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DR. F. R. MOULTON.

<i>Introduction</i>	131
<i>Registration</i>	132
<i>General Sessions</i>	132
<i>Special Events</i>	132
<i>Radio Programs</i>	132
<i>Business Sessions</i>	133
<i>Scientific Sessions</i>	134
<i>Mathematics (A)</i>	134
<i>Physics (B)</i>	134
<i>Chemistry (C)</i>	136
<i>Astronomy (D)</i>	137
<i>Geology and Geography (E)</i>	138
<i>Zoological Sciences (F)</i>	139
<i>Botanical Sciences (G)</i>	140
<i>Zoological and Botanical Sciences (F and G)</i>	142
<i>Anthropology (H)</i>	143
<i>Psychology (I)</i>	144
<i>Social and Economic Sciences (K)</i>	145
<i>Engineering (M)</i>	146
<i>Medical Sciences (N)</i>	147
<i>Agriculture (O)</i>	148
<i>Organizations Related to the Association as a Whole</i>	149
<i>Scientific Events:</i>	
<i>The South Pacific Expedition of the Academy of Natural Sciences of Philadelphia; Reduced Legislative Appropriations for the University of California; The National Cancer Institute. Recent Deaths and Memorials</i>	149
<i>Scientific Notes and News</i>	151

Discussion:

Spores of Cambrian Plants: DR. WILLIAM C. DARRAH. *A Lawn Marvel:* PROFESSOR WILLIAM LOUIS POTEAT. *Age of the Uraninite from the Ruggles Mine, Grafton Center, N. H.:* DR. B. M. SHAUB. *The Designation of Clonal Generations:* R. E. CARYL. *The Needs of the Mimetic Theory:* PROFESSOR G. D. HALE CARPENTER 154

Scientific Books:

Recent Books on Physics: DRS. E. U. CONDON, V. K. ZWORYKIN, LEIGH PAGE and W. F. G. SWANN 157

Special Articles:

Aphis Resistance in Breeding Mosaic-escaping Red Raspberries: DR. C. D. SCHWARTZE and DR. G. A. HUBER. *The Similarity of Action of Purified Cortical Adrenal Extracts to Crystalline Androsterone and Testosterone:* PROFESSOR I. S. KLEINER, ABNER I. WEISMAN and DANIEL I. MISHKIND. *Permeability of the Blood-C. N. S. Barrier to Sodium Bromide in Experimental Poliomyelitis:* DR. EDWIN H. LENNETTE and DAN H. CAMPBELL 158

Science News 5

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THE SECOND DENVER MEETING OF THE AMERICAN
ASSOCIATION FOR THE ADVANCEMENT
OF SCIENCE

Edited by Dr. F. R. MOULTON

PERMANENT SECRETARY

INTRODUCTION

FROM June 21 to June 26 the one-hundredth meeting of the association was held in Denver, Colorado, the fiftieth meeting also having been held in Denver (in August, 1901). This was not only the centenary meeting of the association, but it was the first joint meeting of the association with the Pacific Division and the Southwestern Division. These divisions provided two splendid evening general sessions open to the public and, together with their twelve cooperating societies, contributed greatly to the success of the meeting. Altogether 28 affiliated societies participated in the scientific programs, at which nearly 600 papers were read.

A committee, of which Dr. James J. Waring was chairman, was in charge of the local arrangements for the meeting. Dr. Waring is a past president of the National Tuberculosis Association. He was assisted by Dr. T. P. Campbell, vice-chairman; Dr. A. C. Nelson, treasurer; Dr. Joyce C. Stearns, secretary; and a number of other persons prominent in educational and civic affairs in Denver. Through the efforts of the local committee it was possible to hold nearly all the sessions in downtown halls, conveniently located to the hotels.

The president of the association, Dr. George D. Birkhoff, was unable to be present at the meeting because of European engagements. He was represented by Dr. Edwin G. Conklin, retiring president.

They stated that crude ether extracts of the adrenal cortex of the dog had this effect also.

We can now report that purified extracts of adrenal cortex, prepared for administration to human beings and obtained from three different sources,³ also possess this property. These tests were repeated several times with each preparation with positive results.

Several questions arise; among them are the following. Is the reaction of adrenal cortical extracts caused by some oxidation product of a cortical substance such as Mason, Myers and Kendall have prepared?⁴ Is it due to a preformed substance which stimulates the growth of the capon's comb, such as the one which was isolated from adrenal cortex by Reichstein?⁵ Or is this effect caused by the cortical factor or factors essential to life?

If this test is a reaction for a specific cortical hormone as well as for the "male hormones" it may prove to be a more valuable test than if it were for the latter alone.

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PERMEABILITY OF THE BLOOD-C. N. S. BARRIER TO SODIUM BROMIDE IN EXPERIMENTAL POLIOMYELITIS¹

CHANGES in the permeability of the blood-C. N. S. barrier are known to occur in a number of pathological conditions involving the central nervous system.² Perhaps the most widely used method for determining such alterations in permeability is that devised by Walter.³ The concentration of bromide in the serum and spinal fluid is determined after oral administration of NaBr, and the degree of permeability given by a ratio (concentration in serum/concentration in spinal fluid) which is expressed as the permeability quotient (P. Q.)

In the present investigation slight modifications were made of Walter's original method. For example, NaBr was administered subcutaneously twice daily for two consecutive days. Each injection consisted of forty-five milligrams per kilogram body weight. Ap-

³ For these potent, standardized adrenal cortical extracts we are indebted to Professor W. W. Swingle and Dr. W. M. Parkins, of Princeton University, Professor Frank A. Hartmann, of the Ohio State University, and Dr. Oliver Kamm, of Parke, Davis and Company.

⁴ H. L. Mason, C. S. Myers and C. C. Kendall, *Jour. Biol. Chem.*, 116: 267, 1936.

⁵ T. Reichstein, *Helv. chim. acta*, 19: 223, 1936.

¹ This work was supported by a grant from the President's Birthday Ball Commission for Infantile Paralysis Research.

² S. Katzenelbogen, "The Cerebrospinal Fluid and Its Relation to the Blood." The Johns Hopkins Press, Baltimore, 1935.

³ F. K. Walter, *Zeits. f. d. ges. Neurol. u. Psychiat.*, 95, 522, 1925.

proximately eighteen hours after the last injection, samples of blood and spinal fluid were obtained and quantitatively analyzed for NaBr. Chemical analyses were made by methods differing in several respects from those employed by Walter. These modifications were necessary to adapt the method to the smaller amount of spinal fluid available from monkeys. Since the NaBr persisted in the body fluids for several weeks following administration, only one test was made on each animal, i.e., the P. Q. was not determined on the same animal for both the preparalytic and paralytic stages.

The average P. Q. value for 19 normal monkeys was found to be 1.72 with a probable error ($= \pm 0.8453 \frac{\Sigma(v)}{n\sqrt{n-1}}$) of ± 0.029 . Eighteen preparalytic monkeys gave an average value of 1.01 with a probable error of ± 0.0137 . The value for frankly paralyzed monkeys was approximately the same as for the previous group, the average P. Q. for eleven animals being 0.99 with a probable error of ± 0.0132 .

The data obtained so far indicate that NaBr passes into the spinal fluid more readily in poliomyelitic (low P. Q.) than in normal monkeys (high P. Q.). Since a low P. Q. value for Br⁻ is generally attributed to an increase in blood-C. N. S. barrier permeability,² the results of the present investigation point to the occurrence of a similar change in experimental poliomyelitis.

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BOOKS RECEIVED

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