results a corresponding decrease in catalase. Stated more specifically, the present investigation was begun to determine if the ingestion of saccharin would produce an increase in catalase, and hence an increase in oxidation in the body just as sugar and the other food materials do.

The animals used were dogs. The sugar used was dextrose, and the saccharin "soluble saccharin," prepared by the addition of a solution of sodium carbonate to saccharin. The amounts of these substances used were 4 grams per kilogram of body weight of the animal. They were introduced into the stomach of the animal by means of a stomach tube. Determinations of the catalase of the blood from the jugular vein were made before as well as at thirty minute intervals after the introduction of the materials. The determinations of catalase were made by the addition of 0.5 c.c. of blood to 50 c.c. of hydrogen peroxide in a bottle at approximately 32° C., and the amount of oxygen gas liberated in ten minutes was taken as a measure of the amount of catalase in the 0.5 c.c. of blood.

The curve marked "sugar" in Fig. 1, was constructed from data obtained before, as well as at thirty minute intervals after, the introduction into the stomach of a dog of 4 grams of dextrose per kilogram of body weight of the animal. It may be seen that the sugar produced 8 per cent. increase in catalase during the first 30-minute interval; 14 per cent. increase during the 60-minute interval; and 16, 14 and 15 per cent. increase during the succeeding intervals. Two days later, five grams of "soluble saccharin" per kilogram of body weight were introduced into the stomach of the same dog. The curve marked "saccharin" in Fig. 1, shows the results. It may be seen that the introduction of the "soluble saccharin" increased the catalase of the blood 3 per cent. during the first 30-minute interval; 10 per cent. during the 60-minute interval; 30 per cent. in 90 minutes; 54 per cent. in 120 minutes, and 56 per cent. in 150 minutes. By comparing the effect of the sugar and of the saccharin on the production of catalase, it may be seen that the saccharin produced a much more extensive increase in catalase than did the sugar.

The conclusion is drawn that in addition to being a sweetening agent, saccharin, although not oxidized itself, serves to facilitate the oxidation of the other food materials by stimulating the liver to an increased output of catalase, the enzyme in the body principally responsible for oxidation. Hence, it would seem that saccharin should be positively helpful in the diet, instead of harmful, as some have claimed, particularly in a disease such as diabetes where the principal trouble is defective oxidation.

W. E. BURGE

PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF ILLINOIS

THE AMERICAN ASTRONOMICAL SOCIETY

THE twenty-second meeting of the society was held August 20 to 22, 1918, at the Harvard Observatory. Before the gathering it had been expected by many that war conditions would make the attendance so small that it would be scarcely worth while to hold the sessions. As might have been anticipated, however, the number of members of the society residing near Cambridge, together with the staff of the observatory, would make a respectably sized company at any time, and these with the few who were able to attend from a distance made a number which was well up to the average of previous meetings of the society. Although many astronomers about the country are actively engaged in war work, the number of papers presented showed no tendency to decrease, in fact there were the greatest number of communications ever presented at a meeting of the society. This was due primarily to two astronomical occurrences which were not affected by the war, the solar eclipse of June 8, and the appearance of the new star in Aquila. Each of these events was the occasion of about a dozen papers.

In welcoming the society in his double capacity as host and president, Professor Pickering referred to the last previous meetings at Harvard in 1910, when so many foreign astronomers were present, and he expressed the hope that it would not be too long before similar international meetings of men of science could be held again.

In the intervals between sessions the members were afforded the opportunity to inspect the instruments and work of the Harvard Observatory,

which are always a source of admiration to those who belong to less active institutions. There was a special collection of historical photographs arranged for the occasion; and other interesting features selected from the hundreds of thousands of plates now stored and making a permanent record of the sky.

A session was held at the Whitin Observatory, Wellesley College, and also at the Students' Astronomical Laboratory in Cambridge. On the day after the meeting some of the members visited the Massachusetts Institute of Technology, and others made a short cruise on Mr. W. V. Moot's yacht *Adventuress,* which is being used for instruction in navigation.

The society adopted with practically a unanimous vote a committee's recommendation that the astronomical day begin at midnight, and that after January 1, 1925, all astronomical dates should be reckoned in this way. This change will cause much trouble and confusion in astronomical work, but was recommended for the convenience of mariners.

In view of the uncertainty of what conditions would prevail in another year, the council took no definite action in regard to the time and place of the next meeting.

Officers were elected for the ensuing year:

President—Edward C. Pickering.

First Vice-president—Frank Schlesinger.

Second Vice-president—W. W. Campbell.

Secretary—Joel Stebbins.

Treasurer—Annie J. Cannon.

Councilors—E. B. Frost, 1918–20; Otto Klotz, 1918–20; E. W. Brown, 1917–19; S. A. Mitchell, 1918–19.

The program of papers was as follows:

C. G. Abbot: The Smithsonian solar constant observatory at Calama, Chile.

W. S. Adams and A. H. Joy: Spectroscopic observations of *W Ursæ Majoris.*

W. S. Adams and C. E. St. John: The green corona line at the 1918 eclipse.

Robert G. Aitken: The orbit of *Sirius.*

Robert G. Aitken: The spectral classification of 3919 visual binary stars.

Sebastian Albrecht: Personality in the estimation of tenths.

S. I. Bailey: Note on the magnitudes of the variables in *Messier 15.*

E. E. Barnard: *Nova Aquilæ No. 3:*

E. E. Barnard: The prominences of the total solar eclipse of 1918, June 8.

E. E. Barnard: Some remarkable small black spots in the milky way.

Benjamin Boss: Systematic corrections to and weights of stellar parallax.

Benjamin Boss: Real stellar motions.

