mentation. The egoism of old schools who will not admit their sins of omission and commission and the egoism of new schools who dislike to allow any merit to their predecessors are handicaps to progress that may well be removed by thoughtful attention to a broad-minded history such as this one of Boring's.

R. S. WOODWORTH

COLUMBIA UNIVERSITY

SOCIETIES AND MEETINGS

THE ALABAMA ACADEMY OF SCIENCE

THE nineteenth annual meeting of the Alabama Academy of Science was held at Howard College, Birmingham, on March 20 and 21, President-elect W. M. Mobley presiding. Over one hundred and fifty members and visitors were in attendance. The business and executive meetings were held on Friday. Friday afternoon and Saturday morning were devoted to sectional meetings. Seventy-seven papers were presented.

The following chairmen presided at the section meetings: Biology and Medical Science, Alvin V. Beatty, University; Chemistry, Harold E. Wilcox, Howard College, Birmingham; Geology and Anthropology, E. F. Richards, University; Geography, Conservation and Allied Subjects, Brooks Toler, Division of Forestry, Montgomery; Physics and Mathematics, W. A. Moore, Birmingham-Southern College, Birmingham; Industry and Economics, John Goff, Alabama Polytechnic Institute, Auburn; the Teaching of Science, Miss Clustie E. McTyeire, Hueytown High School, Bessemer.

On Friday members of the academy and visitors were served a delicious complimentary luncheon in Renfro Hall by McKesson-Doster-Northington. The annual banquet was held at the Tutwiler Hotel on Friday evening, with Dean P. P. Burns, of Howard College, as toastmaster. Colonel Theodore Swan, president of the Swan Chemical Company, gave an interesting address on the subject, "Chemistry in Industry." On Saturday morning a geological field trip was conducted by Dr. R. S. Poor, of Birmingham-Southern College, through the Walker Gap section of Red Mountain.

At the annual business meeting it was voted to award the grant-in-aid for 1942 from the American Association for the Advancement of Science to Dr. John Xan, of Howard College, to carry on his work on "The Study of the Reaction of Mercaptans with Oxygen in NAOH (Sodium Hydroxide)."

The academy accepted the invitation of Alabama Polytechnic Institute, Auburn, for the place of meeting for 1943.

The following officers were elected for 1942–43: *President,* W. M. Mobley, Alabama By-Products Corporation, Tarrant; *President-elect,* E. V. Jones, Birmingham-Southern College, Birmingham; *Councilor of the American Association for the Advancement of Science,* Septima C. Smith, University, reelected; *Editor of the Journal,* E. B. Carmichael, University; *Counselors to the Junior Academy,* H. E. Wilcox, Howard College (two years); Miss Swan Ella Owens, Opp High School, Opp (three years). The term of office of the treasurer, John Xan, Howard College, continues for two more years, and that of the secretary, Winnie McGlamery, Alabama Geological Survey, University, one more year. R. M. Harper, Alabama Geological Survey, University, continues in office as academy statistician.

The Junior Academy met at the same time as the Senior Academy at the Woodlawn High School, where they had their exhibits and papers under the direction of P. P. B. Brooks, chairman of counselors to the Junior Academy.

WINNIE MCGLAMERY,
Secretary

REPORTS

THE NEW YORK BOTANICAL GARDEN[1]

As this report is being written, the fourth I have had the privilege of submitting, the United States has become involved in war. War on the scale required by the present struggle will influence the New York Botanical Garden in various ways, and it seems desirable at this time not only to review the past year, but to report briefly on the entire period during which I have served as director of this institution.

No organization remains quiescent, its material facilities, its staff, its activities, its spirit and morale change from year to year. Some changes are for the better, some are for the worse, and any group responsible for the conduct and management of a public institution can feel satisfied if the net of the changes over a period of years indicates progress toward a greater usefulness and a closer approximation of the objectives for which the institution was established. This I believe has been accomplished at the New York Botanical Garden, as demonstrated by the record for the years 1937–1942.

