

engines and windmills); farm machinery (general principles, belting, farm pumps, hydraulic rams); principles of weather forecasting, including discussions of the atmosphere and its movements and weather changes.

W. H. BEAL.

*Chemische und medicinische Untersuchungen.*

Festschrift zur Feier des sechzigsten Geburtstages von Max Jaffe, mit Beiträgen von M. ASKANAZY, P. BAUMGARTEN, M. BERNHARDT, R. COHN, TH. COHN, W. ELIASSOW, A. ELLINGER, J. FROHMANN, P. HILBERT, LASSAR-COHN, D. LAWROW, E. V. LEYDEN, W. LINDEMANN, W. LOSSEN, H. MEYER, E. NEUMANN, H. NOTHNAGEL, E. SALKOWSKI, W. SCHEELE, L. SCHREIBER, A. SEELIG, S. STERN, O. WEISS, R. ZANDER. With 8 plates. Pp. 472. Braunschweig, Friedrich Viewig und Sohn. 1901.

Such volumes as this 'Festschrift' are always of interest in recalling definitely the position and achievements of the scientist to whom they are dedicated, since they come at a time when his great creative work is generally completed. They reveal also something of that side of scientific investigation, unnoticed in the journals and text-books, but of so much importance in the development of thought, the personal relations of the investigators, their influence upon each other, and the inspiration derived by both from the association of teacher and pupil. The papers contributed to volumes of this character are, indeed, frequently distinguished for kindness of intention, rather than for intrinsic merit. Such is not the case in this volume. Most of the papers are the first presentation of important investigations, which might take their place worthily in any scientific or medical journal. The remaining articles, although presenting no new facts, are interesting on account of the ability and reputation of their writers, and afford suggestive discussions of some of the problems which are of special importance at the present time.

This volume is in every respect a fitting tribute to Jaffe. Although, of course, no word of it was written by him, there is throughout a tone which clearly reflects his influence. The firm grasp of the purely chemical aspects of the problems, even when dealing with clinical or

pathological subjects, the definiteness of the problems set before the investigator, and the clearly devised and vigorously executed experiments employed for their solution, show in the pupils the imprint of the teacher; in the friends, the influence of the coworker. It is one of the most hopeful signs for the future of medical investigations that they are adopting from chemistry and physics that habit of measuring without which science would be mere empiricism. If that quality be sought in Jaffe's researches which most entitles them to their place, it would probably be found in the exactness of the chemical methods employed. They are excellent examples of the application of pure chemistry to the problems of biology. Jaffe has rarely left an investigation of the complex organic substances, whose origin or influence in the animal body he has discovered, without having established also their structural formulæ. He seems to possess the even rarer gift of impressing this trait on others.

The contents of the volume are arranged in three parts, of which the first is devoted to clinical medicine. In the opening article, v. Leyden, as the oldest friend and coworker of him in whose honor he writes, reminds the reader that they two were the first to introduce into medicine, as long ago as 1866, the use of oxygen gas. After reviewing briefly the opposition or rather indifference with which this method of treatment was long regarded, especially in Germany, the writer dwells with just pride on the universal acceptance at the present day of the value of oxygen inhalation, not only in cases of morphine, strychnine and carbon-monoxid poisoning, extreme chloroform narcosis and dyspnoea from many other causes, but also as a therapeutic agent in several of the diseases of the respiratory organs. Following this paper are articles by Nothnagel on 'Intestinal Hemorrhages,' Scheele on 'Subphrenic Abscesses,' and Frohmann on 'Primary Sarcoma of the Intestine.' To these are added a report and discussion by Eliassow on 'Three Cases of Degenerative Chorea,' and by Bernhardt three reports upon cases of 'Localized Convulsions in the Upper Extremities,' 'Localized Convulsions in the Lower Extremities,' and 'Infantile Facial Paralysis.' To

this section also Stern contributes an interesting description of a case of 'Traumatic Neurosis and Simulation,' which, after being diagnosed repeatedly by others as simple imposture, the writer was led to regard as the manifestation of real suffering and deficiency. He closes a discussion of the views of Charcot and others on hysteria, hypnotism and allied phenomena, with a plea for a more sympathetic attitude on the part of physicians toward patients so affected.

The second part of the volume is devoted to morphological subjects, and contains an article by Schreiber, which is in the main a review of the recent work on the so-called 'Clasmato-cytes' and an investigation of their probable origin and purpose. This is followed by Zander on 'Schistosoma in Man—A Contribution to the Mechanics of Development under Normal and Pathological Conditions,' and Askanazy on the 'Pathology of Bone' in cases of grafting and in the stump of a bone at the point of amputation.

The third and by far the largest part of the volume contains investigations in pure chemistry, physiology, toxicology, experimental pathology and bacteriology. The first of these subjects is represented by Lossen on 'Phthalyl-hydroxylamin and Related Compounds,' and 'An Improved Nitrometer' by Lassar-Cohn. On the side of physicochemical methods in physiology and medicine, Baumgarten discusses 'Hæmolysis' from the standpoint of the changes in the osmotic pressures of the blood; and Th. Cohn advocates the introduction to clinical use of the freezing-point method for the determinations of alterations in the fluids of the body.

By investigations on 'The Influence of Alterations in the Kidney (either spontaneous nephritis or from cantharides) on the Course of Pancreas-Diabetes in Dogs' Ellinger and Seelig find that the elimination of sugar falls both absolutely and relatively to the nitrogen, but that this diminution in the glycosuria in no wise diminishes the hyperglycæmia, since it is accompanied by an increase in the sugar content of the blood. From experiments, also on dogs, 'On the Functional Capacity of the Heart in Fatty Degeneration' induced by 'Pulegon'

(a substance like phosphorus in its effect on metabolism, but without direct influence on the heart) Lindemann finds the force and rhythm of the beat to remain long unaffected, and concludes that the abnormalities which ultimately result are due to the alterations in the cardiac muscle itself, and not to any influence on its nervous connections.

