

GROVER CLEVELAND BOND.

Grover C. Bond, member of the Illinois Board of Pharmacy and of the A. Ph. A., died November 21st following a stroke of apoplexy.

Mr. Bond was born in Mt. Vernon, Ill., February 6, 1887. After graduating from high school he entered the University of Illinois School of Pharmacy, from which he was graduated in 1911. After graduation he engaged in business in the firm of Porter & Bond and has been continuously in business in Mt. Vernon, with the exception of the period served by him in the World War.

The esteem in which the deceased was held was evidenced by the closing of drug stores of the city during the funeral services. He was a member of the Masonic bodies.

Mr. Bond took an active part in the affairs of the Illinois Pharmaceutical Association and was interested in every movement for the advancement of pharmacy.

The deceased is survived by his wife, née Cecile Willis.

NELSON SMITH KIRK.

Nelson Smith Kirk was born in Hoboken, New Jersey, on July 22, 1874, but spent his boyhood in Virginia. Arriving at the age of manhood, he came to New York, where he entered the Brooklyn College of Pharmacy, from which he was graduated in 1894. He was a member of Phi Delta Chi pharmaceutical fraternity. Upon his graduation from college he engaged in business for himself at 168 Rutledge Street, Brooklyn, where he remained until the time of his death, a period of thirty years. He was a member of Charity Lodge, F. & A. M., the Brooklyn Lodge of Elks and several local retail and pharmaceutical associa-

tions. Mr. Kirk died in Jamaica, N. Y., on November 3rd.—N. S. K., JR.

ALONZO LILLY.

Alonzo Lilly, widely known Denver business man, and member of the AMERICAN PHARMACEUTICAL ASSOCIATION, died at his home in Denver, December 4th. He was born in Baltimore; here he received his early education. Soon after completing his studies he took a position with Lilly Rogers & Co., wholesale druggists. He went to Denver about thirty years ago and was associated with the Davis Brothers Drug Co. for a number of years. Later, he became representative of Sharp & Dohme and was District Manager. He was highly regarded in the profession and easily made friends. The deceased is survived by his wife and one daughter.

FRANK S. MEARNS, K. C.

Frank S. Mearns—solicitor for the Ontario College of Pharmacy, Ontario Retail Druggists Association and Canadian Pharmaceutical Association—died suddenly on November 26th. Dean Burbidge said of him:

“As solicitor for the Canadian Pharmaceutical Association since its inception, Mr. Mearns was a tried and trusted pilot. Not only was his advice sought and accepted on every occasion but no member of the Association had the welfare of the druggists of Canada more at heart or was more ready to give of his best in their interest. Our loss as an Association is beyond measure.”

Mrs. Mildred Brokmeyer—wife of Eugene C. Brokmeyer, our fellow member and former counsel of the N. A. R. D.—died at Georgetown University Hospital, Washington, D. C., November 27th.

SOCIETIES AND COLLEGES.

OFFICERS-ELECT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION FOR 1932-1933.

The Board of Canvassers of the AMERICAN PHARMACEUTICAL ASSOCIATION, composed of C. B. Allison, Sam P. Harben and John B. Ray, all of Texas, has announced as the result of the mail ballot for officers of the ASSOCIATION, the election of the following:

President, W. Bruce Philip, San Francisco, Calif., now of Washington, D. C.

First Vice-President, Rowland Jones, Gettysburg, S. Dak.

Second Vice-President, G. H. Grommet, Miami, Fla.

Members of the Council (for three years), J. H. Beal, Camp Walton, Fla.; C. H. LaWall, Philadelphia, Pa.; C. E. Caspari, St. Louis, Mo.

These officers will be installed at the next annual meeting of the ASSOCIATION which will be held in the Royal York Hotel, Toronto, Canada, during the week of August 22 to 27, 1932, and which will be a joint meeting with the Canadian Pharmaceutical Association.

ANNUAL MEETING OF THE DRUG
TRADE BUREAU OF PUBLIC INFORMA
TION.

The annual meeting of the Drug Trade Bureau of Public Information was held at the Hotel Washington, Washington, D. C., on December 9, 1931. The following organizations were represented by the delegates named: AMERICAN PHARMACEUTICAL ASSOCIATION, Dr. E. F. Kelly and Dr. Robert P. Fischelis; National Association of Retail Druggists, Samuel C. Henry, Ambrose Hunsberger and W. Bruce Philip; National Association of Boards of Pharmacy, H. C. Christensen, A. L. I. Winne and Dr. A. C. Taylor; American Association of Colleges of Pharmacy, Prof. E. F. Cook.

