

one of the founders and first directors of the Electrochemical Society and continued a director until 1913, when he became president.

DR. JAMES A. GIBSON, professor of anatomy in the University of Buffalo, and for the last seven years secretary of the medical department, died on October 4 at the age of fifty years.

UNIVERSITY AND EDUCATIONAL NEWS

By the will of Isaac M. Seligman, brother of Professor Edwin R. A. Seligman, of the department of economics of Columbia University, who died on September 30, leaving an estate estimated at more than \$15,000,000, the bulk of his estate is bequeathed to his family. He left bequests aggregating \$69,000 to Columbia University, the Educational Alliance, Mt. Sinai Hospital, Society of Ethical Culture and other institutions.

YALE UNIVERSITY's budget this year shows a net deficit of about \$258,866 as a result of war conditions, it is announced, despite savings of about \$200,000 mainly through decrease in the faculty salary list where members are absent in government service. The total registration this year was announced as 2,122, as against 3,262 last year, with a decrease of 117 university officers.

STUDENT enrolment at Princeton University is 618 less than a year ago. The total registration is 937. A year ago it was 1,555. It is stated that for the first time since its organization the school of electrical engineering has no students.

THE faculty changes at Stevens Institute of Technology this year include the appointment of former Assistant Professor Louis A. Hazeltine as acting professor of electrical engineering to fill the vacancy caused by the death of Professor Albert F. Ganz. Leslie H. Backer, M.E., has been appointed assistant professor in chemistry; Gustav G. Freygang, M.E., assistant professor in mechanics; Frank C. Stockwell, A.B., S.B., assistant professor in electrical engineering, and Lewis A. Belding, M.E., assistant professor in mechanical engineering. Extensive changes have been made

in the addition and rearrangement of lecture and drafting rooms. The large building formerly occupied by the Stevens Preparatory School has been connected by a covered bridge with the main building, and has been renamed recitation hall. The interior has been rearranged to contain 15 lecture rooms and 14 offices, thus relieving the main building where a large drafting room has been created by removing partitions between old classrooms.

IN coordinating the work between the main Texas Agricultural College and the two junior colleges, created by the last legislature, a representative has been assigned to the Vocational College at Arlington and to the Junior Agricultural College at Stephenville. Mr. J. A. Evans, pecan specialist, of the Extension Service, will be at Arlington, Texas, during the current year while Dr. Frederick H. Blodgett will be the representative at Stephenville.

DR. TRUMAN MICHELSON, of the Bureau of American Ethnology, has been appointed professor of ethnology in the George Washington University. He will also retain his position as ethnologist in the said bureau.

DR. H. B. GOODRICH and Dr. L. L. Steele will conduct courses in the department of biology of Wesleyan University during the present year, or until a successor is chosen to the late Professor Herbert W. Conn.

PROFESSOR RALPH H. MCKEE, formerly of the University of Maine, and the past year in charge of the research department of the Tennessee Copper Company, has been appointed associate in chemical engineering at Columbia University. He will have in his especial charge the graduate work in applied organic chemistry.

DR. LEON V. HARTMAN has been appointed professor of physics at the University of Nevada.

DR. D. WALTER STECKBECK has been appointed assistant professor of botany in the University of Pennsylvania.

LEE R. DICE, Ph.D., of the department of zoology of the Kansas State Agricultural College, has been given a temporary appointment as assistant professor of biology in the Mon-

tana State University, filling the place of A. W. L. Bray, who is taking advanced work at Harvard University this year.

W. F. LUSK, formerly of the department of rural education in the University of Minnesota, has accepted a position as professor of rural education in Cornell University.

DR. THOMAS BYRD MAGATH (Ph.D., Illinois) has been appointed instructor in anatomy in the medical college of the University of Illinois, Chicago.

DISCUSSION AND CORRESPONDENCE

REPLY TO DR. BLEILE

DR. BLEILE, in his reply¹ to my criticism of his paper on the "Rôle of Boyle's law in clinical sphygmomanometry,"² takes me to task, as I see it, on account of four scores.

The first is that I criticised an "abstract" of his paper. He does not make it clear that this "abstract" was written by himself and was published in the *American Journal of Physiology*. Nor does he make it clear that it has been abstracted in *Physiological Abstracts* in the form that is accorded to all papers. My criticism, therefore, is of statements that have been put on record in two publications.

The second count is personal: to this I will not reply.

The third count is that I "completely" missed the point of his paper. I take it that he here refers to my understanding of his statement of Boyle's law in comparison with *mine*, which, as I say in my criticism, led me "to suppose that in my application of Boyle's law I have committed the mistake of making the relation between pressure and volume a direct instead of an inverse one." If Dr. Bleile did not intend to give this impression, he had the opportunity of saying so in his reply; but on this subject he remains silent. This is to be regretted all the more, because *Physiological Abstracts* makes exactly the same interpretation as I made. The whole abstract³ there consists of this sentence:

¹ SCIENCE, N. S., XLVI., 111, 1917.

² SCIENCE, N. S., XLV., 384, 1916.

³ *Physiol. Abstr.*, II., 176.

It is shown that the oscillations of pressure and volume always vary inversely, as required by Boyle's law, and contrary to what is implied in Erlanger's hypothesis.

In the fourth count he accuses me of changing somewhat radically some of the statements of my own paper. If this accusation refers to my quotations, I can only say that they are absolutely verbatim. If it refers to my "paraphrase," I must leave it to others, who are sufficiently interested to take the time to compare it with the original, to decide whether the sense of my original statement is altered in it.

The major part of Dr. Bleile's "Reply" consists of a painstaking mathematical proof of the admission clearly made in my "Reply," that

I inadvertently employed . . . the pressures taken directly from the mercury manometer instead of the absolute pressures.

He here, therefore, proves, as I say in my criticism, that "the failure to express the pressure in absolute terms affects . . . only the *magnitude* of the change, not its *sign*." And if the sign is not changed, my thesis is substantiated, for, to repeat,

My only object in invoking Boyle's law was to show that under the particular set of ideal conditions premised . . . the amplitude of the pressure oscillations, resulting from the filling and emptying of the artery, must *increase* as the compressing pressure increases from the diastolic to close to the systolic level.

Since my criticism was written, Dr. Bleile's full report has appeared.⁴ In it he makes additional criticisms of my work, which likewise are practically irrelevant to the purpose of my paper or are made possible through conditions gratuitously imposed. I will discuss one of these criticisms in order to indicate their nature. Dr. Bleile says:

Erlanger's deductions are: If a pressure now equal to the diastolic be applied during the diastolic phase in the artery, no oscillations will be produced in the manometer during the pulsations of inside arterial pressure. For, he [Erlanger] argues, if the inside pressure rises above the dias-

⁴ *Amer. Jour. Physiol.*, 1917, XLIII., 475.