Two flasks were again packed with cornmeal of 25 per cent. moisture content and, during the heating, oxygen was supplied from the oxygen bottle. Table 2 contains data condensed from many readings taken during the seven days of the experiment. Previous experiments had indicated that beginning the oxygen aeration immediately after packing the flasks frequently resulted in no appreciable rise in the temperature. If, however, the oxygen was started after the temperature had reached some point several degrees above that of the room, in this case a temperature of approximately 30° C., continued increases always occurred. Presumably the return to room temperature of the flasks reported in Table 1 was due to the exhaustion of the oxygen in the air entrapped during packing. The rates of oxygen supply (*i.e.*, the water flow) were variable in the experiment given. This was largely due to the fact that the valves had not been properly adjusted.

The maximum temperatures contained in Table 2 are considerably above those shown in Table 1. Had the experiment been continued longer with Dewar No. 9, a maximum temperature equal to that of Dewar No. 10 might have been attained. When examined the cornmeal in the aerated flasks was moist around the top, firmly caked and browned throughout and emitted a scorched odor.

2. *Cracked Corn (yellow commercial field).* Cracked field corn is to some extent similar to cornmeal, but it is even more subject to "spontaneous" heat production. Two flasks were packed with cracked corn of approximately 33.0 per cent. moisture, one receiving oxygen and the other remaining unaerated. The results are given in Table 3. The maximum temperature attained in the aerated flask was 62.5° C. The difference between that and the temperature observed in the unaerated mass is as striking as in the previous experiments. When examined the aerated corn was damp and very moldy.

TABLE 3

MOISTENED CRACKED FIELD CORN AERATED WITH OXYGEN AND UNAERATED CONTROL

Days 1924	Time	Room Temp. °C.	Dewar No. 3 Control Temp. °C.	Dewar No. 3 Control Oxy'n cc/hr	Dewar No. 4 Temp. °C.	Dewar No. 4 Oxy'n cc/hr
0	2:00 p.m.		Packed		Packed	
	6:00	26.9	23.3		25.8	
1	8:30 a.m.		22.0		27.0	
2	1:30 p.m.	24.2	23.1		34.6	
	2:00					*170*[4]
3	8:00 a.m.	23.8	21.3		45.2	160
	9:00 p.m.	28.0	25.5		50.4	162
4	8:00 a.m.	27.0	27.8		54.3	145
	8:00 p.m.	27.2	28.0		55.2	*175*
	5:00	27.2	27.5		56.0	
5	8:00 a.m.	22.5			60.0	
	8:00 p.m.	31.0			61.8	156
	9:30	32.5			62.5	
6	8:00 a.m.	20.5			51.5	120

[4] See footnote, Table 2.

SUMMARY

An apparatus for the study of the "spontaneous" heat production in stored organic materials[5] has been described. Experiments with commercial cornmeal and cracked yellow field corn have shown that temperatures above 60° C. can readily be produced under suitable conditions of moisture content, oxygen supply and insulation, and that marked heating does not take place in the absence of oxygen.

CONCLUSIONS

"Spontaneous" heat production is the result of oxidative reactions and will not take place to any marked extent in the absence of air or oxygen. Stored organic materials will not heat if retained under anaerobic conditions.

LAWRENCE H. JAMES

U. S. BUREAU OF CHEMISTRY,
WASHINGTON, D. C.,
AND
LABORATORY OF GENERAL BACTERIOLOGY,
YALE UNIVERSITY

[5] See footnote one.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE REGULAR SPRING MEETING OF THE EXECUTIVE COMMITTEE

ON April 24 the regular spring meeting of the executive committee of the council of the American Association for the Advancement of Science was held at the Cosmos Club in Washington. There were three sessions, in forenoon, afternoon and evening, and the members of the committee dined together as usual. The following members were present: Cattell, Fairchild, Humphreys, Kellogg, Livingston, A. A. Noyes, W. A. Noyes, Ward, and Wilson. Those absent were Moulton and Pupin. The following paragraphs give an account of the business transacted.