The Editor of the News Bulletins reported that twenty-six bulletins had been mailed to newspapers, in addition to special bulletins that had been sent out to the pharmaceutical press, and that special services had been rendered to various national, state and local pharmaceutical organizations in connection with their publicity problems. A display of newspaper clippings, covering some four thousand separate items that had appeared in the press of the United States, was presented, and the delegates were enthusiastic in their approval of the continuation of the work. It was pointed out, however, that the financial resources available through contributions from the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy totaled but one thousand dollars for the ensuing year, and it was therefore decided to again appeal to state and local associations for financial assistance in continuing the work.

Through the good offices of the AMERICAN PHARMACEUTICAL ASSOCIATION, arrangements will be made to take care of the mechanical details in connection with the issuing of bulletins in the office of that organization. Dr. Fischelis, the Editor of the News Bulletins, will continue to prepare copy for such publications as are released to the press. The following officers were reelected for the ensuing year: *President*, Ambrose Hunsberger, Philadelphia; *Secretary-Treasurer*, H. C. Christensen, Chicago; *Editor of the News Bulletins*, Dr. Robert P. Fischelis, Trenton.

NATIONAL DRUG TRADE CON-
FERENCE.

The National Drug Trade Conference, convened in Washington, December 9th, held a most interesting meeting. The Conference adopted a resolution declaring that no good purpose would be served by creating a government commission to establish standards of drugs and protesting against such a proposal. Reference is made under "Standards for Drugs" in the editorial section of this number and also in the report of the American Pharmaceutical Manufacturers' Association.

The report of the Commission on Potent and Toxic Drugs was another subject of great importance. The preliminary draft was presented by Chairman James H. Beal who reported that it now appears certain that a satisfactory list of potent and toxic drugs can be agreed upon and that will be of a nature to be of value in poison legislation. The Conference agreed that legal definitions of poisons are impossible and that the agreed specific list would be more satisfactory.

Secretary E. L. Newcomb, N. W. D. A., spoke on the publicity material for Pharmacy Week, Christmas and First Aid posters, and the results of this work.

Dr. R. L. Swain spoke on narcotic legislation and also on the progress being made relative to the position of pharmacy in the Medical Department of the U. S. Army.

Commissioner Harry J. Anslinger addressed the Conference on the work of the Geneva Narcotics Convention. In reply to questions Commissioner Anslinger said the treaty would call for no additional legislation in this country except perhaps a change in the method of dispensing of seized drugs and possibly some minor changes and legal requirements. He said that state enactments on narcotics were of greater scope and severity than federal. Supporting this, Counsel Alfred L. Tennyson, of the Bureau of Narcotics, said that the Bureau is asking for three requirements in every state law; namely, a satisfactory enforcement agency, centralizing state enforcement to deal with legal problems and forming a contact with national enforcement officers; definite and effective provisions for suspension or revocation of licenses for infraction or addiction, and provisions for taking care of addicts by the state and for requiring addicts to submit to curative treatments.

The Conference adopted a resolution declaring that drugs, preparations and derivatives

to be included in a draft on a uniform state narcotic law should be restricted to such as are now covered by the Federal Narcotic Law and that it be left to the states severally to decide whether such list should be enlarged.

Commissioner Anslinger explained that Cannabis and closely related drugs present problems in some localities, but not in others, and should be dealt with locally. The Conference also adopted a resolution, heartily recommending prompt ratification of the 1931 Geneva convention by the United States.

The Conference of Commissioners on Uniform State Narcotic Laws at its meeting in Atlantic City decided that another draft on the proposed uniform state narcotic law be prepared.

The National Drug Trade Conference adopted a resolution declaring that state legislation should be based on and made supplemental to federal legislation.

Dr. R. L. Swain reported that conferences had been held with the office of the Surgeon General of the Army relative to the status of pharmacists and that the latter, officially, has given his approval to the principle of giving pharmacy greater recognition and providing commissions for pharmacists in the Medical Department of the Army. It is expected that the bill for accomplishing this purpose will be introduced in this session of Congress.

The Capper-Kelly Bill was reindorsed. The Committee on Simplification of Glass Containers reported progress; recommendation was made that graduation on bottles be discontinued. After considerable discussion it was agreed that the W. Va. prohibition law threatened many difficulties for manufacturers.

