SIDNEY MYER has offered Melbourne University a gift of 25,000 shares in the Myer emporium, the present value of which is nearly £50,000. Mr. Myer has asked the university to hold the shares until their value is at least £100,000.

LOUIS ORRIN HOWARD, professor of mining and metallurgy and dean of the school of mines and geology at the State College of Washington, has been appointed head of the department of metallurgy in the South Dakota School of Mines in the absence of Professor Bancroft Gore, who is on leave of absence doing professional work for the Argentine government.

DR. K. W. LAMSON, of Columbia University, has been appointed assistant professor of mathematics at Lehigh University.

DR. SMILEY BLANTON, director of the Child Guidance Clinic of Minneapolis, has been appointed the first professor of child study at Vassar College.

DR. ERNEST PRIBRAM has been appointed assistant professor of pathology in Rush Medical College of the University of Chicago.

DR. JULIAN S. HUXLEY, professor of zoology and animal biology at King's College, University of London, has been appointed Fullerian professor of physiology at the Royal Institution, London.

DR. NORBERT KREBS, professor of geography at the University of Freiburg, has been invited to Berlin to take the place of Professor A. Penck, who has been made emeritus professor.

DISCUSSION AND CORRESPONDENCE

WHAT DID DARWIN WRITE?

As found in "The Descent of Man," C. Darwin, second edition (Appleton and Company, 1925):

> The Simiadae then branched off into two great stems, the New World and Old World monkeys; and from the latter, at a remote period, Man, the wonder and glory of the Universe, proceeded (p. 168).

As stated in "Evolution and Religion in Education," H. F. Osborn (Scribners, 1926):

> Entirely apart from this human family is the Simiidae (Latin simia, ape), including the living and extinct anthropoid apes—the gorilla, the chimpanzee, the orang, the gibbon. These animals constitute a separate branch of the great division of primates not only inferior to the Hominidae, but totally disconnected from the human family from its earliest history (p. 136).

All this despite the fact that Darwin himself, in the days when not a single bit of evidence regarding the fossil ancestors of man was recognized, distinctly stated that none of the known anthropoid apes, much less any of the known monkeys, should be considered as in any way ancestral to the human stock (p. 140).

> Thus the entire monkey-ape theory of human descent, which Bryan and his followers are attacking, is a pure fiction, set up as a scarecrow, which has been entirely set aside by modern anatomical research (p. 142).

Let us be honest. Darwin distinctly stated, rightly or wrongly, that man proceeded from Simiadae, which in ancient days branched off into two stems, "the New World and Old World monkeys; and from the latter, at a remote period, Man, the wonder and glory of the Universe, proceeded."

Hence Bryan was not attacking a pure fiction, nor setting up scarecrows. He was attacking what Darwin actually wrote. Most men of science still believe that man proceeded from a pre-ape or pre-monkey stock or from some animals that were not men. The particular brand of animal is not so important as the type of origin, and it is important that this truth, if it be such, should be fairly and clearly stated.

Man is a mammal and is believed as such to have evolved from the reptiles. Ape or reptile, what does it matter? He is what he is.

A. S. EVE

PLANT PHYSIOLOGY

IN an article entitled "A Suggested Course in Plant Physiology," by H. C. Hampton and S. M. Gordon,[1] a criticism is given which is accurate and timely.

It is hardly necessary to emphasize the fact that most students who major in plant physiology have been inadequately prepared in mathematics, physics and chemistry. I should like to carry the idea still further and say that the same criticism is appropriate not only to plant physiologists but to the majority of those concentrating in any phase of biology.

The reasons for inadequate preparation by the student for plant physiology or for biology in general are perhaps many, but there are two reasons which seem to me especially significant:

First, the general lack of an appreciation that there might be a more logical and necessary sequence of courses in colleges and universities than exists at present. This failure to recognize a more necessary sequence in preparation for a special field of concentration is outstanding enough to merit more consideration. Second, the recent discoveries in the field of physics and chemistry have enhanced the values of these sciences as basic studies not only for biology but for an

[1] SCIENCE LXIV, number 1661, pp. 417–419, 1926.

understanding of past and present philosophies and perhaps civilizations. This fact has not been generally recognized by the necessary change in the college or university curriculum.

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PUBLICATION BY PHOTOGRAPHIC REPRODUCTION OF TYPEWRITING

IN Volumes IV and V of the Transactions of the Astronomical Observatory of Yale University, recently published, very extensive use was made of a photographic reproduction of typewriting. As far as I am aware this is the first application of this process to the publication of extensive scientific results. The method employed is described in the introduction to Volume IV, page 31, thus:

> The tabular matter was typed with an ordinary typewriter on heavy Ledger Bond paper, backed with carbon so as to print on both sides, giving a black opaque impression. These sheets were then transferred photographically to zinc plates, reducing them in the ratio of four to five. . . . The catalogue was then run off on Chester Offset Bond paper. The cost of composition, paper and running off is about one third that of printing with ordinary lead type. Furthermore, one complete proof reading of all the material is saved; this is not only an additional economy, but entails fewer errors in the final impression. The pages do not seem to be inferior to type in their legibility.

An inspection of the tables thus reproduced shows that the results attained are all that is claimed for them.

The very great economy of the method naturally raises the question as to whether it could not be adapted to rather general use for the publication of scientific journals and books. Variety in the size of type or special characters or symbols should not cause any great difficulty. A large institution like a university press would equip itself with special typewriters according to its needs. Also a considerable improvement in appearance, perhaps sufficient to satisfy the more rigid requirements for general use, seems readily attainable. The irregular spreading of the ink on the typewritten sheet at present forms too big a proportion of the total width of the lines forming the letters and figures. This could be reduced and a clean-looking page obtained by making a radical improvement in the style of letters and figures, by the use of much larger type and by a greater reduction in the photographic step. The whole typewritten sheet would have to be larger so as to allow a reduction to perhaps one half instead of four fifths scale.

Publication of the results of research presents quite serious financial problems. The expenditure of a relatively moderate sum of money in the directions indicated above for the further development of the method employed so successfully by the Yale University Observatory would be well worth while. It seems quite safe to predict that such a considerable improvement could be attained that the main question would no longer be whether or not we may prefer the lead type but rather whether we shall be justified in continuing its use in the publication of much of our scientific work. The disproportionate economy of the newer method should go a long way toward balancing certain advantages of ordinary type and a considerable amount of prejudice which most of us would find it difficult to overcome.

SEBASTIAN ALBRECHT

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A SIMPLIFIED INDICATION FOR THE CONSONANT SOUND REPRESENTED BY THE LETTERS TH

WOULD it be a sufficient saving of type, printers' ink and muscular effort if instead of writing th we should express the same sound by a letter which is merely an h with the vertical arm crossed like a t? This sound is a very frequent one in the English language and in some others. Such a letter would be perfectly understandable wherever seen if the convention were once accepted. Of course, a number of languages have or have had a single letter to indicate this sound.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

FINELY REGULATED MOVEMENT BY USING HYDRAULIC DEVICES

IN designing a micromanipulator for the isolation of single bacteria and for microinjections the question arose of the value of an hydraulic system comprising a small controlling piston and cylinder forcing fluid into a larger cylinder and piston as a means of obtaining finely regulated movement. Several models were built and tested. The most satisfactory type had three pistons arranged at right angles to each other, having the vertical cylinder pivot on a base and the two horizontal pistons press against flat faces on the vertical piston. Springs were used to hold the flat faces of the vertical piston against knife edges on the horizontal pistons. The controlling pistons