President (elect of last year): Roger W. Allen, Alabama Polytechnic Institute, Auburn.
President-elect: P. H. Yancey, Spring Hill College, Mobile.
Secretary: Septima Smith, University (reelected for three years).
Councilor to the American Association for the Advancement of Science: Paul Bales, Howard College, replacing P. H. Yancey, Spring Hill College.

Officers held over from last year are:

Treasurer: B. F. Clark, Birmingham-Southern College (one year).
Editor of the Journal: E. V. Jones, Birmingham-Southern College (two years).

The chairmen of sections, vice-presidents of the academy, elected for next year are as follows:

Section I, Biology and Medical Sciences, J. Gordon Carlson, University, replacing C. M. Farmer, State Teachers College, Troy.

Section II, Chemistry, Physics and Mathematics, George W. Hargreaves, Alabama Polytechnic Institute, Auburn, replacing H. D. Jones, Vanderbilt.

Section III, Geology, Anthropology and Archeology, Peter A. Brannon, Montgomery, replacing J. R. Cudworth, University.

Section IV, Industry, Economics and Geography, John Xan, Howard College, Birmingham, replacing Fred B. Riggan, Stockham Pipe and Fittings Company, Birmingham.

The new officers of the Junior Academy are:

President: Clarence Dudley, Phillips High School.
Vice-president: William Pittman, Shades Cahaba High School.
Secretary: Bebe Faust, Woodlawn High School.
Treasurer: Dawson Kendrick, Woodlawn High School—all in Birmingham.

The Academy Award from the American Association for the Advancement of Science was granted to Dr. Septima Smith, of the Zoology Department, University, for aid in her studies of Alabama dragonflies. Dr. Edgar Allen was elected to honorary membership in the academy. He is the second man in the history of the academy to be so selected. Twenty-five new members joined the academy during the year.

The papers were presented in four sections on Friday afternoon and Saturday morning, with additional demonstrations in Nott Hall, School of Medicine. A Dutch luncheon was served on Friday at noon in the basement of Smith Hall. A tea for members and visitors was held in the Main Exhibition Hall, Smith Hall, on Friday afternoon. On Friday evening the annual banquet was held in the beautiful new dining room at Tutwiler Hall, with Dr. Jack P. Montgomery, of the school of chemistry, serving as toastmaster. This was attended by members of both the Junior and the Senior Academy. The feature of the evening was the presidential address, given by Dr. Walter B. Jones, on the subject, "Conservation of our Natural Resources." This was followed by the first showing, except a preview in Washington, of a two-reel movie entitled "Temples and Peace," a sound picture of the Moundville culture, courtesy of the National Park Service. The invocation was given by the Reverend P. H. Yancey, of Mobile. Dr. George Hutcheson Denny, chancellor of the university, gave the address of welcome, with the response by Peter A. Brannon, curator, Department of Archives and History, Montgomery.

Section III held a geological and archeological field trip on Saturday morning, visiting Mound Park, site of the celebrated Moundville culture, Moundville, Alabama; and the famous Havana gullies, carved in the variegated clays of the Tuscaloosa formation of Cretaceous Age. The trip was conducted by Dr. Walter B. Jones.

The official meeting closed on Saturday at noon with a complimentary barbecue, given by the university in Smith Hall Park.

Many visitors remained for the public lecture on Saturday night by Dr. Edgar Allen, of Yale University, on the subject, "Internal Secretions and Reproduction," held under the auspices of the local Sigma Xi club, by courtesy of the University of Alabama, sponsored by the national organization of Sigma Xi Fraternity. This was accompanied by lantern slides and motion pictures. Field trips to the plant of the Gulf States Paper Corporation, Bryce Hospital, Veterans Facility, University of Alabama, the ravines and bluffs along the Warrior River, and Mound Park filled Saturday afternoon preceding the lecture.

SEPTIMA SMITH,
Secretary

SPECIAL ARTICLES

THE OCCURRENCE IN MAMMALIAN TISSUE OF A LIPID FRACTION ACTING AS INHIBITOR OF BLOOD CLOTTING[1]

WE have found that cerebroside fractions obtained from brain of sheep and pigs contain a substance which acts as inhibitor of the clotting of blood and plasma. While the activity of the inhibitor fractions obtained from different batches of tissue varied considerably, in every case an active fraction could be

[1] This work has been made possible by a grant from the Carnegie Corporation of New York in aid of the study of the mechanism of thrombosis and embolism.

isolated which had the same solubility properties. A substance of similar activity also has been isolated from a crude lipid extract of spinal cord of cattle, which was kindly placed at our disposal by Dr. D. Klein, The Wilson Laboratories, Chicago, Illinois.

