metallurgical engineering, Case School of Applied Science; John F. Eckel, A.B., chemistry, University of Kansas; Hyman Freeman, B.S., engineering chemistry, Georgia School of Technology; Frank C. Norris, B.S., chemical engineering, University of Illinois, and Harold E. White, E.M., mining and metallurgy, Lehigh University. The research fellows will begin their work on August 15 for a period of ten months. Two advisory boards, one composed of mining engineers and operators, and the other of metallurgical engineers and steel executives, will assist in selecting the problems for study. Each research fellow will conduct his studies under the direction of a senior investigator from the Bureau of Mines. At the completion of their studies they will be eligible to receive the degree of master of science from the Carnegie Institute of Technology. As in the past, reports of the investigations to be made during the coming college year will be published in bulletin form for public distribution.

UNIVERSITY AND EDUCATIONAL NOTES

BY the will of Randolph McNutt, a furniture dealer of Buffalo, N. Y., Dartmouth College receives the residuary estate, valued at more than $750,000, to be used for general educational purposes.

AN annual appropriation of $10,000 for five years has been given to Princeton University by the Public Service Electric and Gas Company of New Jersey for the advance of "pure scientific research."

THE Burma Oil Company has offered £100,000 to the new Rangoon University, India, for a college of mining and engineering, to be associated with the name of the company.

DR. BARNETT SURE, of the College of Agriculture of the University of Arkansas, has been promoted to a professorship and has been appointed head of the department of agricultural chemistry.

DR. JAMES B. KENDRICK, of the department of botany of Purdue University Agricultural Experiment Station, has been appointed associate professor in the division of plant pathology of the University of California, at the experiment station at Davis, California.

DR. G. L. CLARK, assistant professor of chemistry in the chemical engineering department of the Massachusetts Institute of Technology, will succeed Dr. G. D. Beal next year at the University of Illinois, where he has been appointed associate professor.

S. F. BIBB, of the University of North Dakota, has been appointed professor of mathematics at the Armour Institute of Technology.

DR. I. DE BURGH DALY, lecturer in experimental physiology in the Welsh National School of Medicine of the University of Wales, Cardiff, has been appointed to the chair of physiology in the University of Birmingham to succeed Professor E. Wace Carlier, who has retired.

DISCUSSION AND CORRESPONDENCE

THE STACKABILITY OF TETRAKAIDECAHEDRA

IN the issue of SCIENCE for June 18, 1926, Frederic T. Lewis, in a communication entitled "An Objective Demonstration of the Shape of Cells in Masses," makes the following statement: "Meanwhile Lord Kelvin had found that a fourteen-sided figure—a cube truncated by an octahedron[1]—having six quadrilateral and eight hexagonal surfaces, solves the problem of dividing space without interstices into uniform bodies of minimal surface."

In the issue of SCIENCE for September 3, 1926, John Millis, in a communication under the title, "The Shape of Cells in Masses," begins his paper with the above quotation from the article by Lewis. Millis continues as follows: "The statement is a correct expression of Lord Kelvin's claim as set forth in the somewhat famous Baltimore lectures of several years ago. But the claim is entirely wrong. Having been myself perplexed by so direct and confident an announcement from such an eminent source, let me ask that a definite correction of a serious error be now made in order that others may be saved from being misled and perhaps from consequent mistakes. The volume described, called the tetrakaidecahedron, does not possess the properties as stated. Equal volumes of this pattern will not fit together without voids, as a brief consideration of the dihedral angles or the angles between the faces and the relations of the faces or a practical trial with models would at once have shown."

Such a positive and detailed criticism, pointing out the claimed "error" in Lord Kelvin's equally positive statement, supported by Lewis, might have settled the matter, except that the writer took the suggestion made by Millis in the last sentence quoted above and considered the dihedral angles and even constructed models as advised. If one consider the cross-sectional plane through the center of the volume (passing the sectioning plane perpendicularly through a face of the figure), the resulting section is a hexagon. If we consider the angles in the hexagon we find that they are equal to the corresponding dihedral angles of the volume in question and are as follows:

[1] "The edges of a regular octahedron are trisected. Each vertex of the octahedron is then cut off by a plane passing through the points of trisection adjacent to the vertex. The resulting solid is a regular tetrakaidecahedron."—Graustein.