Grove Cleland Carnahan (A'20), engineer and chief electrician, Illinois Publishing and Printing Company, Chicago, Ill., died April 15, 1939. Born in Apollo, Pa., October 18, 1884, and educated there, Mr. Carnahan began his connection with the electrical industry on construction work for the General Electric Company. After two years as construction foreman for C. G. Rush and Company, Chicago, Ill., he was employed in 1910 by the W. A. Jackson Company, Chicago, and three years later was made constructing foreman on central- and substation work, having charge of various projects in Illinois and Pennsylvania. He later became general foreman of construction for the company. In recent years he had been chief electrician for the Chicago Evening American, and The Chicago Herald and Examiner, before becoming engineer and chief electrician for the Illinois Publishing and Printing Company.

Roy Blake Bryant (A'09), proprietor, Bryant Light and Power Company, Dallas, Tex., died May 21, 1939. He was born in Nashville, Ark., February 14, 1887, and studied electrical engineering at the University of Arkansas. He was then employed as switchboard man by the Little Rock (Ark.) Railway and Electric Company, and later devoted some time to invention of street railway appliances. He was superintendent of the Eldorado Light and Power Company, manager of the Ashdown Light and Power Company, both in Arkansas, and with the DeKalb, Tex., Light and Power Company, of which he became proprietor after the World War. During the War he served in the United States Army, attaining the rank of captain. He subsequently became owner and manager of the Bryant Light and Power Company, Crandall, Tex., and later carried on that business in Dallas.

Spottswood Carmichael Foster (A'11), chief engineer, Bedford Pulp and Paper Company, Big Island, Va., died April 22, 1939. He was born April 23, 1886, in Fredericksburg, Va., and educated there, studying electrical engineering by correspondence. He was employed by the Rappahannock Electric Light and Power Company, Fredericksburg, in 1904 and later became superintendent. After the World War he was for a time a consulting engineer in Fredericksburg, and then became mechanical and electrical engineer for the Bedford Pulp and Paper Company, Colemans Falls, Va. He had been chief engineer for about three years.

J. N. Bourath (A'21), electrical engineer, Electro Dynamic Works of the Electric Boat Company, Bayonne, N. J., died May 13, 1939. Born in Belgium in May 1882, he graduated as an electrical engineer from the Electrotechnical Institute of the University of Liége. He was employed for a short time as draftsman by the Bell Telephone Company in Antwerp, Belgium. In 1911 he became associated with the Electro Dynamic Company, Bayonne, N. J., testing and inspecting electrical machinery, and later designed d-c motors and generators. He continued with the company and its successor until his death, at which time he was in charge of d-c engineering.

Giacomo Merizzi (A'12), director, Tecnomasio Italiano Brown Boveri, Milan, Italy, died recently, according to information received at Institute headquarters. He was born in Italy, January 6, 1866, and studied at the University and Polytechnical School of Turin. From 1898 to 1904 he was electrical engineer with Brown Boveri and Company. He became manager of Tecnomasio Italiano Brown Boveri in 1904, and had been director for more than ten years.

Toda Komaru (A'20), electrical designing engineer, Mitsubishi Electric Manufacturing Company, Ltd., Kobe, Japan, died March 14, 1939, according to information recently received. He was born May 1, 1893, in Kanazawa, Japan, and in 1917 was graduated in electrical engineering from the technical college of Tokyo Imperial University. Following graduation he entered the testing department of the Mitsubishi company as assistant electrical engineer, and the following year was transferred to the design office.

Frederick Milton Servos (A'19, M'27) chief electrical engineer, Rio de Janeiro Tramway, Light, and Power Company, Ltd., Rio de Janeiro, Brazil, died July 8, 1939, in St. Mary's Hospital, Brooklyn, N. Y. Mr. Servos was AIEE local honorary secretary for Brazil. A complete obituary notice will appear in the September issue.

Membership

Recommended For Transfer

The board of examiners, at its meeting on July 20, 1939, recommended the following members for transfer to the grade of membership indicated. Any objection to these transfers should be filed at once with the national secretary.