Benjamin Boss: Stellar luminosities and absolute magnitudes.

Leon Campbell: The light-curve of *Nova Aquilæ No. 3.*

Annie J. Cannon: The spectrum of *Nova Aquilæ No. 3.*

J. B. Cannon: The spectroscopic binary Boss 1275.

Wm. A. Conrad: A short method of mean place reduction with natural numbers.

J. J. Crane: The reduction of Schönfeld's observations to the Harvard photometric standard of magnitudes.

Ralph E. De Lury: Simultaneous variations in solar radiation and spectroscopic determinations of the solar rotation.

Ralph E. De Lury: Spectroscopic measurements of the sun's rotation.

Ralph E. De Lury: The nature of a supposed cyclic variation in the solar rotation.

Ralph E. De Lury: A possible relationship between numbers of meteors and quantities of nitrogen compounds in freshly fallen rain and snow.

A. E. Douglass: The Steward Observatory of the University of Arizona.

A. E. Douglass: Atmospheric haze causing twilight effects.

Alice H. Farnsworth: The color-index of *Nova Aquilæ No. 3.*

Edwin B. Frost: Usefulness of "movie" camera for photographing phenomena of solar eclipses.

Edwin B. Frost and J. A. Parkhurst: The spectrum of *Nova Aquilæ* on June 8, 9 and 10, 1918.

Asaph Hall: A brief description of the 26-inch equatorial instrument of the Naval Observatory, and accessories, etc.

Asaph Hall: Account of some of the series of satellite observations made with the 26-inch equatorial.

W. E. Harper: The orbit of the spectroscopic binary *19 Lyncis.*

W. E. Harper: The orbits of the spectroscopic components of Boss 5173.

W. E. Harper: The spectrum and velocity of *Nova Aquilæ No. 3.*

Margaret Harwood: The variability of *Eros* in 1900–1901.

F. Henroteau: Note on the spectroscopic binary *55 Ursæ Majoris.*

Frank C. Jordan: Notes on the light curves of *XX Cygni* and *U Pegasi.*

Edward S. King: A new method of determining the color of a star.

Jakob Kunz and Joel Stebbins: Photometric results at the eclipse of June 8, 1918.

C. O. Lampland: Variable stars in the *Trifid Nebula* (N. G. C. 6514) and the *Lagoon Nebula* (N. G. C. 6523).

C. O. Lampland: Photographic observations of the variable nebula, N. G. C. 2261.

C. O. Lampland and E. C. Slipher: Some photographic results of the Lowell Observatory solar eclipse expedition.

Henrietta S. Leavitt: The light-curves of eleven novæ.

W. F. Meggers: Solar and terrestrial absorption in the sun's spectrum from 6400 A to 9400 A.

John A. Miller: The total eclipse of June 8, 1918.

R. M. Motherwell: *Nova Aquilæ No. 3.*

R. M. Motherwell: *12 Lacertæ.*

Margaretta Palmer: The Yale index to star catalogues.

J. A. Parkhurst: The spectrum of the solar corona at the eclipse of June 8, 1918.

C. D. Perrine: Changes in the spectra of some early-type stars showing hydrogen emission.

C. D. Perrine: Announcement concerning the formation of a new catalogue of fundamental star positions.

C. D. Perrine: The early spectrum of *Nova Aquilæ No. 3.*

E. Pettit and Hannah B. Steele: Report of the Washburn College eclipse expedition to Matheson, Colorado.

Edward C. Phillips: On a mechanical method of reducing transit observations.

Edward C. Pickering: Relation of proper motions to spectra.

J. S. Plaskett: The 72-inch reflecting telescope.

J. S. Plaskett: Notes on the spectrum of *Nova Aquilæ No. 3.*

Susan Raymond: The variability of *Antigone* (129).

William F. Rigge: The solar eclipse of 1918, June 8, as observed in Omaha.

Luis Rodés: A differential gravimeter and its applications.

Henry Norris Russell: The orbit of σ *Ursæ Majoris.*

R. F. Sanford: The spectrum of Bailey's variable star No. 95 in the globular cluster *M 3.*

R. F. Sanford: The orbit of the spectroscopic binary star *p Velorum.*

Harlow Shapley and J. C. Duncan: The globular cluster *Messier 22* (N. G. C. 6656).

V. M. Slipher: The spectra of two variable nebulæ: a new type of nebular spectrum.

V. M. Slipher: The spectrum of *Nova Aquilæ, No. 3.*

V. M. Slipher: Some spectroscopic results of the Lowell Observatory solar eclipse expedition.

C. E. St. John and Louise Ware: Notes on solar rotation.

H. T. Stetson: War-time instruction at the Harvard Astronomical Laboratory.

H. T. Stetson: Preliminary note on the uniformity of film sensitivity of photographic plates from measures with the thermo-electric photometer.

R. M. Stewart: The position of *Nova Aquilæ No. 3.*

David Todd: On the construction of high-level laboratories for scientific research.

Robert Trümpler: The position and proper-motion of *Nova Aquilæ No. 3.*

Frank W. Very: The luminiferous ether. Its relation to the electron and to a universal atmosphere.

Frank W. Very: What is the bearing of the hypothesis of a gravitational limit on the current relativity discussion?

Frank W. Very: The wasting of stellar substance.

Frank W. Very: Galactic and atomic vortices.

Frank W. Very: On Nipher's "gravitational" experiment and the anomalies of the moon's motion.

R. K. Young: The probable error of radical velocities determined with the one prism spectrograph of the Dominion Astrophysical Observatory.

Meade L. Zimmer: Preliminary note on an annual term in the right ascensions.

Joel Stebbins,
Secretary

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