

own tumor, and in the other 50 per cent. greatly to retard the return of the disease. A similar dose of X-ray given to the cancer direct outside of the body did not influence the subsequent growth of a graft of this tumor when returned to its original host. The contrast between these figures and those of the control series is striking, as is also the number of local recurrences in the two series. If this pronounced result is obtained with one stimulating dose it is probable that a more pronounced effect might be obtained by a second exposure to X-ray after a suitable interval.

JAMES B. MURPHY,
JOHN J. NORTON

SOCIETIES AND ACADEMIES

THE BIOLOGICAL SOCIETY OF WASHINGTON

THE 543d meeting of the society was held in the Assembly Hall of the Cosmos Club, Saturday, October 23, 1915, called to order by President Bartsch at 8 P.M., with 85 persons present.

Under the heading Brief Notes: Dr. C. W. Stiles recorded observations on blood examinations (cell counts, hemoglobin, etc.) of 600 children, between 6 and 17 years of age, in North Carolina. Dr. Stiles also made remarks on the International List of generic names of birds.

Under heading Exhibition of Specimens: Dr. J. N. Rose showed some interesting examples of humming-birds' nests which he had collected in Brazil the past summer.

The first paper on the regular program was by Professor A. S. Hitchcock, "Collecting Grasses in the Southwest." Professor Hitchcock spoke of his trip during the summer in the region from California to west Texas for the purpose of collecting grasses.

At Grand Canyon was found the rare *Stipa arida* Jones. At Ft. Bragg, Calif., was found *Agrostis breviculmis* Hitchc., known only from this locality and the western coast of South America. It is abundant on the open ground back of the sandy clay cliffs at this point. In a springy place on the side of the cliffs there was a colony of *Phleum alpinum* L., a grass of the high mountains of California. Its occurrence at sea level was very unexpected. At various points in northern California occurs *Danthonia americana* and *D. californica*. In these species the culms disarticulate near the base at maturity. An examination of the

swollen base of the detached culms discloses, hidden beneath the sheath and prophyllum, a cleistogamous spikelet consisting of a single floret. The floret and enclosed caryopsis are much larger than those of the panicle.

Cleveland Natural Forest, lying east of San Diego, was visited to investigate *Calamagrostis densa* Vasey. This species known only from the type collection by Orcutt was provisionally united with *C. koelerioides*, by the speaker,¹ but he is now satisfied that the two are distinct species.

An ascent was made of Humphreys Peak of the San Francisco Mountains, near Flagstaff, Arizona. These are the highest mountains in Arizona, the peaks extending above timber line. In the alpine region four species of grasses were found, *Trisetum spicatum*, *Poa rupicola*, *Festuca brachyphylla* and *Agropyron scribneri*. Collections were made at several other places of interest: Oracle, about 45 miles north of Tucson, in company with Professor J. J. Thornber; Big Spring, Alpine and Del Rio, in western Texas; and the Guadalupe Mountains of southern New Mexico, especially rich in Mexican species. Professor Hitchcock's paper was discussed by the chair.

The second and last paper of the program was by R. L. Garner, "African Studies; Things in Common Among Men, Apes and Other Mammals." Mr. Garner spoke of the courtship, family life, period of infancy, arrival of puberty, instincts, homes, habits and moral traits of the African anthropoid apes as observed by him in their wild state, during many years of observation in Africa. Among other things he stated that the period of gestation was probably seven months; that the young ape was born with usually 4 teeth present, twin births are exceedingly rare, the female becomes sexually mature at from 7 to 9 years, and the male from 1 to 2 years later, the usual length of life is 20 to 21 years; that their foods are mainly vegetable, but that flesh is an essential part of their diet; that they have no permanent homes, but travel about as nomadic families; that their sleeping position is on their back or side like that of men, they often make their beds 18 to 25 feet off the ground, but the young are delivered in a bed on the ground in a well-drained place; that sight and particularly hearing are acute, but that smell is not much more developed than in man and touch is less acute than in man; that the right of ownership among them is well respected. Mr. Garner concluded by saying he

¹ In Jepson, "Flora of California," 3: 125. 1912.

hoped to return to Africa in the near future and take motion pictures of the great apes.