To Grade of Fellow

Leonard T. Blaisdell, commercial vice-president, General Electric Company, Dallas, Tex.
Charles D. Brown, electrical engineer, Wisconsin Electric Company, Milwaukee.
Robert E. Doherty, president, Carnegie Institute of Technology, Pittsburgh, Pa.
Harry R. Fritz, general plant extension engineer, Southwestern Bell Telephone Company, St. Louis, Mo.
Earle S. Henningsen, engineer, General Electric Company, Schenectady, N. Y.
Terrence O. Kennedy, vice-president and general manager, Ohio Public Service Company, Cleveland, Ohio.
Clarence W. Kuhn, supervising engineer, Cutler-Hammer, Inc., Milwaukee, Wis.
Alexander C. Lanier, professor of electrical engineering, University of Missouri, Columbia.
James F. Lincoln, president, The Lincoln Electric Company, Cleveland, Ohio.
Humphreys Milliken, chief engineer and general superintendent, Montreal Light, Heat and Power Cons., Montreal, Canada.
Chester W. Rice, consulting engineer, General Electric Company, Schenectady, N. Y.
Martin Schiff, chief engineer, Century Electric Company, St. Louis, Mo.
Warner M. Skiff, retired, Palo Alto, Calif.
George E. Snider, electrical engineer, Ohio Public Service Company, Cleveland, Ohio.
H. R. Summerhayes, manager engineering division, central station department, General Electric Company, Schenectady, N. Y.
Robert Treat, engineer, General Electric Company, Schenectady, N. Y.
Herman L. VanValkenburg, vice-president and chief engineer, Square D Company, Milwaukee, Wis.
Wm. E. Wickenden, president, Case School of Applied Science, Cleveland, Ohio.

18 to Grade of Fellow

To Grade of Member

E. W. Allen, plant extension engineer, Southwestern Bell Telephone Company, Oklahoma City, Okla.
Carl E. Arvidson, engineer, Commonwealth and Southern Corporation, Jackson, Mich.
David K. Blake, electrical engineer, General Electric Company, Schenectady, N. Y.
Karl A. Blind, electrical engineer, Harnischfeger Corporation, Miwaukee, Wis.
Fay B. Bramhall, engineer in charge of transmission laboratory, Western Union Telegraph Company, New York, N. Y.
Ralph L. Chantrill, engineer, Associated Electrical Industries (India) Ltd., Calcutta, India.
John Brown Cook, executive vice-president, Reliable Electric Company, Chicago, Ill.
John D. Harnden, assistant to manager, General Electric Company, Schenectady, N. Y.
Obed C. Haycock, assistant professor of electrical engineering, University of Utah, Salt Lake City.
Henry F. Herbig, research engineer, The North Electric Manufacturing Company, Galion, Ohio.
Luke F. Kennedy, relay application engineer, General Electric Company, Schenectady, N. Y.
Walter A. Kilbury, system operator, Cleveland Electric Illuminating Company, Ashtabula, Ohio.
Hector John MacLeod, head, department of electrical and mechanical engineering, The University of British Columbia, Vancouver, B. C., Canada.
Donald E. Moat, district manager, Leeds and Northrup Company, Cleveland, Ohio.
Maxwell L. Olsen, outside plant engineer, Southwestern Bell Telephone Company, Oklahoma City, Okla.
Arthur F. W. Richards, consulting engineer, Richards and Bright, London, W.C.1, England.
Marion A. Savage, designing engineer, General Electric Company, Schenectady, N. Y.
Raymond F. Schierland, assistant engineer, Columbia Engineering Corporation, Cincinnati, Ohio.
Joseph K. H. Sticher, research engineer, The Detroit Edison Company, Detroit, Mich.
Daniel C. Vaughan, system protection engineer, Potomac Electric Power Company, Washington, D. C.
Stewart H. White, superintendent of utilities, City of Port Angeles, Wash.
John W. Wilson, assistant professor of electrical engineering, University of Florida, Gainesville.
Harry A. Winne, engineering, general department, General Electric Company, Schenectady, N. Y.
Richard B. Wright, engineer inspector, Consolidated Edison Company of N. Y., Inc., New York, N. Y.