Four articles represent physiological chemistry. Salkowski contributes an analysis of the 'Hydrocephalus Fluid,' in which, like other observers, he finds an extremely small content of solids (100 cc. containing only 0.43 gram organic substances, mainly urea and dextrose, and 0.77 gram inorganic); Lowrow reports a study of the 'Decomposition Products of the Hæmoglobin of the Horse'; and Weiss the 'Separation of Methylpentose from White of Egg,' its presence or absence depending upon the food of the hen. In a study of the 'Glycocol Supply of the Animal Organism,' by R. Cohn, the methods used are essentially the same as those employed by Lusk in this country, and the results confirm the conclusions of the latter.

In one of the two papers devoted to bacteriology Hilbert is led by his experiments (on white mice) to answer the question, 'Are Toxic or Immunizing Substances Recognizable in the Filtrate of Streptococcus Bouillon Cultures?' in the negative. Finally, in perhaps the most valuable contribution in the volume Hans Meyer, on the basis of experiments performed by him in conjunction with J. T. Halsey and Fr. Ransom on 'Localized Tetanus,' shows that the toxin when injected into a nerve acts not only more quickly, but also more intensely, than when injected subcutaneously, since by the former method the spinal cord is reached more completely and in more concentrated form by the poison. It is further shown conclusively that the action of tetanus is entirely central, and that the greater part of the time of incubation is consumed in the slow passage of the poison to the central ganglia, and only a brief period in the performance of the chemical reaction in the cells affected. Finally, Meyer concludes that the neutralizing action of the antitoxin must occur outside the nervous system, since this substance never penetrates into either the peripheral or central ganglia, and

that the tetanus poison reaches the ganglia of the central nervous system, not by way of the circulation, but along the peripheral nerves.

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#### SCIENTIFIC JOURNALS AND ARTICLES.

THE *Botanical Gazette* for November contains the following leading articles: G. T. Moore has published, with three plates, his second paper entitled 'New or Little Known Unicellular Algæ,' giving a detailed account of the life history of *Eremosphæra viridis*, and coming to the conclusion that for the present, at least, the genus should be classed with the Protococcoideæ; and also describing as a new genus a form which has been confused heretofore with *Eremosphæra*, and naming it *Excentrosphæra*. T. C. Frye has published, with one plate, an account of the development of the pollen in certain Asclepiadaceæ, his investigation having been suggested by the record that in certain members of this family there is no tetrad division. The development of the sporangium was found to be of the general type, the primary sporogenous cells passing over directly into pollen-mother cells; these latter divide in the usual tetrad manner, but subsequently through mutual adjustment the four spores are arranged in a linear series. Miss F. Grace Smith has published the results of a large number of observations upon the distribution of red color in vegetative parts in the New England flora. A general conclusion is reached that the statistical observations obtained fit no one theory of color in all particulars. Mr. George A. Shull has published, with illustrations, the results of observations upon 'Some Plant Abnormalities.' He records instances of fasciation in *Erigeron canadense* and *Echium vulgare*; abnormal foliage leaves in *Pelargonium* and *Hicoria*, and abnormal floral organs in *Lathyrus odoratus*, as well as in certain species of *Clematis*. Under the head of 'Briefer Articles,' E. B. Copeland has discussed Meissner's paper on evergreen needles, answering certain criticisms of the author, and presenting new observations; M. L. Fernald publishes a final paper upon the instability of the Rochester nomenclature, being an answer to papers of Messrs. C. L. Pollard, L. M.

Underwood and N. L. Britton; and Charles Robertson has published a third set of observations of flower visits of oligotrophic bees.

ANNOUNCEMENT has been received of the establishment of a new scientific journal entitled *Archivio Italiano di Anatomia e di Embriologia*, under the editorship of Professor Chiarugi, of Florence, already favorably known as the editor of the excellent little journal, the *Monitore Zoologico*. It is published with the cooperation of the professors of anatomy of Pisa, Padua, Sienna, Perugia, Ferrara, Genoa, Catania and Bologna. There has been a great awakening of anatomical and embryological study in Italy, but it has long been a matter of regret that although many important investigations have been published they have appeared in the proceedings of societies or in journals of very limited circulation, so that it has been very difficult for foreigners to secure access to this Italian work, much of which is extremely valuable. We shall, therefore, welcome a journal which will gather together and render more thoroughly accessible the results of anatomical and embryological research in Italy. The list of supporters of the new enterprise is a guarantee of its high character so that we may reasonably expect the new journal to rank as the equal of the best French and German journals. The subscription price for America is 31 francs, 50 centimes. The publisher is Luigi Niccolai, Via Faenza 44, Florence, Italy.

#### SOCIETIES AND ACADEMIES.

##### THE ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

THE 322d meeting was held November 19. Dr. Walter Hough occupied the session with an account of the explorations among the ancient pueblos of northeastern Arizona, carried on by him last season. The paper was illustrated with maps and selections of artifacts from the two thousand specimens secured during the work. The paper was discussed by F. W. Hodge, J. D. McGuire, Hon. H. M. Baker, Mrs. Matilda C. Stevenson, and President W. H. Holmes.

The 323d regular meeting was held December 3. Mr. S. P. Langley presented a paper on 'The Fire Walk of the Tahitians.' Mr. Langley