

mal, mesophyl, vessels, etc., and the determination of the qualities of the organisms as wholes which depend upon the interaction of these cells and which only indirectly represent and are represented by the organization of the cell and germ plasm. A leaf can not be represented directly in a cell, but the color of the leaf may be represented in the color of the cell, and its size may be determined by the capacity of the cell to divide and grow. Such Mendelian unit characters as color, length of life, etc., are properties of individual cells and agree with Detto's conception of metidentical characters which become by multiplication of the cells more or less diffuse properties of plants as wholes or organs as wholes.

It is easy to distinguish the heredity of the cell form as such from the heredity of the form of the many-celled colony. No one thinks now of asserting that the organization of the cell is identical with that of the many-celled individual. That dogma of the old preformationists disappeared with the improvement of the microscope. If we can, however, fix clearly in mind that such representation of the adult organism as is present in the egg in no way resembles in space configuration or in complexity the arrangement of organs and tissues in the adult animal or plant, we can attack the problem of form development as it really exists, and free from many encumbering traditions of preformation and epigenesis.

There can be no doubt that the cell and nucleus have a highly complex mechanical organization. It is a commonplace of histology that cell and tissue structures are relatively constant through genera and families—regardless of variation in the size and form of organs and of the plant as a whole. Cell size is also relatively constant through genera and even families.

Quantitative variations in the size of leaves, seeds, etc., are due to the number of cells they contain, and this, of course, depends on the number of times the cells have reproduced themselves by division. In some cases Mendelian characters can thus be identified with qualities of the cells.

The attempt from the standpoint of Mendelian conceptions of dominance and segregation to analyze the behavior of the generalized qualities of plants and their parts in development and heredity has been stimulating to research in a high degree, but the attempt to express the results of such analyses in terms of unit characters may be found to be only a relic of the preconceptions of the earlier corpuscular and preformational theories of heredity. Many Mendelians are inclined to think of their germ plasm as merely chemical in its essential constitution and I have referred above to the uncertainty of the evidence as to any ultramicroscopic organization of the nuclear chromatin of the cell. With the clarification of our conceptions in the domain of colloid chemistry we may hope to gain new viewpoints which will be more serviceable in the interpretation of biological facts than the conceptions of atoms and molecules which have so far dominated the corpuscular theories of protoplasmic structure. But we must also expect, perhaps, that the real distinctions between the organization of protoplasm with its long history of slow evolution and the *in vitro* aggregates of the chemist will be emphasized rather than obliterated.

R. A. HARPER

COLUMBIA UNIVERSITY

SCIENTIFIC NOTES AND NEWS

DR. FRANZ BOAS, professor of anthropology at Columbia University, has been given the doctorate of science by Oxford University.

THE Stevens Institute has conferred its doctorate of engineering on Professor Charles F. Scott, who holds the chair of electrical engineering in the Sheffield Scientific School of Yale University.

THE University of Manila has conferred a doctorate of science on Father José Algué, director of the Weather Bureau.

AMONG the degrees conferred by Columbia University, at its recent commencement, was the doctorate of letters on Dr. John Grier Hibben, president of Princeton University; the doctorate of science on Colonel George W. Goethals, chief engineer of the Panama Canal, and the degree of master of science on Dr. S. S. Wheeler, president of the Crocker-Wheeler Company.

KING GEORGE has conferred a knighthood on Mr. Harry James Veitch, distinguished for his work in horticulture.

THE board of trustees of the University of Alabama at their meeting on May 30, 1912, relieved Dr. Eugene A. Smith, professor of mineralogy and geology, of active class-room work, in order that he might devote his whole time to the Geological Survey and to the up-building of the museum of Smith Hall, the new building named in his honor and devoted to geology and natural history. Dr. Smith is retained in the university as head of the department of geology and as director of the museum. The teaching is turned over to Dr. Wm. F. Prouty, professor of geology, and his assistants. This action of the board of trustees was based on the request of Dr. Smith and the recommendation of President Denny.

MR. OLIVER B. HOPKINS, who recently received his Ph.D. degree at Johns Hopkins University, has been appointed assistant state geologist of Georgia to fill the position made vacant by the resignation of Dr. T. Poole Maynard.

T. R. ARKELL, associate professor of animal husbandry at the New Hampshire College, has resigned to accept a position with the Canadian government as head of the sheep division in Ottawa.

PAUL RADIN, Ph.D. (Columbia, '11), has been appointed to the fellowship of the International School of American Ethnology and Archeology for research in anthropology in Mexico City.

DR. WILLIAM H. HALE, superintendent of public baths in Brooklyn, has been appointed to represent New York City at the International Public Bath Conference to be held in Holland from August 27 to 30.

