lends figure and charm to a man's recreations (such as so fortunately comes from the art galleries and museums) is taken up. I believe that no use of money can bring greater returns to the state, or greater satisfaction to the giver who understands the educational situation, than large gifts for the purposes of industrial education that I name.

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SCIENTIFIC BOOKS

Stohr's Histology Arranged upon an Embryological Basis. By Dr. FREDERICK T. LEWIS. Sixth American edition from the twelfth German edition. Philadelphia: P. Blakiston's Son and Company.

At the close of the eighteenth and at the beginning of the nineteenth century, anatomy reached a high degree of development. Soemmering had completed his 'Bau des menschlichen Körpers' and Bichat had given us his master work—'Anatomie générale.' With the completion of the latter the scalpel reached its highest attainment. The microscope, so successfully introduced into anatomical studies by Malpighi and Leeuwenhoek, replaced to a certain extent the scalpel and histology began to occupy a prominent place in the medical curriculum.

In the development of this branch of anatomical study, Würzburg has taken a prominent place. The first name we meet, one now but little known, is Heusinger, called by Hessling 'unser histologischen Nestor.' Some thirty years later, Kölliker published the first and, in some respects, the best edition of his 'Gewebelehre' and now his place is taken by Stöhr.

'Stöhr's Histology' is well and favorably known to American students, not only in the German but also through the English translation. In the previous five American editions but little change has been made from the German. The present edition has been rewritten and 'adapted * * * to American needs.'

The idea of arranging the book on an embryological basis is excellent, but it has not been carried out as thoroughly as it should have been. The book is intended primarily for students of medicine. It is, therefore, eminently proper that human embryology should form the basis of the work. Instead of this, we find the rabbit, the chick and the pig occupying a prominent place; for example, of the five figures to illustrate the formation of the germ layers, only one is taken from a human embryo.

In reviewing an American edition of a German text-book, it is interesting to see to what extent American work is recognized. Kollmann in his recent 'Entwicklungsgeschichte des Menschen' has recognized very generously American work, and the prospectus of the new embryology by Keibel also shows a good American representation. In the American edition of Szymonowicz and of Böhm and Davidoff American investigation occupies a prominent place. Lewis has not been as generous and fails in many places to use available literature.

The work of Mall on the connective tissues is not given as fully as it should have been. Lewis still describes the so-called 'fenestrated membrane' as being perforated, though Mall has shown that this is not the case. No reference is made to the work of Bardeen on the histogenesis of striated muscle, or that of MacCallum on heart muscle. The work of Huber and De Witt on muscle spindles is passed over and no reference seems to be made to the work of Donaldson and his students on the nerves and nerve cells.

That Lewis should make his own work the basis of his description of the lymphatics is very natural and it justly deserves a prominent place, but some reference should be made to the excellent work done on the same subject by Miss Sabin, even though he is not in perfect accord.

The description of the vascular supply of the lymph nodes could be made clearer by using the diagrams of Calvert.

The work of Mall on the spleen is given scanty notice and is dismissed with the statement that Stöhr says: 'a division into lobules

in the interior of the spleen is impossible.' Even though Stöhr can not see the lobules, or structural units of the spleen, they are there, and it is interesting to note that after the publication of Mall's article there appeared in the German edition of Stöhr a diagram which was constructed in accord with Mall's description. If memory serves the writer correctly the lobule of the liver was doubted for many a year.

The development of the alimentary tract in man has been worked out carefully by Mall and his illustrations are very complete, but no reference is made to it. Bensley has also done work of high character on the stomach; this is also ignored.

The work of Mall on the liver came out too late for the present edition, but it is to be hoped that in a future edition it will receive due recognition. The work of Hendrickson on the bile capillaries and on the musculature of the bile ducts should not, however, have been passed by. No use has been made of the work of Opie on the pancreas and the work of De Witt is too recent to be incorporated in the text.

In his statement on page 242 that "atria are not recognized by German writers," Lewis shows a lamentable ignorance of the German literature on the subject. If he will but glance through the volume by Oppel on the organs of respiration or look into Spalteholtz's atlas he will find abundant evidence to the contrary. As was the case with the diagram which Stöhr gives of the lobule of the spleen, so with his diagram of the lobule of the lung; it is constructed after Miller's description, and appeared first after his publication. The fact that a German says a thing is so does not make it so and the converse is true. The writer has a strong admiration for the German worker and what is stated above in no way reflects on his integrity; it only calls attention to the narrowness of many American minds in that they are not capable of judging work on its own merits but must wait and "see what the Germans say."

The vascular supply of the ovary has been followed out from the embryo to the adult by Clark and his diagrams are very helpful to the student; but one looks in vain for any of them.

Flint's work on the adrenal and on the submaxillary gland are apparently unknown to Lewis.

Miss Sabin's work on the medulla is surely worthy of notice in an American edition of any text-book on histology or anatomy, but it, too, is ignored.

There are many other Americans, who have done work which is even recognized by the Germans, who fail to find a place in this American edition of Stöhr.