The organs were dehydrated with acetone and freed of sterols, fats, lecithin and cephalin by exhaustive extraction with acetone and ether. It is essential to remove the ether-soluble phosphatides as completely as possible, since otherwise the inhibitor may be overshadowed by the cephalin which, as is well known, activates blood clotting. The organ powder is then repeatedly extracted at boiling temperature with ethyl alcohol or a mixture of three parts of methyl alcohol and one part of chloroform. The crude material is dissolved in a mixture of two parts of chloroform and one part of ethyl alcohol. A first crop of cerebrosides is obtained on cooling of the solution and further batches are collected by stepwise concentration of the mother liquors.

When tested according to the technique recently described,[2] the first two or three cerebroside crops thus isolated usually show an inhibiting effect on the clotting of chicken plasma, and all but the weakest preparations also markedly inhibit the clotting of blood and of chicken plasma activated by addition of muscle extract. On the basis of its solubility properties a concentration of the active fraction is possible. It is insoluble in acetone, little soluble in cold pyridine and ether, easily soluble in cold glacial acetic acid and chloroform, and can be recrystallized from methyl alcohol or ethyl acetate. These properties indicate that the inhibitor accompanies the sphingomyelin fraction, whereas cerebron and kerasin are devoid of activity. That sphingomyelin itself does not exert the inhibiting effect can, however, be shown by the fact that sphingomyelin preparations purified by precipitation with Reinecke salt[3] are inactive. Our purest preparations contain N and P, but only small amounts of S. It appears highly improbable that heparin, which has entirely different solubility properties, is the active constituent of this lipid inhibitor. In Tables I and II examples of the action of preparations from sheep brain and beef spinal cord are given. The inhibitor from sheep brain is one of the strongest obtained so far.

It may be relevant to point out that the question as to whether heparin is the physiological agent which controls the fluidity of blood is by no means settled.

TABLE I

LIPID INHIBITOR FROM SHEEP BRAIN

Mg in 0.1 cc of plasma or blood	Clotting time minutes		
	Activated chicken plasma	Recalcified oxalated human plasma	Human blood
0	9	2	4
0.031	36	..	...
0.062	54	8	...
0.124	90	18	100
0.249	> 250	51	150
0.498	> 250	82	...

TABLE II

LIPID INHIBITOR FROM BEEF SPINAL CORD

Mg in 0.1 cc of plasma	Clotting time minutes	
	Chicken plasma	Activated chicken plasma
0	97	7
0.10	135	9
0.20	225	14
0.39	255	18
0.78	345	25

In order to isolate heparin from tissue comparatively drastic means are necessary. We have found in experiments which have not yet been published that, when a mild method of extraction is employed, it is impossible to liberate heparin even from liver, in which it is known to occur in considerable amount. It may be that the lipid inhibitor described above will prove of interest in connection with the problem of clotting inhibitors contained in blood and in thrombocytes.[4]

The work here described is being continued and will be published in detail at a later date.

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THE DECOMPOSITION OF YEAST NUCLEIC ACID BY A HEAT RESISTANT ENZYME

IN the course of a study of the action of different extracts of animal tissues upon pneumococci, preparations have been obtained which exhibit a high degree of enzymatic activity upon yeast nucleic acid.[1] The enzyme has been prepared from polymorphonuclear leucocytes and from several organs, especially the liver, pancreas, spleen and lungs of different animal species. It possesses certain interesting properties, which are the same irrespective of the source from which it is prepared.

The enzyme, a polynucleotidase, is remarkably resistant to heat, with a zone of maximum stability

[2] E. Chargaff, F. W. Bancroft and M. Stanley-Brown, *Jour. Biol. Chem.*, 115: 149, 1936.

[3] S. J. Thannhauser and P. Setz, *Jour. Biol. Chem.*, 116: 527, 1936.

[4] E. Chargaff, F. W. Bancroft and M. Stanley-Brown, *Jour. Biol. Chem.*, 116: 237, 1936.

[1] The author is indebted to Dr. P. A. Levene for supplying him with a sample of yeast nucleic acid.