24 to Grade of Member

Applications for Election

Applications have been received at headquarters from the following candidates for election to membership in the Institute. Names of applicants in the United States and Canada are arranged by geographical Districts. If the applicant has applied for direct admission to a grade higher than Associate, the grade follows immediately after the name. Any member objecting to the election of any of these candidates should so inform the national secretary before August 31, 1939, or October 31, 1939, if the applicant resides outside of the United States or Canada:

United States and Canada

1. NORTH EASTERN

Brewer, N. M., Central New York Power Corporation, Utica, N. Y.
Parsons, R. J. (Member), Consolidated Car Heating Company, Albany, N. Y.
Stewart, C. J., Great Lakes Portland Cement Corporation, Buffalo, N. Y.

2. MIDDLE EASTERN

Caldwell, G. A., Westinghouse Electric and Manufacturing Company, Pittsburgh, Pa.
Liwschitz, M. (Member), Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

Pfeifer, A. A., North Electric Manufacturing Company, Galion, Ohio.

3. NEW YORK CITY

Eastman, H. L. (Member), Electric Advisers, Inc., New York, N. Y.
Fenton, A., Consolidated Edison Company of N. Y., Inc., New York, N. Y.
Palmer, A. P., 410 West 207 Street Corporation, New York, N. Y.

4. SOUTHERN

Heymann, A. P., 9 North Hyer Street, Orlando, Fla.
Trawick, H. P. (Member), Tallapoosa River Electric Membership Corporation, Lafayette, Ala.

5. GREAT LAKES

Egan, V. J., Commonwealth and Southern Corporation, Jackson, Mich.
Gaines, B., Fisher Body Company, Detroit, Mich.,
Kallander, O. H. (Member), Care F. S. Haberly Consulting Engineer, Chicago, Ill.
Lyman, P. F., Commonwealth and Southern Corporation, Jackson, Mich.
Willey, R. E., Northwestern Bell Telephone Company, Minneapolis, Minn.

7. SOUTH WEST

Dunlap, L. B., Southwestern Bell Telephone Company, Dallas, Tex.

8. PACIFIC

Herz, S. V., 3317 Jackson Street, San Francisco, Calif.
Massey, J. T., Pacific Gas and Electric Company, San Francisco, Calif.
Nelson, M. R., General Cable Corporation, Los Angeles, Calif.
ReQua, F. L. (Member), City of San Francisco, San Francisco, Calif.

Total, United States—21

Elsewhere

Erskine, A., The Fife Electric Power Company, East Port, Dunfermline, Fife, Scotland.
Hollander, J. M. (Member), Electro-Mechanical Supplies, Ltd., Coventry, England.
Rush, J. P., Taikoo Sugar Refining Company, Hongkong, China.
Srikantaiya, D. S., Government of Mysore, Hole-Narsipur, Mysore State, India.
Starbuck, L. W. G. (Member), Walker Sons and Company, Ltd., Colombo, Ceylon.

Total, elsewhere—5

Engineering Literature

New Books in the Societies Library

Electrical engineers may be interested in the following new books, which are among those recently received at the Engineering Societies Library, New York, N. Y. Unless otherwise specified, books listed have been presented by the publishers. The Institute assumes no responsibility for statements made in the following summaries, information for which is taken from the preface of the book in question.

THE ECONOMICS OF BUSINESS ENTERPRISE. By W. Rautenstrauch. New York, John Wiley and Sons, 1939. 445 pages, diagrams, etc., 9 by 6 inches, cloth, $4.00. Aims to describe what is generally considered good practice in dealing with the economic problems of specific business enterprises, to inquire into the theories on which these practices rest; and to develop methods of analysis for the economic problems of a particular business. The final chapter treats in general of business enterprise on a national scale.