H. C. Christensen reported on the progress of the 1933 World's Fair; the Conference was assured that pharmacy would be represented with an exhibit showing the progress in the profession.

Chairman W. F. Rudd, for the Committee on the Status of Pharmacy, reviewed "changes in the status of pharmacy during the past score of years and dwelt on recent and impending changes. Government recognition of the professional qualifications of pharmacists was pointed to as a recent achievement, as was the growth of legal recognition of the necessity of pharmaceutical training in the management of drug stores.

"The committee expressed a desire to see greater embodiment in laws of the conception of pharmacy as an individual and

personal professional service; the placing of drugs and medicines more firmly on a public health basis apart from the commercial basis; insistence that all those who take part in the production and distribution of medicinals be required to have pharmaceutical training; and diversion of research appropriations from individual firm laboratories to the laboratories of schools of pharmacy."

The Conference adopted a resolution creating a committee to solicit contributions and endowments and otherwise influence pharmaceutical wealth for the support of education and research in pharmacy.

All officers of the Conference were reelected. They are: *President*, Carson P. Frailey, Washington, D. C.; *Vice-President*, Ambrose Hunsberger, Philadelphia; *Secretary-Treasurer*, E. F. Kelly, Baltimore; *Counsel in the U. S. Chamber of Commerce*, S. L. Hilton, Washington, D. C.

AMERICAN PHARMACEUTICAL MANUFACTURERS' ASSOCIATION.

The American Pharmaceutical Manufacturers' Association held a three-day semi-annual meeting in Washington, December 9th to 11th. It was decided to hold the next meeting, beginning May 16th, in the Sedgefield Inn, Greensboro, N. C. It was also agreed that hereafter the semiannual meeting would be held in Washington only in alternate years. Detroit was selected for the next winter meeting.

Twenty-six papers were presented to the Committee on Research of the Association by undergraduates in pharmacy colleges. Four awards were made: The first to Philip J. Smithisler, N. Pacific College, for his paper on "Hydrogenated Oil as an Ointment Base." Kimball Fisher, also of North Pacific College for his paper on "Triethanolamine Stearate as an Emulsifying Agent." The third prize went to C. Jeleff Carr of the University of Maryland School of Pharmacy for his paper on "The Study of Some Filtering Materials Used in the Preparation of Pharmaceuticals;" and the fourth award was made to C. Allen Harper of the School of Pharmacy of the University of Kansas for a report on "The Possible Treatment of Solution of Hydrogen Peroxide, U. S. P., to Maintain Its Standard Percentage Strength Together with a Discussion of Specific Gravity as an Index of Strength." It was decided that in the future only three prizes would be given and that the

balance now available is to be used for research on glass containers.

Chairman E. Fullerton Cook, was one of the speakers and the Association was host at a dinner on December 10th to a number of officials of the Food and Drug Administration of the Department of Agriculture, several of whom gave informal talks.

Quoting from the report in the *Oil, Paint and Drug Reporter*, of December 14th, Chairman Cook said in part, that he did not favor the suggestion for a government commission to write the Pharmacopœia or to set up legal standards apart from the Pharmacopœia. He expressed the view that if there is any valid constitutional bar to the present method of legalizing U. S. P. standards, this can be met by legal ingenuity better than by creating a government commission to make the standards. He pleaded with members of the profession to guard the privilege of service through the Pharmacopœia which pharmacists have held and declared that the American method of pharmacopœial revision is the most flexible, provides for the greatest possible exchange of scientific knowledge and guards against special interests by complete publicity.

Dr. C. E. Vanderkleed reported for the Contact Committee. He stated that a number of new tolerance standards had been developed during the year which will be published very soon by the U. S. Department of Agriculture. These standards are for the following products: Ampuls of quinine hydrochloride and urethane; ampuls of sodium salicylate and iodide with colchicine; ampuls of glycerophosphates compound containing sodium cacodylate; sodium glycerophosphate and strychnine cacodylate; ampuls of calcium chloride; ampuls of procaine hydrochloride; compressed tablets of sodium nitrite; and the amount of excess to be placed in ampuls to allow for waste.

Special meetings have been held by the Contact Committee during the year and the following resolutions were adopted:

"The next Pharmacopœia, preferably, should prescribe a definite ergot alkaloid or mixture of ergot alkaloids as a standard, but in the meantime it should be required that fluid-extract of ergot be kept in a definite manner and the physiologic assay method should be standardized; the present fluidextract No. 2160 is satisfactory as a standard of comparison, but definite description of the blueing of the cock's comb should be agreed upon; fluid-

extracts compared with the standard should be at least 80 per cent of the strength of No. 2160, but the importation of super-strength ergot should be permitted."

