

while a limited one, is highly organized. It is succulent and rich in water by reason of its many contrivances for husbanding all its resources. Consolidation tends to reduce expenditure. Pleiocyclic herbs successfully maintain themselves by reason of their highly developed underground organs. The prevailing color of the flowers is yellow. Some of the vegetation is exceedingly tolerant of alkali, raising the question whether this property is due to histological peculiarities or represents a physiological difference in the protoplasm.

16. 'Effects of Salt Solutions on Seeds and Plants': E. E. SLOSSON.

Experiments have been carried on for several years on the action of the salts occurring in the soil of arid regions, as alkali, on the germination of seeds and the growth of plants. Solutions of sodium chloride, sulphate and carbonate; potassium sulphate and chloride; magnesium sulphate; and sugar; in solutions ranging in strength from 0 to 100 atmospheres osmotic pressure had been tested, the following seeds being used: corn, wheat, sunflower, peas, buckwheat, rape, beans, alfalfa, rye, clover, *Scirpus paludosus* and, for comparison, wood. It has been found that the imbibition of water is less from all solutions than from pure water. Solutions of all salts and of sugar of the same osmotic pressure retard and lessen the imbibition of water by seeds to about the same extent. Isosmotic solutions produce nearly the same effect in retarding the germination of seeds. Solutions of slight osmotic pressure stimulate germination. The same results are obtained with growing plants. Plants and seeds absorb a greater amount of potassium than of sodium salts from solutions of the same osmotic pressure, and more sulphates than chlorides. Hydroxyl ions increase the absorption of salts and of water by seeds. This paper will be printed in Bulletins of the Wyoming Experiment Station.

17. 'The Position of Protococcus and Mosses on Trees': HENRY KRAEMER. (Read by title.)

18. 'Contributions to the Knowledge of the Physiology of Karyokinesis': A. C. LEWIS. (Read by title.)

This paper will be published in the *Botanical Gazette*.

19. 'Seedlings of *Arisæma dracontium*': ROSINA J. RENNERT. (Read by title.)

20. 'Some Plant Adaptations on the Tucson Plains': J. W. TOUMEY. (Read by title.)

ERNST A. BESSEY,
Secretary, Section G.

MEMBERSHIP OF THE AMERICAN ASSOCIATION.

THE following have completed their membership in the American Association for the Advancement of Science during the month of September.

Edward G. Acheson, President International Acheson Graphite Co., Niagara Falls, N. Y.

Curtis Alexander, Mining Engineer and Metallurgist, Spearfish, S. D.

J. Hartley Anderson, M.D., Physician, 4630 Fifth avenue, Pittsburg, Pa.

Bion J. Arnold, 4128 Prairie avenue, Chicago, Ill.

Andrew J. Bigney, Professor of Biology and Geology, Moores Hill College, Moores Hill, Ind.

R. I. Bond, M.D., Physician, Hartshorne, Ind. Ter.

Edwin D. Carnaghan, Mechanical Engineer, Durango, Do, Mexico.

Willard Colfax Cheney, Electrical Engineer, Portland, Ore.

Francis A. Crandall, 2219 15th street, N. W., Washington, D. C.

Col. William Crozier, U. S. A. Ordnance Office, Washington, D. C.

Dr. Kary Cadmus Davis, Professor of Horticulture and Forestry, W. Virginia State University, 628 N. High street, Morgantown, W. Va.

Wm. S. Hall, Professor of Mining and Graphics, Lafayette College, Easton, Pa.

John Hays Hammond, Mining Engineer and Geologist, Denver, Colorado.

Dr. Felix B. Herzog, Electrical Engineer, 51 West 24th street, New York, N. Y.

Julius Hortvet, State Chemist, 1521 University avenue S.E., Minneapolis, Minn.

A. E. Jenks, Bureau of Ethnology, Washington, D. C.

John A. Just, Chemist, 116 West Castle street, Syracuse, N. Y.

Wm. D. Marks, The Art Club, Philadelphia, Pa.

Lucius Herbert Merrill, Professor of Biological Chemistry, University of Maine, Orono, Maine.

Benjamin L. Miller, Johns Hopkins University, Baltimore, Md.

Robert D. Murray, M.D., Marine Hospital Service, Key West, Fla.

George J. Murdock, Mechanician and Inventor, 248 Sixth avenue, Newark, N. J.

Richard A. Parker, C.E., E.M., 4 P. O. Square, Boston, Mass.

Thomas S. Perry, 312 Marlborough street, Back Bay, Boston, Mass.

Wm. L. Prather, President of University of Texas, 1914 Nueces street, Austin, Texas.

Walter Merritt Riggs, Professor of Electrical Engineering, Clemson College, Clemson College, S. C.

Fred W. Robins, Superintendent of Schools, Bethlehem, Pa.

George St. John Sheffield, Twin Elms Farm, Attleborough, Mass.

Charles H. Shinn, Inspector of Experiment Stations, University of California, Berkeley, Cal.

Harvey F. Smith, Attorney-at-law, Clarksburg, W. Va.

Norman W. Storer, Electrical Engineer, 6109 Howe Street, Pittsburg, Pa.

W. S. Sutton, Professor of Science and Art of Education, University of Texas, 1812 Congress avenue, Austin, Texas.

E. A. H. Tays, Civil and Mining Engineer, San Jose de Gracia, Sinaloa, Mexico.

Alonzo P. Troth, Supervisor of Instruction in Science, High School, Leadville, Colo.

Andrew A. Veblen, Head of Department of Physics, State University of Iowa, Iowa City, Iowa.

Wm. A. Wadsworth, Genesee, Livingston county, N. Y.

Dr. Walter F. Willcox, Professor of Economics, Cornell University, Ithaca, N. Y.

*ADDRESS OF THE PRESIDENT OF THE ANTHROPOLOGICAL SECTION OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.**

I.

TWENTY-FIVE years have passed since the British Association met in Glasgow. This is a long time to look back upon, and yet

* Glasgow meeting, 1901.

the period appears short when measured by the great advance which has taken place in almost all branches of knowledge. Anthropology has shared in the general progress. The discoveries made within its confines may not have been so startling, nor yet have had such a direct influence upon the material welfare of the people, as in the case of other fields of scientific study, but its development has been steady and continuous, and it has grown much in public estimation.

At the Glasgow meeting of the Association in 1876 anthropology held a subsidiary position. It only ranked as a department, although it gained a special prominence through having Alfred Russel Wallace as its chairman. It was not until several years later that it became one of the recognized sections of the Association, and attained the high dignity of having a letter of the alphabet allotted to it. But quite independently of its official status it has always been a branch of study which has been accorded a large amount of popular favor. The anthropological meetings have, as a rule, been well attended, and the discussions, although perhaps on certain occasions somewhat discursive, have never lacked vigor or animation. Professor Huxley, who presided over the Anthropological Department at the Dublin meeting in 1878, ascribed the popularity of the subject to the many openings which it affords for wide differences of opinion between the exponents of its numerous branches, and to the innate bellicose tendency of man. As the representative of a country in which, according to the same high authority, this tendency is less strongly marked than elsewhere, and of a race which has so frequently and pointedly exhibited its abhorrence of vigorous language, I trust that my presence here as president may not react unfavorably on the interest shown in the work of the Section.

Science

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Science **14** (355), 602-603.
DOI: 10.1126/science.14.355.602

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