AIR CONDITIONING. By B. H. Jennings and S. R. Lewis. Scranton, Pa., International Textbook Company, 1939. 467 pages, illustrated, 9 by 6 inches, flexible, $4.00. The fundamentals of air conditioning are so presented as to form a working basis for the engineering student or the practicing engineer. The emphasis is on basic principles, although conventional methods of empirical treatment are given in some cases. Ordinary heating methods and refrigeration are considered at some length. Contains illustrative examples, problems, charts, and tables of data.

APPLIED ACOUSTICS. By H. F. Olson and F. Massa. Second edition. Philadelphia, Pa., P. Blakiston's Son and Company, 1939. 494 pages, illustrated, 9 by 6 inches, leather, $5.50. Presents information on the design, construction, operation, and analysis of modern microphones, loud speakers, and telephone receivers, emphasizing the theoretical and experimental aspects of electroacoustics. Acoustical measurements, testing methods, architectural acoustics, measurement of noise, and physiological acoustics are also considered.

VDI-JAHRBUCH 1939. Die Chronik der Technik. Edited by A. Leitner. Berlin, VDI-Verlag, 1939. 298 pages, 8 by 6 inches, paper, 3.50 rm. Contains over ninety reports by specialists, reviewing the literature on engineering published during 1938. About 10,000 references on all branches of engineering are included, with an extensive index.

ARC WELDING IN DESIGN, MANUFACTURE AND CONSTRUCTION. Cleveland, Ohio, James F. Lincoln Arc Welding Foundation, care of Lincoln Electric Company, 1939. 1408 pages, illustrated, 9 by 6 inches, leather, $1.50 in U.S.A.; $2.00 in other countries. A selection of 109 of the more than 400 papers which received awards from the James F. Lincoln Arc Welding Foundation, chosen from 44 sub-classifications. Some abridged. Subject index.

THE ELECTRIC POWER INDUSTRY: DEVELOPMENT, ORGANIZATION, AND PUBLIC POLICIES. By J. Bauer and N. Gold, with the technical co-operation of A. E. Shaw. New York and London, Harper and Brothers, 1939. 347 pages, tables, 10 by 6 inches, cloth, $3.50. A non-technical presentation of the public aspects of the industry for engineers, economists, and the general reader. Discusses the development and importance of the electric power industry, private organization and management, and problems of public policy and control. Selected bibliography.

AIR CONDITIONING, FUNDAMENTAL PRINCIPLES, PRACTICAL INSTALLATIONS AND OZONE FACTS. By E. W. Riesbeck. Second revised and enlarged edition. Chicago, Goodheart-Willcox Company, 1939. 443 pages, illustrated, 8 by 5 inches, flexible, $3.50. In a non-technical manner explains the principles of air conditioning; differentiates between conditioning and cooling; describes methods, equipment, installation, and adaptation, and shows how to figure requirements. Refrigeration, use of ozone, and water sterilization are treated as allied subjects.

ESSENTIALS OF ALTERNATING CURRENTS. By W. H. Timbie and H. H. Higbie. Second edition, rewritten. New York, John Wiley and Sons, 1939. 377 pages, illustrated, 8 by 5 inches, cloth, $2.25. Covers only information which the authors consider essential to the worker on a-c appliances. The revised edition includes new devices and methods of using them and new applications of known devices. Current practice is now represented, as in the treatment of motors and control apparatus. Problems and numerical examples.

INDUSTRIAL ELECTRICITY. By J. M. Nadon and B. J. Gelmine. New York, D. Van Nostrand Company, 1939, 607 pages, diagrams, etc., 9 by 6 inches, cloth, $3.00. Designed for those who intend to make a vocation of electrical work in industry. Contains the fundamental principles of electricity and magnetism, and considers their application to present-day equipment. More specialized topics include connecting methods and operating characteristics of electrical machines and controls, electronic devices, and electric welding.

INTRODUCTION TO CONTEMPORARY PHYSICS. By K. K. Darrow. Second edition. New York, D. Van Nostrand Company, 1939. 648 pages, illustrated, 9 by 6 inches, cloth, $7.00. Explains the principal recent advances in atomic and nuclear physics as fully as is consistent with mathematics not more difficult than the elements of wave-mechanics. Topics include the properties of elementary particles, the correlation of corpuscles and waves, the diffraction of electrons and X rays by crystals, the phenomena of ionization and excitation, the interpretation of spectra, wave mechanics, and the art and science of transmutation. The new edition is much expanded.