DR. BURT G. WILDER, professor emeritus in Cornell University, lectured recently at the Charleston Museum. He spoke on the silk spider, and at the conclusion of his lecture took occasion to highly compliment the work of Dr. P. M. Rea, director of the museum.

DR. ARTHUR W. GOODSPEED, professor of physics in the University of Pennsylvania, will on June 13 give the commencement address at the South Carolina Military College, Charleston.

PROFESSOR HUGO MÜNSTERBERG, who has now sailed for Europe, gave an address on June 4 before the Naval War College in Newport, R. I., on "The Psychology of the Navy," and an address on June 5 before the American Association for Labor Legislation on "The Psychology of Industrial Efficiency."

PROFESSOR D'ARCY W. THOMPSON, professor of natural history at Dundee, has been appointed Herbert Spencer lecturer at Oxford for 1912.

AT a meeting of the Chemical Society at Burlington House on June 26, Sir William Tilden, F.R.S., will deliver a memorial lecture in honor of the late Professor Stanislaw Cannizzaro.

DR. ED. STRASBURGER, the eminent botanist, professor at Bonn, died on May 20, aged sixty-eight years.

DR. ALFRED PRIBRAM, professor of pathology in the German university at Prague, has died, aged seventy-one years.

THE U. S. Civil Service Commission announces an examination on June 29 to fill vacancies in the position of agriculturist at salaries ranging from \$2,000 to \$2,500, and as-

sistant agriculturist at salaries ranging from \$1,600 to \$1,800 a year, Office of Farm Management, Bureau of Plant Industry, Department of Agriculture.

FOLLOWING a meeting of the biological section of the Kansas State Teachers Association a committee has been appointed to study the teaching of biology in the high schools of the state. The members of the committee are: H. F. Roberts, *chairman*, Kansas Agricultural College, botany; I. D. Cardiff, Washburn College, botany; W. C. Stevens, Kansas State University, botany; C. E. McClung, Kansas State University, zoology; J. W. Scott, Kansas Agricultural College, zoology; O. P. Delinger, Manual Training Normal School, biology; L. C. Wooster, Kansas State Normal School, biology; Wyman Greene, Wichita High School, zoology; W. E. Ringle, Cherryvale High School, botany and zoology; E. J. Dumond, Garden City High School, principal of high school.

THE University Commission on Southern Race Questions was recently organized at Nashville, Tenn. It consists of 11 members, each a representative of a southern state university. Professor C. H. Brough, of the University of Arkansas, was elected president and Professor William M. Hunley, of the University of Virginia, secretary. The next meeting will be held on December 19 at the University of Georgia, Athens, Ga. The chief object of the commission is to study the negro in his relation to southern life. The commission was organized through the efforts of Dr. James H. Dillard, president of the Jeans fund and director of the Slater fund, of New Orleans.

MR. PETER A. B. WIDENER, of Philadelphia, has set aside a fund of four million dollars for an endowment for the Widener Home for Crippled Children, which he had previously established with three million dollars. The present gift is in memory of his son, Mr. George D. Widener, who perished on the *Titanic*. His grandson Mr. Harry Elkins Widener, who also perished on the *Titanic*, has bequeathed his valuable library to Harvard University, and the family will erect a wing to the library building to house it.

THE Sleeping Sickness Bureau under the British government will hereafter be known as the Tropical Diseases Bureau. The new bureau will deal with all exotic diseases which are prevalent in tropical and subtropical regions, and will publish at frequent intervals a *Tropical Diseases Bulletin*, which will take the place of the present *Sleeping Sickness Bulletin*. As the *British Medical Journal* states, the Sleeping Sickness Bureau had its origin in the International Conference on Sleeping Sickness held in London, under the presidency of Lord Fitzmaurice, in June, 1907, and March, 1908, to concert measures for the control of that disease, which was spreading rapidly in tropical Africa. It was then proposed to have a central international bureau "to extract and circulate all new literature on sleeping sickness." This project fell through, because the delegates were not unanimous as to the seat of the bureau, or even the necessity for its separate existence. Arrangements were therefore made by Lord Elgin, then colonial secretary, for the establishment of a British Bureau, maintained by imperial funds, with a contribution from the Sudan government. The bureau, having outgrown the accommodation provided by the Royal Society, will have its quarters at the Imperial Institute.

UNIVERSITY AND EDUCATIONAL NEWS

LORD IVEAGH has given £10,000 to the University of Dublin, as an endowment fund for the department of geology and mineralogy.

THE University of Cincinnati held its thirty-fourth annual commencement exercises on June 4. A feature of the ceremonies was the official presentation to the university of the new engineering building, power plant and gymnasium and the Carson athletic field.

THE Harper Memorial Library of the University of Chicago was dedicated on June 11. The leading events of the services were a historical statement by President Harry Pratt Judson; a memorial address by Dean Albion W. Small, head of the department of sociology;