION OF MASSACHUSETTS VIRUS IN EASTERN EQUINE ENCEPHALOMYELITIS IMMUNE SERUM

Serum rabbit	Age of mouse and route of injection of serum-virus mixtures	Fate of mice injected with mixtures containing virus diluted as follows							No. M.L.D. protection
		10 ⁻²	10 ⁻³	10 ⁻⁴	10 ⁻⁵	10 ⁻⁶	10 ⁻⁷	10 ⁻⁸	
Normal ..	4 weeks, intracerebral	2*3,3,3,	2,2,3,4	2,3,4,4	3,3,4,4	3,3,3,4	3,4,S,S	
Immune ..	" " "	5,5,6,6	5,5,7,8	6,7,8,S	7,S,S,S	S,S,S,S	S,S,S,S	10 ⁸
Normal ..	2 " intraperitoneal	2,2,3	2,3,3,	2,3,3	3,3,3	3,4,S	3,3,3	3,4,S	
Immune ..	" " "	S,S,S,	S,S,S,	S,S,S,	S,S,S,	S,S,S,	S,S,S,	S,S,S,	10 ⁶⁺

* Day of death following injection.
S = Remained well.