The book, however, is not without its merits. Lewis has preserved the simple style of illustrations so successfully used in the German editions and, in general, his selection of new illustrations is good. The lettering of figure 147 is incorrect and one wonders just what figure 228 B is intended by the author to represent; but these are inconsequential; probably they, as well as other inaccuracies, have already been noted by the author himself, as he has used the book in his laboratory.

The use of the B. N. A. nomenclature is to be commended.

Lewis deserves much credit for showing us the possibilities of an histology based on embryology. The ideal histology is yet to be written. There is much to be said in favor of a modern book along the lines of Stricker's 'Lehre von den Geweben,' each topic being written by some one who has given special attention to it. The only trouble with this is that it would make too cumbersome a book for the laboratory. Probably a book like Howell's 'Physiology' would be better.

Whatever form the future histology may take, it is to be hoped that more attention will be paid to human tissues than in the past. In the dissecting room the pig and dog have been replaced with the human cadaver. Rabbit, cat or frog histology is not human histology; if, for any reason, it seems best to use these tissues in the laboratory the student should be informed from what animal the tissue is taken and how it differs from the human.

The way may seem clear to Professor Lewis to break away from some other man's foundation and give us a new American histology written on broad and generous lines.

W. S. M.

SCIENTIFIC JOURNALS AND ARTICLES

THE June number (volume 13, number 9) of the *Bulletin of the American Mathematical Society* contains the following articles: Report of the April Meeting of the American Mathematical Society, by F. N. Cole; Report of the March Meeting of the Chicago Section, by H. E. Slaught; "On a Limit of the Roots of an Equation that is Independent of All but Two of the Coefficients," by R. E. Allardice; "On the Distance from a Point to a Surface," by Paul Saurel; "The Calculus in Our Colleges and Technical Schools" (Presidential Address), by W. F. Osgood; "Notes"; "New Publications."

The July number, concluding the volume, contains: "Modular Theory of Group Characters," by L. E. Dickson; "On the Shortest Distance between Consecutive Straight Lines," by Joseph Lipke; "Note on the Commutator of Two Operators," by G. A. Miller; "A Theorem in the Theory of Numbers," by D. N. Lehmer; "Projections of the Globe Appropriate for Laboratory Methods of Studying the General Circulation of the Atmosphere," by Cleveland Abbe; Shorter Notices (Fazzari's Breve Storia della Matematica dai tempi antichi al medio evo, by D. E. Smith; Vessiot's Leçons de Géométrie supérieure, by C. L. E. Moore; Liebmann's Nichteuklidische Geometrie, by E. B. Cowley; Fisher's Introduction to the Infinitesimal Calculus, by E. L. Dodd; Baire's Fonctions discontinues, by W. D. A. Westfall; Campbell's and Cohen's Differential Equations, by C. R. MacInnes; James's Kinematics of a Point and Rational Mechanics of a Particle, and Andoyer's Cours d'Astronomie, by K. Laves; Föppl's Mechanik, third edition, and Gauss's Works, volume 7, by E. B. Wilson); "Notes"; "New Publications"; "Annual List of Published Papers"; Index of the volume.

SOCIETIES AND ACADEMIES

AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS

THE recently organized American Society of Biological Chemists[1] had its first special session in Washington, D. C., May 8 and 9, 1907. Four meetings were held, one of which was in affiliation with the American Physiological Society[2] and another in affiliation with the Washington Section of the American Chemical Society.[3]

Members present at one or more meetings—John J. Abel, A. E. Austin, Lewellys F. Barker, S. P. Beebe, H. D. Dakin, Edward K. Dunham, Otto Folin, William J. Gies, C. A. Herter, Holmes C. Jackson, Joseph H. Kastle, Arthur S. Loevenhart, Graham Lusk, A. B. Macallum, John A. Mandel, John Marshall, Lafayette B. Mendel, Alfred N. Richards, Philip A. Shaffer, Herbert E. Smith, Torald Sollmann, Alonzo E. Taylor, Victor C. Vaughan, George B. Wallace, H. Gideon Wells, C. G. L. Wolf.

Scientific Programs[4]

First meeting

George Washington Medical College. Wednesday morning, May 8.

Presiding officer: The Vice-President, John J. Abel.

JOHN J. ABEL: "On the Behavior of Frog's Muscle toward Acids."

JOSEPH H. KASTLE and H. L. AMOSS: "A New Reagent for the Recognition and Estimation of Free Hydrochloric Acid in Gastric Contents."

JOSEPH H. KASTLE: "Phenolphthalin as a Reagent for Oxidases and Other Oxidizing Substances in Plant and Animal Tissues."

PHILIP A. SHAFFER: "Protein Metabolism in Exophthalmic Goitre."

C. A. HERTER: "On the Bacterial Production of Skatol and its Occurrence in the Human Intestinal Tract."

H. GIDEON WELLS: "The Chemical Composition of the Liver in Acute Yellow Atrophy."

G. VOEGTLIN (by invitation): "The Appear-

[1] SCIENCE, 1907, XXV., p. 139.

[2] SCIENCE, 1907, XXV., p. 861.

[3] SCIENCE, 1907, XXV., p. 969.

[4] Abstracts of the communications appeared in the *Journal of Biological Chemistry*, 1907, III., p. vii.