by the museum with the Finsch collection. Dr. Otto Finsch, the celebrated naturalist and traveler, provided with the collection a very full series of illustrations accurately picturing many phases of native life. These are highly desirable, as many aspects of aboriginal culture, such as house and boat types can not always be readily transported or even secured in model specimens, although often they form the most characteristic elements of the culture of a tribe. This applies even more emphatically to social and ceremonial life, which can be studied very inadequately, if at all, from museum specimens. It also applies in large measure to objects of personal adornment and clothing. For instance, it would not be at all obvious to the average visitor how the aborigines wore a profusely decorated heart-shaped object conspicuously exhibited in one of the New Guinea cases. A glance at the sketch now beside the specimen shows it to be a warrior's breast ornament. Similar results have been accomplished with other articles of dress which otherwise could not readily be understood except with the aid of long explanatory labels.

THE London *Times* states that in the old parish church of St. Mary, Teddington, a tablet has recently been dedicated to the memory of the Rev. Stephen Hales, D.D., a former vicar of the parish and one of the most distinguished men of science of the eighteenth century. A number of eminent living *savants* have for a long time been endeavoring to discover his burial place, in order to preserve his memory, and at length the stone recording his death was found in the floor of the porch of the church with nearly the whole of the lettering obliterated. The new tablet has been placed on the wall of the west porch beneath the tower of the old church, and bears the following inscription:

Beneath is the grave of Stephen Hales. The epitaph, now partly obliterated, but recovered from a record of 1795, is here inscribed by the piety of certain botanists, A.D. 1911. "Here is interred the body of Stephen Hales, D.D., Clerk of the Closet to the Princess of Wales, who was minister of this parish 51 years. He died 14th January, 1761, in the 84th year of his age."

Mr. Francis Darwin has written for the current number of the *Parish Magazine* an interesting account of Dr. Hales, in the course of which he says: "Stephen Hales has been called the 'father of physiology,' and he deserves this title in regard both to animals and plants. His experiments on the blood pressure of animals are second only to Harvey's work on the circulation. In the domain of plant physiology he is equally great. In all his researches he combined a belief in the design of the Creator with a passionate desire to understand the mechanism of living things. Thus he treated the manifestations of life as things to be weighed, measured and analyzed in the laboratory. It is this point of view that gives his work so modern a character and entitles him to be considered one of the founders of a rational science of biology. Although he loved science for its own sake, it is equally clear that he was dominated by a permanent desire to use his knowledge for the benefit of his fellow-creatures. Water supply, ventilation, the distillation of potable water at sea, the preservation of food on long voyages, the treatment of at least one disease—the stone—and especially the harm arising from intemperance in the use of alcohol, all received attention. It is impossible to read his works without mingling personal affection with the respect inspired by his intellect."

UNIVERSITY AND EDUCATIONAL NEWS

AFTER long preparation, ground has been broken for the first Reed College buildings on the campus of eighty acres. The college will open next September in the permanent buildings, and on the endowment foundation of about $3,000,000 provided by Mr. and Mrs. Simeon G. Reed, of Portland. Three buildings, in addition to residences for the faculty, will be ready—the arts building, the dormitory and the gymnasium. All the buildings will be in the collegiate-gothic style of architecture. The material will be Indiana limestone and mission brick. The arts building and dormitory will be of steel and concrete structure, fireproof throughout. The buildings will run against the wooded ravine and lake, which

are picturesque features of the campus. The arts building is 257 feet long, with wings 85 feet long. It has four stories. The estimated cost of the building and furnishings is $225,000. The dormitory, which is virtually five separate dormitories, contains a large clubroom for men students, a dining-hall and rooms and baths for 125 students. The cost of this building, exclusive of furnishings, is $140,000.

THE plan of George M. Pullman for the establishment of a manual training school at Pullman, Ill., is assuming definite form. Professor L. G. Weld, formerly professor of mathematics and dean of the University of Iowa, has been despatched on a tour of America and Europe to collect data to guide the board of trustees in the construction of the buildings and the arrangement of the curriculum. Building operations, it is expected, will be commenced next year. A site of forty acres has been purchased at a cost of $100,000. A fund of $1,000,000 was bequeathed by Mr. Pullman at his death on October 18, 1897, for founding the institution. This fund was invested in securities which have increased in value until now there is about $2,500,000 at the disposal of the directors for the school.

THE University of California announces the establishment by Mr. F. M. Smith, of Oakland, California, of a research fellowship for investigation of certain problems incident to the growth of cities in the San Francisco Bay region. Attention is to be directed especially to questions relating to the development of parks, playgrounds and other community interests demanding particular consideration of space available for growth. The stipend of the fellowship is $1,000 per annum, and an additional sum of $500 annually is provided for expenses of the investigation. The work of the fellow will be conducted under the supervision of a special committee named for this purpose, and the results worthy of record are to be prepared for publication.

$12,500 was recently turned over to the authorities of the Colorado School of Mines for the equipment of the new ore testing plant. The building for the plant was built a year ago and $50,000 was allowed by the legislature for the necessary machinery and one fourth of this is what is now available. Many donations of machinery have been made by the various manufacturers and it will now be possible to completely equip, ready for operation, the concentration section of the plant.