METER ENGINEERING. By J. L. Ferns. Third edition. New York and Chicago, Pitman Publishing Corporation, 1938. 347 pages, illustrated, 8 by 5 inches, cloth, $3.75. Revised in accordance with recent developments, this book covers in detail the work connected with the installation, testing, and maintenance of electricity meters.

INDUSTRIAL ELECTRICITY, DIRECT-CURRENT PRACTICE. By W. H. Timbie. Second edition. New York, John Wiley and Sons, 1939. 635 pages, illustrated, 9 by 6 inches, cloth, $3.00. Written to meet the demand from technical schools for a textbook covering the important principles of electrical science as applied to modern industry. Explains how d-c electricity is generated, transmitted, and used, and affords a foundation for the study of the application of a-c electricity to present-day practice. Each chapter is followed by summary and problems.

NATIONAL PHYSICAL LABORATORY REPORT FOR THE YEAR 1938. London, His Majesty's Stationery Office, 1939. 147 pages, tables, 10 by 6 inches, paper (obtainable from British Library of Information, 50 Rockefeller Plaza, New York, $0.75). In addition to general information concerning the laboratory and its work, this publication presents the reports of the William Froude Naval Laboratory and the departments of physics, electricity, radio, metrology, engineering, metallurgy, and aerodynamics, indicating the state of the current researches.

PRINCIPLES AND PRACTICE OF RADIO SERVICING. By J. Hicks. New York and London, McGraw-Hill Book Company, 1939. 305 pages, diagrams, etc., 9 by 6 inches, cloth, $3.00. Written with a minimum of mathematics. Shows how to install, test, and repair radio receivers, giving step-by-step instructions in all the servicing procedures, and also a plain treatment of the necessary fundamental theory of electricity and radio.

TRANSACTIONS SECOND CONGRESS ON LARGE DAMS, 1936. Five volumes, edited by O. C. Merrill, International Commission on Large Dams of the World Power Conference. Washington, D. C., Superintendent of Documents, 1938. Volume I, 587 pages; Volume II, 406 pages; Volume III, 492 pages; Volume IV, 651 pages; Volume V, 492 pages, illustrated, 10 by 6 inches, cloth, $2.50 per volume; $10.00 per set of five volumes; 25 per cent discount for 100 volumes or more in a single order. These volumes contain a full report of the Washington, 1936, conference, including the papers presented, the round-table discussions, reports, and information concerning officers, organization, excursions, and other general matters. The questions considered by the conference were: special cements; the design and waterproofing of shrinkage, contraction, and expansion joints; the facing of masonry and concrete dams; geotechnical studies of foundation materials; and the calculation of the stability of earth dams. Other problems considered include: methods for insuring the safety of gravity dams; dams built of precast concrete blocks; dams built by depositing stone blocks in running water; prevention of "piping;" and silting of large reservoirs. Papers are in English, French, Spanish, or German, with summaries in all four languages.

DER ULTRASCHALL UND SEINE ANWENDUNG IN WISSENSCHAFT UND TECHNIK. By L. Bergmann. Second edition. Berlin, VDI-Verlag, 1939. 358 pages, illustrated, 8 by 6 inches, leather, 25 rm. Greatly enlarged second edition of a book intended as a broad survey of our knowledge of ultrasonics, with emphasis upon practical scientific and technical applications. Discusses the production and measurement of ultrasonic waves, and their uses in measuring the velocity and absorption of sound in various media and the elastic constants of solids, also their use in testing materials, in signaling, television, and metallurgy, and their chemical and physical effects. The bibliography has been extended.

WHO INVENTED THE TELEPHONE? By W. Aitkin. London and Glasgow, Blackie and Son, Ltd., 1939. 196 pages, diagrams, 8 by 5 inches, cloth, 5 s. This review of the history of the telephone consists largely of references to or extracts from technical literature. Much of the information on the early inventors and their claims has been gathered from contemporary documents.