

The *University of Virginia* shows a considerable increase all along the line, and its enrollment this year is the largest in the history of the institution. The department of engineering began with 58 students in the academic year of 1903-4, there were 88 the following year and 118 at the close of the academic year 1905-6. The final registration for this year will no doubt pass 125. Among recent material improvements and additions may be mentioned the repairing and better equipment of the anatomy hall; the provision and equipping of a histological laboratory; further equipment of bacteriological and pathological laboratory; provision and equipment of a laboratory for physiology and physiological chemistry; provision and equipment of an additional chemical laboratory; a residence for the president of the university; the university commons, and a north wing to the hospital.

The *University of Wisconsin* shows a slight decrease in the fall figures, which, however, is more than offset by the increase in the enrollment of the summer session. The chief decrease has been experienced in the number of men in the academic department, all of the other departments, with the exception of pedagogy, showing a gain or having remained stationary. Attention should be called to the fact that graduate students are assigned to the different colleges in which their work principally lies, the total number of graduate students indicated under the caption of 'graduate schools' having been included in the deduction made for double registration. The entrance requirements for admission to the college of engineering were increased this year, more mathematics being demanded than heretofore. No short-course students have been included in the summary. If the students enrolled in the winter course in dairying and in the short course in agriculture were included, it would increase the

enrollment at this university considerably.

The fall registration at *Yale University* still continues to increase, although the grand total (on account of a decrease in the number of summer-session students) is exactly the same as it was last year. The departments that show a loss in their registration are those of art, divinity and music, and the graduate schools, although the decrease is in no case large. A striking fact is the slow but regular gain of the academic department during the last five years.

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SCIENTIFIC BOOKS.

An Outline of the Theory of Organic Evolution, with a Description of some of the Phenomena which it explains. Second Edition, revised. By MAYNARD M. METCALF. New York, The Macmillan Company. 1906. 8vo.

Of popular treatises on the doctrine of organic evolution there is a goodly number, but in none is there such clearness in exposition combined with such abundance of well-chosen and well reproduced illustrations as is to be found in Professor Metcalf's volume. This is a sufficient explanation of early appearance of a second edition of the book, which, the author informs us, is 'not intended for biologists, but rather for those who would like a brief introductory outline' of the theory of evolution. To all teachers of biology, however, as well as to the general public, the book will be welcome, especially on account of the numerous excellent figures which serve to illustrate, almost without description, many of the facts upon which the theory is based. Especially valuable is the series of seventeen plates, several of them colored, illustrating variation in domestic animals and cultivated plants, and especial mention may also be made of the beautiful examples of color printing shown in the figures illustrating color in animals. The extent to which the author has relied on illustrations for the exposition of his subject may be gathered from the fact that

no less than one hundred plates and forty-six text-figures accompany the one hundred and ninety-nine pages which compose the text.

The book is divided into two parts, the first of which treats of the theory, briefly discussing inheritance, variation, the struggle for existence, mutation, artificial selection, sexual selection, segregation, and the inheritance of parental modifications. The second part considers the phenomena explained by the theory, under the headings of comparative anatomy, embryology, paleontology, geographical distribution, and the color of animals, and concludes with a chapter on the evolution of man and some general considerations.

Within the brief limits to which the text is confined a consideration of all the factors which have been proposed or recognized as contributing to organic evolution is impossible. The difficulty before the author of such a book is to decide what to omit, and, on the whole, Professor Metcalf may be said to have grappled successfully with his difficulty. But little extra space, however, would have been required for a presentation of the theory of orthogenesis, and a brief account of the observations of Bumpus on sparrows and Weldon on *Carcinus* would have given a more definite meaning to the term 'selection-value.' Further, it may be remarked, that in the list of works on evolution given in an appendix no mention is made of Haeckel's 'Evolution of Man,' which surely deserves a place in such a list, even if Plate's admirable treatise be excluded, because as yet un-Englished.

These omissions are, however, but minor faults, if faults they may be called. More deserving of criticism is the title of the book, which is really an exposition of the theory of natural selection. In the popular mind the theories of evolution and natural selection are so intimately associated that recent criticisms of the latter and suggestions of various additional factors of evolution have led, in many cases, to the belief that the doctrine of evolution is tottering on its base and is well-nigh, if not entirely, discredited. Nor is the confusion of the two theories altogether confined to the popular mind, and anything which tends to foster it is to be deprecated. Whether

natural selection in the Darwinian sense stands or falls, the doctrine of evolution remains unshaken.

And this is not the only confusion that exists with regard to the theory. It has been discussed both as a factor in the origin of species and as a factor in the preservation of species, or rather of adaptations which may or may not be specific. In its former application it is certainly open to criticism; in the latter, and stated as the theory of the elimination of the unfit, it is almost self-evident.

Professor Metcalf's book, unfortunately, tends to perpetuate these confusions; but even with this fault it is a book worth reading and well deserves its success.

J. P. McM.

The Microscopy of Vegetable Foods, with special reference to the detection of adulteration and the diagnosis of mixtures. By ANDREW L. WINTON, Ph.D., in charge of the Analytical Laboratory of the Connecticut Agricultural Experiment Station, Instructor in Proximate Organic Analysis in the Sheffield Scientific School of Yale University. With the collaboration of Dr. JOSEF MOELLER, Professor of Pharmacology, and Head of the Pharmacological Institute of the University of Graz. With 589 illustrations. New York, John Wiley and Sons; London, Chapman and Hall, Limited.

This work is a very timely one in view of the fact that the pure-food bill will go into effect on January 1, 1907. Owing to the importance of the subject, whether from the point of view of the manufacturer or that of the consumer, it seems rather strange that until now so few good working books have appeared on this subject. While there are several good books by German authors on the subject of the microscopical examination of foods, there is nothing that can compare with the volume at hand.

Both Doctors Winton and Moeller are well known for their valuable researches on the subject of food products. Dr. Winton is a former student of the eminent pharmacognosist, Professor Moeller, and it is rather unique to find a student associated with his