The Committee recommended work during the year on ephedrine salts, phenolbarbital, sodium-phenol-barbital, digitalis, calcium gluconate, ampuls and tablets; mercury succinimide ampuls, phenolphthalein tablets, calcium lactate tablets and distilled water for intravenous injections.

WHOLESALERS AND RETAILERS DISCUSS FREE DEALS.

BY E. L. NEWCOMB, SECRETARY.

In accordance with actions recently taken at the N. A. R. D., N. W. D. A. and F. W. D. A. conventions, a conference of retailers and wholesalers was held at the Hotel Washington, December 8, 1931.

The meeting was attended by the following who responded to the call sent out by Secretary S. C. Henry of the N. A. R. D.: J. Mahlon Buck, O. J. Cloughly, J. W. Dargavel, J. J. Dreyer, Geo. B. Evans, S. C. Henry, G. Barret Moxley, E. L. Newcomb, Paul Pearson, Bruce Philip, Julius Riemenschneider, H. H. Robinson and R. E. Lee Williamson. G. Barret Moxley attended as a substitute for A. K. Mayer.

On motions duly made and seconded S. C. Henry was asked to serve as chairman and E. L. Newcomb as secretary of the conference.

The chairman outlined the attitude of the N. A. R. D. with respect to so-called Free Goods Deals. E. L. Newcomb outlined the work of the N. W. D. A. on this subject and presented each in attendance with a copy of N. W. D. A. Statistical Division Bulletin 17 on Free Goods and Principles of Practice Outlined by H. J. Ostlund covering Free Deals.

After discussion, the conference took the following actions:

1. Moved by Moxley, seconded by several, that we condemn the offering of excessive amounts of free goods in deals, which offers lead to trade demoralization, that where free goods are offered they should be in the ratio of one free to the dozen or in rare or in the case of seasonal goods not more than two free to the dozen and that deals should be of a size to be readily absorbed by retailers.—Carried.

2. Moved by Robinson, seconded by Dreyer, that: When a manufacturer who offers free goods receives an order for his products which

calls for free goods he should ship the free goods directly to the wholesaler with the order.—Carried.

3. Moved by Cloughly, seconded by Robinson, that: Wherever practicable free goods and the goods with which they are given should be included in unit shelf packages or shipping cases, the packages and shipping cases being labeled as containing free goods and the amount therein.—Carried.

The following was unanimously approved:

Wholesale druggists should strictly observe manufacturers' requests relative to the period during which so-called free deals are offered and manufacturers should make every effort to see that deals are released to all retailers in a given district at the same time.

Moved by Williamson, seconded by Buck, that Free Goods offered with deals should be of the same item as the bulk of the deal itself.—Carried.

Moved by Williamson, seconded by Dargavel, that:

We heartily endorse the resolution of the N. A. R. D. adopted at its 1931 convention, on combination item deals. We emphatically condemn and disapprove this type of deal and urgently request that manufacturers discontinue offering such deals.—Carried.

It was moved by Buck and seconded by Pearson that a committee consisting of S. C. Henry, R. E. Lee Williamson and E. L. Newcomb be appointed to confer with manufacturers or associations, as they deem best, and present the views of retailers and wholesalers as set forth in the several motions.

OFFICERS OF INSECTICIDE AND DISINFECTANT MANUFACTURERS ASSOCIATION.

The eighteenth annual meeting of the insecticide and disinfectant manufacturers was held in New York City, December 7th and 8th. The attendance was the largest in its history.

President Robert C. White, in his address gave a résumé of business conditions and particularly as it applies to the organization.

The officers elected for the ensuing year are: *President*, Evans E. A. Jones, New York; *First Vice-President*, Peter Dougan, Rahway, N. J.; *Second Vice-President*, Samuel R. Bell, Pittsburgh; *Treasurer*, John Powell, New York; *Secretary*, Harry C. Coe, Holbrook, Mass.

PHARMACY EXTENSION, PURDUE UNIVERSITY, DISPLAYS.

The service created by the Pharmacy Extension Department is professional and educational in character. All displays either show one phase of professional pharmacy or describe the products or preparations of certain chemicals or drugs. Four displays that have been made are "Medicinal Products from the Cow," "Iodine, Its Source and Preparation," "Crude Drugs of Indiana," and "Requirements of Pharmacy."

AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

President Nicholas H. Noyes in a recent bulletin to the members of the American Drug Manufacturers' Association states that arrangements have been made with the Greenbrier Hotel at White Sulphur Springs to hold the annual meeting of the organization there, April 18-21, 1932.

THE INTER-SOCIETY COLOR COUNCIL.

The first annual meeting of the Inter-Society Color Council will be held at 9:30 A.M., Tuesday, December 29, 1931, in the Lecture Hall of the Museum of Science and Industry, 220 E. 42nd St., New York City. In addition to the regular business of the meeting, the program will include the following items:

Statement by Chairman E. N. Gathercoal regarding future possibilities of the Council.

Report of the Executive Committee on Constitution and By-laws.

A talk covering general principles upon which the Inter-Society Color Council is founded.

This will be followed by business sessions. This meeting will provide an opportunity for the presentation, by delegates, of such problems as they may wish, on behalf of their societies or associations.

COLUMBIA UNIVERSITY REQUIREMENTS FOR MEDICAL STUDENTS.

After many conferences and mutual concessions, Columbia University has agreed to recognize the four-year B.S. diploma of the College of Pharmacy as fulfilling fifty-five of the sixty minimum points required by the state and the balance of the sixty points may be obtained by taking extra work in Columbia summer courses in Zoology, English and Physics. The three-year Ph.Ch. diploma will

be evaluated as representing forty-five points toward the sixty minimum points.

MURAL PAINTINGS DEDICATED AT PHILADELPHIA COLLEGE.

Two murals continuing the series of paintings depicting the progress of pharmacy through the ages were unveiled and dedicated at a ceremony at the Philadelphia College of Pharmacy and Science, November 25th. One of the murals was presented by E. R. Squibb and Sons in memory of Dr. Edward R. Squibb. One of Dr. Squibb's first assistants in his pioneer research work was Joseph P. Remington, for 44 years professor of pharmacy at the Philadelphia College, and its dean for 25 of those years. The presentation was made by Theodore Weicker, vice-president of E. R. Squibb and Sons.

Another mural in the series was unveiled and dedicated at the same time as a gift of the 1931 graduating class. Presentation was made by Theodore Campbell, Jr., a member of that class.

With the unveiling of these two murals the Philadelphia College foyer now contains four of the projected series of six mural paintings showing the development of the art and science of pharmacy from earliest recorded history to its present-day eminence. The first two of the mural paintings in the series were presented by Dean and Mrs. Charles H. LaWall, both graduates of the Philadelphia College, at ceremonies there, June 8th.

COLORADO PHARMACAL ASSOCIATION.

Colorado Pharmacal Association is making plans for the 1932 meeting, to be held at the Antlers Hotel, in Colorado Springs, June 14th, 15th and 16th. There is good reason to believe that it will mark another climax of attendance, interest and accomplishment.

DISTRICT OF COLUMBIA PHARMACEUTICAL ASSOCIATION.

The District of Columbia Retail Druggists' Association has adopted a new constitution and by-laws and provided a change of name to that given in the title; the annual meeting will be held in April. The constitution and by-laws were prepared under the direction of Chairman S. L. Hilton; the present officers will continue in office until the meeting in April.

BRADBURY MEMORIAL MEETING.

A memorial meeting, honoring the late Wymond H. Bradbury, was held December 1st, at George Washington University. The ceremonies were held under the direction of the pharmaceutical organizations of Washington and attended by pharmacists of Washington and of Baltimore, and tributes were presented by representatives of various bodies of Washington, of Maryland Pharmaceutical Association, AMERICAN PHARMACEUTICAL ASSOCIATION and others—R. L. Swain represented the former and S. L. Hilton the latter. These tributes are to be assembled in a memorial volume and it is planned to place a suitable memorial in the College of Pharmacy of George Washington University.

NEW MEDICAL OFFICERS NAMED FOR FOOD AND DRUG CONTROL POSTS.

Appointment of two medical officers in the drug control unit of the Food and Drug Administration has been announced. The vacancies were caused by the resignations of Dr. J. Durrett and Dr. G. E. Clarke.

The new doctors are N. O. Tribble, of Atlanta, Ga., and Virgil McDaniel, Seattle, Wash. The former received his M.D. degree from Emory University in 1915. He served one year as interne at the Wesley Memorial Hospital and two years as resident pathologist at the Grady Memorial Hospital, both of which are Atlanta institutions.