The society adjourned at 10.10 P.M.

M. W. LYON, JR.,
Recording Secretary

THE AMERICAN MATHEMATICAL SOCIETY

THE one hundred and seventy-eighth regular meeting of the society was held at Columbia University on Saturday, October 30, 1915. Fifty-one members attended the two sessions. President E. W. Brown occupied the chair. The council announced the election of the following persons to membership in the society: Mr. D. R. Belcher, Columbia University; Professor J. W. Calhoun, University of Texas; Professor Sarah E. Cronin, State University of Iowa; Mr. C. E. Epperson, Kirksville Normal School, Mo.; Dr. Olive C. Hazlett, Radcliffe College; Mr. C. M. Hebbert, University of Illinois; Miss Goldie P. Horton, University of Texas; Professor W. S. Lake, School of Mines and Industries, Bendigo, Australia; Mr. D. H. Leavens, College of Yale in China; Mr. C. T. Levy, University of California; Dr. F. W. Reed, University of Illinois; Professor L. H. Rice, Syracuse University; Mr. J. F. Ritt, Columbia University; Professor D. M. Y. Sommerville, Victoria University College, Wellington, N. Z.; Miss Leila R. Stoughton, Rosemary Hall School, Greenwich, Conn.; Dr. C. E. Wilder, Pennsylvania State College; Mr. A. R. Williams, University of California; Dr. L. T. Wilson, University of Illinois; Dr. F. E. Wright, U. S. Geological Survey. Four applications for membership in the society were received.

A list of nominations for officers and other members of the council to be elected at the annual meeting was prepared for the official ballot for the annual election. A committee was appointed to audit the accounts of the treasurer for the current year.

Twenty members were present at the dinner arranged for the evening, always one of the most pleasant features of the meetings.

The twenty-third summer meeting of the society will be held at Harvard University early in September, 1916. At the seventh colloquium of the society, held in connection with this meeting, courses of lectures will be given as follows: By Professor G. C. Evans, "Topics from the theory and applications of functionals, including integral equations." By Professor Oswald Veblen, "Analysis situs."

The following papers were read at the October meeting:

G. A. Pfeiffer: "Existence of divergent solu-

tions of the functional equations $\phi[g(x)] = a\phi(x)$, $f[f(x)] = g(x)$, where $g(x)$ is a given analytic function, in the irrational case."

C. N. Haskins: "On the extremes of bounded summable functions and the distribution of their functional values."

G. M. Green: "Projective differential geometry of one-parameter families of space curves, and conjugate nets on a curved surface. Second memoir."

G. M. Green: "The linear dependence of functions of several variables."

A. R. Schweitzer: "On the dependence of algebraic equations upon quasi-transitiveness."

H. S. Carslaw: "A trigonometrical sum and the Gibbs phenomenon in Fourier series."

W. F. Osgood: "On a sufficient condition for a non-essential singularity of a function of several complex variables."

Dunham Jackson: "Singular points of functions of several complex variables."

W. F. Osgood: "On functions of several complex variables."

L. P. Eisenhart: "Envelopes of rolling and transformations of Ribaucour."

W. B. Fite: "Note on homogeneous linear differential equations of the second order."

H. S. Vandiver: "Note on the distribution of quadratic residues."

G. D. Birkhoff: "A theorem concerning the singular points of ordinary linear differential equations."

H. S. White: "Closed systems of sevens in a 3-3 correspondence."

W. R. Longley: "Note on a theorem on envelopes."

A. R. Schweitzer: "On the dependence of algebraic equations upon quasi-transitiveness. Second paper."

A. R. Schweitzer: "A new functional characterization of the arithmetic mean."

The San Francisco section of the society held its twenty-seventh regular meeting at Stanford University on November 20. The Southwestern section held its ninth regular meeting at Washington University, St. Louis, on November 27. The annual meeting of the society will be held at Columbia University on Monday and Tuesday, December 27-28. The Chicago section will meet at Columbus, Ohio, in affiliation with the American Association for the Advancement of Science on December 30-31 and January 1.

F. N. COLE,
Secretary