1. The reading of the minutes of the last meeting was omitted, since, as usual, these had been approved by mail.

2. The permanent secretary reported that all mem-

bers had been asked to send in names of persons who might be interested to become members of the association and that about eight hundred names had been thus received. Special invitations had been sent to all these persons and seventy of them had already joined the association. The excellent results secured in this way warrant the continuation of this new plan for securing names of prospective members. All members are requested to send in, at any time, the names of persons who may be expected to join the association.

3. The permanent secretary reported a net gain in membership, from September 30, 1926, to April 15, 1927, of 413, which is much larger than the net gain rceorded for the corresponding period ending April 15, 1926, which is only 176. On April 15, 1927, there were 13,117 members in good standing and the total enrollment was 14,779. (It will be remembered that names of annual members are allowed to remain on the roll for two years after the expiration of the last year for which annual dues have been paid, names of all who are in arrears for two years being dropped from the roll on October 1 of each year.)

4. The permanent secretary reported on the space given to accounts of the recent Philadelphia meeting by the eight newspapers that were most active in this respect. A special study of this feature of the meeting had been made by Mr. W. E. Drake, who found that the eight newspapers gave to accounts of the meeting 1,391 column inches of space, not counting pictures. It was voted that the data of this study be published in SCIENCE and they will appear in a subsequent issue.

5. It was voted that societies meeting with the association be requested to exclude from their programs, as far as possible, papers that might be regarded as too sensational. This is to be considered as an expression of the association's attitude and of its ideals for the programs rather than as any adverse criticism of past programs.

6. It was voted that the permanent secretary offer the services of the Washington office to the approaching First International Congress of Soil Science, with special reference to the organization of the registration offices of the Congress, and that Mr. Woodley, of the Washington office, be requested to take this matter up with Dr. A. G. McCall, executive secretary of the Congress.

7. It was voted that the association's facilities for handling the registration, etc., of large meetings be placed at the disposal of other such science congresses as they may be planned.

8. As a special committee to consider the problem of non-technical science lectures and demonstrations, especially for high-school students, before and after the annual meeting, Dr. W. J. Humphreys reported that inquiry and a general study of the problem had led to the recommendation that one, two or three such lectures be planned for Nashville in the weeks preceding the second Nashville meeting, provided that this plan meets with the approval of the local committee for that meeting. It is understood that several non-technical lectures, complimentary to the people of Nashville, are to be arranged for the period of the meeting. It was pointed out that the attention of high-school students in the cities of the annual meetings might well be called to the nature and importance of scientific research as a career, with emphasis on the opportunities of science as well as of a knowledge of science.

9. The permanent secretary was empowered to expend five hundred dollars, or such part thereof as may be requisite, on arrangements for non-technical lectures before and during the period of the second Nashville meeting.

10. The sum of fifty-five dollars was appropriated from the permanent secretary's funds, to aid the American Institute of Sacred Literature in the publication and distribution of the institute's non-technical series of booklets on the Bible and its meaning. The institute is now distributing material bearing specially on the rational and critical consideration of the several Hebrew accounts of the Creation, contained in the Old Testament. The literature distributed by the institute is an important aid toward stemming the present tide of religious opposition to the advancement of science and science education in the United States.

10a. The sum of two hundred dollars was appropriated from the available funds in the treasury of the association, to aid the work of the Concilium Bibliographicum, of Zurich. The hope was expressed that ways may soon be found by which the Concilium Bibliographicum may cooperate fully with the international project of Biological Abstracts.

11. Ninety-seven members of the association were elected to fellowship, on nominations presented in the regular way. These are distributed among the several sections as follows: Section A (Mathematics), 2; Section B (Physics), 5; Section C (Chemistry), 11; Section D (Astronomy), 1; Section E (Geology and Geography), 2; Section F (Zoological Sciences), 12; Section G (Botanical Sciences), 30; Section H (Anthropology), 1; Section I (Psychology), 2; Section K (Social and Economic Sciences), 2; Section M (Engineering), 13; Section N (Medical Sciences), 11; Section O (Agriculture), 5. The work of securing the nomination of all members who should be fellows is being carried on with increasing efficiency by the section secretaries and the section committees.