No period since the establishment of the garden, the construction of the museum and administration building and of the main display greenhouse, has witnessed

[1] From the annual report of the director, Dr. William J. Robbins, for 1941.

such a marked improvement in our material facilities as the past four years. A review of the major items is instructive. They include the completion of the rebuilding of the main display conservatory; the fencing of the garden; extensive rearrangement and construction in the museum and administration building, including new wash-rooms, a members' room and the bricking up of the end walls; the construction of a new root cellar and coldframes, the extension of the Boulder Bridge; the construction of a new roadway and numerous paths, the rehabilitation of the Lorillard stables as a service building, the installation of a heating plant in the propagating houses; reconstruction of the interior of House No. 1 in Range 1; the building of a walled experimental garden and of a series of cold pits, and the resurfacing of the paths around Range 2. Some of these items were included in the agreement with the city made on the exchange of land. For all of them the garden is indebted, through the cooperation of the Park Department of the City of New York, to the City of New York and to the Works Progress Administration or its successor, the Work Projects Administration.

Not only have marked improvements been made in our buildings, roads and fences, but notable horticultural accomplishments for this period should be recorded. Exhibits were resumed at the International Flower Show, resulting in striking displays of begonias in 1939, of ferns in 1940 and of the plants of the Bible in 1941. We took part in the New York World's Fair. We have replanted and rearranged in attractive naturalistic form much of the display material in the main conservatories. We reinstituted the annual flower shows in the conservatories from November to May. We have more than doubled the number of our accessioned species and varieties of hardy trees and shrubs, and have increased the species and varieties of plants in cultivation at The New York Botanical Garden to more than 12,000. We have initiated and developed a program of education in gardening which now includes more than 500 adults annually.

Public interest in the garden is a difficult thing to measure. We have no means of recording our attendance, which might be used as one standard of public interest. We have not kept a statistical record of the inquiries from individuals, groups and business firms, which could be expressed in figures. From other sources, however, on which figures can be cited, it would appear that public interest has increased, and that the garden is performing more and better service than ever before. For example, subscriptions to the *Journal* were 75 in 1938, and 665 in 1941. This is in addition to the distribution made to members as part of their membership fee. Attendance at the Saturday afternoon lectures was 3,040 in 1937, and 7,000 in 1941, and attendance in the gardening courses increased fourfold between 1938 and 1941.

During this period in which the material facilities and the activities of the garden were increasing, it is particularly gratifying to report that our capital funds were so managed that they suffered no decrease. This is a noteworthy accomplishment on the part of our finance committee. Few institutions which depend in whole or in part on endowment can point, as the New York Botanical Garden can, to an endowment unimpaired from the original receipt of the gifts and bequests, and to a budget which is balanced annually and shows no deficit.

One of the outstanding events during the period under review was the completion of arrangements for a new base plan for the future development of the garden. Changes in the limits of the garden and its fencing in 1940 made necessary a reconsideration of traffic and landscaping. Major Gilmore Clarke has been retained by the board of managers to prepare such a plan and considerable progress has already been made. The preparation of this plan was made possible by the generosity of Mrs. Harold I. Pratt.

On the debit side must be recorded the loss of the services of a number of members of the staff: by retirement Mr. Robert S. Williams, Mr. Percy Wilson and Dr. J. H. Barnhart, and by resignation Dr. A. C. Smith. With the exception of Dr. Barnhart, none of these men has been replaced with new appointments. Furthermore, the garden has lost many of its most loyal friends by death.

SPECIAL ARTICLES

SULFHEMOGLOBIN FORMATION AND LABILE IRON IN VITRO AND IN VIVO

THE indispensability of oxygen in the formation of sulfhemoglobin from hemoglobin in the presence of sulfide ion has been explained[1] by postulating hydrogen peroxide from the autoxidation of hydrogen sulfide[2, 3] as the reactant. Other authors have concluded independently, either on the same basis[4] or from different premises,[5] that hydrogen peroxide has a significant function in sulfhemoglobin formation.

[1] G. Barkan and O. Schales, *Z. physiol. Chem.*, 253: 83–104, 1938.

[2] O. Schales, *Ber. chem.*, 71: 447–460, 1938.

[3] C. Henze, *Klin. Woch.*, 17: 24, 1938.

[4] R. Lemberg, *The Australian Chemistry Institute Journal and Proceedings*, 6: 170–180, 1939.

[5] H. O. Michel, *Jour. Biol. Chem.*, 126: 323–348, 1938.