DR. J. B. HURRY has established a research studentship of physiology at Cambridge to be named in honor of Michael Foster.

WE learn from the *Bulletin* of the American Mathematical Society that Dr. G. Schirmer, a Chicago physician, has established at the University of Erlangen, a prize fund, to be known as the Helene Ottilie Schirmer foundation, in honor of his late wife. The income, $150, is to be given to the author of the most meritorious thesis prepared at the university during a period of two years preceding each award; the subjects are to be in mathematics or physics in odd years, and in medicine in even years. The first award has recently been made to Dr. R. Baldus for his dissertation on certain line congruences.

Two new departments are to be established at Swarthmore College next year, one in political science, and the other in psychology and education. Dr. Robert C. Brooks, at present professor of political science at the University of Cincinnati, is to head the political science department, and Dr. Bird T. Baldwin, now professor of education at the University of Texas, will have charge of the work in psychology and education.

DR. C. N. JENSEN, fellow in plant pathology, Cornell University, has been appointed professor of botany and plant pathology in Utah Agricultural College and Experiment Station and entered on his duties on February 1.

DR. ELEANOR H. ROWLAND, professor of philosophy at Mt. Holyoke College, has resigned to become dean of women and professor of philosophy at Reed College, Portland, Ore., but does not enter upon her new duties until next September. She will spend the next semester in Crete, engaged upon research work. Dr. Kate Gordon takes Dr. Rowland's place during the second semester.

DR. SAMUEL P. HAYES, professor of psychology, will be in England until next fall.

MR. C. SHEARER, of Clare College, Cambridge, has been nominated to a newly established lectureship in experimental morphology at Cambridge.

DISCUSSION AND CORRESPONDENCE

THE WORD GENOTYPE

PROFESSOR JENNINGS (SCIENCE, December 15, p. 847) refers to the fact that the word genotype has two meanings, but does not make it quite clear that both are current at the present time. The use of the word, with a definition, by Schuchert antedates that of Johannsen, as has been several times pointed out. Taxonomists can hardly be expected to abandon their prior and useful term, so it becomes a question whether it is convenient to continue the Johannsenian usage, trusting to the context to indicate in every case what is intended.

Some months ago, in conversation, my colleague, Dr. George Norlin, suggested "amictotype" as a possible substitute for genotype in the sense of Jennings.

T. D. A. COCKERELL
UNIVERSITY OF COLORADO

GENOTYPE AND "GENOTYPE"

"IN calling attention to the frequent misuse of the word 'genotype'" (quotation from George H. Shull in SCIENCE, February 2, 1912, p. 182), the students of heredity will please take notice that this term has been in biology since 1897 and that Shull, Johannsen and others persistently misuse the term. The original definition is as follows:

"*Genotype* (*genos* = race, and *typos* = type).—Genotype applies to any *typical material of the type species of a genus.* The material, however, should be, if possible, from the original locality of the species, or a genotype should also be a topotype or a metatype. Therefore there may be as many genotypes of *Lingula* as there are museums having characteristic specimens of *Lingula anatina.*"[1]

CHARLES SCHUCHERT

[1] SCIENCE, April 23, 1897, p. 639.

SCIENTIFIC BOOKS

Lectures on Fundamental Concepts of Algebra and Geometry. By JOHN WESLEY YOUNG, Professor of Mathematics in the University of Kansas. Prepared for publication with the cooperation of WILLIAM WELLS DENTON, Assistant in Mathematics in the University of Illinois. With a Note on the Growth of Algebraic Symbolism by ULYSSES GRANT MITCHELL, Assistant Professor of Mathematics in the University of Kansas. New York, The Macmillan Company. 1911. Pp. vi + 247.

Descriptive Geometry: A Treatise from a Mathematical Standpoint. By VICTOR T. WILSON, M.E., Professor of Drawing and Design in the Michigan Agricultural College. New York, John Wiley & Sons. 1909. Pp. viii + 237.

Elements of Descriptive Geometry with Applications to Spherical and Isometric Projections, Shades and Shadows, and Perspective. By ALBERT E. CHURCH, LL.D., late Professor of Mathematics in the United States Military Academy, and GEORGE M. BARTLETT, M.A., Instructor in Descriptive Geometry and Mechanism, University of Michigan. New York, American Book Company. 1911. Pp. 286.

Professor Young's "Lectures" presuppose in the reader intellectual acumen and a certain logical bent but little mathematical knowledge beyond the elements of algebra and geometry. Dealing with such topics as Euclid's Elements, A Non-Euclidean World, Consistency, Independence and Categoricalness of a Set of Assumptions, with the notions of class, correspondence and group, the assumptions of Hilbert and Pieri, dimensionality and hyperspace, variable, function and limit, and dealing with them in a way that is at once philosophic, romantic, scientific and well-nigh literary, the lectures ought to appeal to a wide and diversified class of readers, philosophers, logicians, both expert and inexpert mathematicians, and thinkers in general. The book is far more than its title indicates, for the concepts treated are presented as being fundamental to mathematics in general, to