From 1917 to 1919, Dr. Tribble was a medical officer in the Army and American Red Cross, being stationed in France and the Balkans. He was an assistant surgeon with the U. S. Public Health Service for a short time in 1920, resigning to become professor of bacteriology and pathology at the Atlanta Southern Dental College. Since 1928 he has been in private practice in Atlanta.

Dr. McDaniel is a University of Nebraska graduate. He served his internship in the Swedish Hospital, Seattle, and since August 1926, has been with the U. S. Public Health Service.

INCREASED TAXES FELT CERTAIN, BUT PASSAGE OF SALES TAX DOUBTED.

Press reports say that with the National Treasury facing a deficit of close to \$2,000,000,000, and with party leaders apparently agreed that tax revision at this session of Congress must be undertaken, business is now chiefly concerned with what form the

added imports will take. If the sales tax, suggested repeatedly, is to be the lever with which the sagging resources of the Government are to be raised to a normal level, it is certain that the proposal will be opposed bitterly by business in all its branches. Despite the repeated calling up of the sales tax as the way out of the emergency, it is not generally believed that the proposal could survive a vote should it seriously be entered into the business of the House. It is from the House that revenue legislation originates and there appears to be little chance that the sales tax will be included on the program for revision of taxation.

MEDICAL DEPARTMENT BOARD.

At a meeting of the board of the Medical Department Officers consideration was given to a study of the Army medical, dental and veterinary schools with a view of having them meet

more fully in the future the needs of postgraduate professional training of officers in the medical department. The report to the Surgeon General must be rendered not later than January 15th.

THE WAINWRIGHT BILL.

The *Army and Navy Register* states that "the War Department will not submit the measure under above caption at this time. There is, however, nothing to prevent its introduction by an individual member of Congress as was done by Mr. Wainwright, who in addition to committee membership had a previous record as assistant secretary of war in which capacity he acquired a full appreciation of the urgent need of maintaining the medical department at a strength adequate for the protection of the life and preservation of the health of the members of the military personnel."—See September JOURNAL, pages 996-998.

BOOK NOTICES AND REVIEWS.

Die Katalyse. Die Rolle der Katalyse in der Analytischen Chemie. (Catalysis, the Rôle of Catalysis in Analytical Chemistry) VON DR. GERTRUD WOKER, Vorstand des Institutes für physikalische-chemische Biologie der Universität Bern. II Spezieller Teil. Zweite Abteilung: Biologische Katalysatoren. 2. Hälfte: Atmungsermente. Verlag von Ferdinand Enke in Stuttgart, 1931. XIX + 592 pages; price unbound Rm. 76, bound Rm. 79.

This book comprises volumes XXVII and XXVIII of the excellent and comprehensive series, "Die chemische Analyse," prepared under the direction of the late Dr. B. M. Margosches. Volumes XI and XII published in 1910, XXI and XXII published in 1915, and XXIII and XXIV published in 1924 in the same series also treated of the rôle of catalysts in analytical chemistry. The combined works, all by Dr. Woker, probably constitute the most complete reference existent on this phase of catalysis.

The book is divided into two parts. Part I deals with the zymases or fermentation enzymes. In this part such subjects are considered as: The chemistry of normal fermentation processes, intermediate and by-products of alcoholic fermentation and the mechanism of their formation, the fermentation of amino-acids, the stimulation of alcoholic fermentation and its mechanism, the analytical utilization

of ferments, the determination of ferments, the application of alcoholic fermentation to the estimation of sugars, survey of the literature treating of fermentation, and the relation between fermentation and oxidation ferments. Part II treats of the oxidizing ferments under such headings as: The history and theory of oxidases, theory of the peroxidase-catalase system, the determination of peroxidases, oxidases, peroxides and catalases and their applications, pyrogallol and other phenols as substrates, phenolphthalein as substrate, the determination of catalase effect, procedure for the quantitative estimation of catalases, the isolation of peroxidase, peroxides, laccase and catalases, determination of the catalase effect, the oxido-reduction enzymes, iron as a ferment model, determination of reductases, determination of oxidases. The treatment of the theory and mechanism of the action of specific enzymes, and the detailed procedures for their estimation and for their use in determining other substances should be welcomed by all persons engaged in biochemical aspects of pharmacy and pharmaceutical analysis to which it applies as well as to all who are engaged in the fermentation industries.

The value of this volume as a reference is enhanced by a very extensive bibliography, an authors' index containing about 2400 names and a subject index well cross-referenced.—GLENN L. JENKINS.