12. On recommendation of the Joint Committee on Research in Colleges, it was voted that the American Association of University Professors and the American Association of Colleges be each asked to name a representative to be a member of the joint committee. The joint committee now consists of the following five members, representing different organizations.

Dr. Maynard M. Metcalf, *chairman*; representing the American Association for the Advancement of Science.

Dr. Vernon Kellogg, representing the National Research Council.

Dr. C. R. Mann, representing the American Council on Education.

Dr. Charles E. Merriam, representing the Social Science Research Council.

Dr. Edward C. Armstrong, representing the American Council of Learned Societies.

13. On application by its secretary, Dr. Arthur H. Graves, the Torrey Botanical Club was elected to official affiliation with the association. The club has 300 members, of whom 149 are members of the American Association. Of these association members, 104 are fellows. The newly affiliated society is to have two representatives in the association council, these being ex-officio members of the section committee for Section G (Botanical Sciences).

14. A special committee of the council of the association was appointed, on academy relations in general and on the advancement of the common interests of the academies of science and the American Association. This committee consists of Henry B. Ward, *chairman,* J. McKeen Cattell (chairman of the executive committee of the council), Burton E. Livingston (permanent secretary), and the council representatives of the affiliated academies of science. It was suggested that a complimentary dinner be arranged for the second Nashville meeting, to bring together the members of this committee.

15. The special committee on the arrangement with the *Science News-Letter,* of which committee Dr. J. McKeen Cattell is chairman, reported that this arrangement is operating satisfactorily. (The *Science News-Letter* is offered to members of the American Association at the special reduced price of three dollars a year and a similar offer is made with respect to *The Scientific Monthly.*) It was voted that the present arrangement be continued indefinitely, with the agreement that it may be terminated October 1 of any year, provided that either party (the American Association or Science Service) shall have given notice on or before the preceding July 1, of its wish to terminate the arrangement.

16. It was proposed that the books and pamphlets received by the association be turned over to the Smithsonian Institution, so far as they are not needed in the Washington office and so far as this arrangement will not discommode the library of the University of Cincinnati, which was for many years the repository of the library of the association. This matter was left in the hands of the permanent secretary.

17. It was voted that the American Association is desirous of cooperating with the Smithsonian Institution in every feasible way.

18. A letter from the donor of the funds for the American Association Prize (which is awarded annually to the author of an outstanding contribution to science presented at the annual meeting of the association and associated organizations) was read, in which he transmitted to the association the sum of three thousand dollars, to be added to the prize fund. (The name of the donor is withheld according to his wishes.) With this addition, the prize fund now amounts to five thousand dollars, providing for the annual prizes, of one thousand dollars each, to be awarded at the December meetings of 1927 (Nashville), 1928 (New York), 1929 (Des Moines), 1930 (Cleveland), 1931 (New Orleans). The gift of $3,000 was accepted by the executive committee, with cordial and appreciative thanks, and the permanent secretary was instructed to express to the donor the appreciation and gratitude of the association for the generous provisions made by him for the continuation of the annual prize award, which has become one of the outstanding features of the annual meetings of the association.

19. The permanent secretary was instructed to send out to all members next October 1 blanks for nominations for president of the association, at the same time furnishing each member with a list of the presidents for the last ten years, showing the field of science represented by each president. Members are to be asked to make nominations and the results are to be presented to the council at the second Nashville meeting.

20. The form of badge to be used at the second Nashville meeting was discussed and the permanent secretary was empowered to make arrangements for suitable badges.

21. On recommendation of the American Phytopathological Society, the Southern Association of Agricultural Workers was invited to meet with the American Association at Nashville and to have part in the programs of the second Nashville meeting.

BURTON E. LIVINGSTON,
Permanent Secretary.