

Clean Water and What It Means to the Public and Industry¹

L. H. SMITH, Minnesota Department of Health, St. Paul, Minnesota

WE can't live without it. The animals and plants we use for food can't live without it. We use it dozens of ways in our homes, hundreds of ways in our factories and thousands of ways in our cities. Sometimes we travel hundreds of miles to see it in its natural state. What is it? The answer could only be Clean Water. Nothing is more important to us, but we never give it much thought unless there is too much of it and we have a flood, or too little and we have a drought.

Life itself began in the waters of an ancient sea and has never lost its connection with water. Water still means life to all living things. From the very beginning our history has traveled the waterways. People gathered where there was water and food. The first civilizations grew in the river valleys, the Nile, the Tigris and Euphrates, the Indus and Ganges. Rivers were the first highways. Wars have been fought and treaties signed, boundary lines have been established, civilizations have lived and died, all because of water.

Today we are making more demands upon our most valuable servant than ever before. In 50 years our population has doubled, and in our homes water has many functions, old and new. The *per capita* consumption of water has increased considerably in the last decade. The demand for electric power is ever-increasing. Much of this is furnished by large hydroelectric plants. Water is being used more extensively for irrigation and is also still being used as a highway although we now can use both land and air as well. Finally our demand for recreation is much greater. Clean water plays an important part in furnishing this recreation in the form of fishing, hunting, swimming, boating, and in the beauty of the landscape it creates.

In addition to these long-time uses, we have relatively new ones, the most important of which are centered around our industries. American industry has increased eight-fold in the past 50 years. Industries in the United States alone, it is estimated, use 60 billion gallons of fresh water every day. In fact, the water used by industries weighs 50 times as much as all their other raw materials combined. These figures do not include stream flow to create power. The fastest-growing new industries, like the synthetics and chemical industries, are those which make great demands on water. Experts predict that by 1975 our industries will need twice as much water as they are now using. It takes 365,000 gal. of water to produce a ton of rayon yarn; 510,000 gal. for 1,000 yds. of woolen cloth; 1,000,000 gal. for 1,000 bbls. of aviation gasoline. Most of this water must come from our lakes and streams, and must be clean.

Municipal and Industrial Pollution

As water uses and demand for water increases, our interest in that water also increases. This interest in recent years has turned to the condition of that water.

Cities are our greatest users of water, yet few of the residents actually know the source of their water supply or what happens to it after it is used. This has been illustrated many times since World War II with the tremendous housing boom and the development of new areas lacking, in the first stages, municipal water and sewer systems. Many persons were rather rudely awakened to find that with their own private wells and sewage disposal systems things could not be taken for granted, and they began to appreciate the water supply and waste disposal problems, even if only on a small scale.

Nearly two-thirds of our drinking water comes from surface sources, streams and lakes. In Minnesota approximately one-third of the state's population or approximately one-half of that population in incorporated municipalities has surface sources for its water supply.

Sewer systems for removing human wastes are only a little more than a century old. The great sewers of Babylon and Rome were built to handle storm water run-off and underground drainage. Laws forbade the use of sewers for removing body wastes until 1815 in London, 1833 in Boston, and 1880 in Paris. Modern sewer systems began to develop and spread rapidly in the latter part of the 19th century. Wastes were carried from the homes through pipes to municipal sewer sys-

tems which discharged the wastes, untreated, to the nearest waterway. These sewer systems solved one problem in removing filth from the individual homes and their immediate vicinity, but it created a new problem, that of water pollution. The health problem had been locally removed from sight but was still there. Sewage treatment plants are the modern answer to this problem.

Industrial waste in this country is a more complicated problem than our municipal sewage. The wastes from our industries are as varied and many times as complex as American industry itself. American industry is known the world over for its volume of output and its technological aggressiveness. Wastes of all kinds accompany this production, oils, acids, chemicals, greases, mineral salts, and animal and vegetable material—some virulent, other noxious, and some merely nauseous and offensive to the nose and eye. Intensive laboratory research and experiment plus actual tests are required to determine the most effective and most economical method of treating these wastes to reduce their harmful effects or to convert them to useful by-products.

Some of these wastes are highly poisonous and corrosive. Others are more damaging to water quality than sewage. Sanitary engineers customarily use "B.O.D." (Biochemical Oxygen Demand), the quantity of oxygen required for the biochemical oxidation of sewage or other polluted liquid, which is usually incubated for 5 days at 20°C., in expressing the pollution of a body of water or waste. The 5-day B.O.D. is commonly referred to as "strength," a strong waste having a high B.O.D. This is one convenient method of comparing the pollutional effect of industrial wastes with ordinary domestic sewage. Some of these strength comparisons are shown in Table I.

TABLE I

Type	Parts per million 5-day biochemical oxygen demand	Parts per million suspended solids
Domestic sewage.....	250	290
Brewing.....	1,200	650
Whole kernel corn.....	2,000	1,300
Pumpkin or squash.....	6,300	1,900
Thin slop (distilling grain).....	34,000	24,800
Slaughter house.....	2,200	1,000
Packing house.....	900	700
Creamery.....	1,250	700
Paper mill (sulphite liquor).....	11,000	106,400
Tanning.....	1,200	2,400
Wool scouring (calculated).....	5,500	13,600
Beet sugar process water.....	1,250	1,100
Beet sugar steffens waste.....	10,000	700
Vegetable dehydration plants (peeler).....	4,000	18,000
Laundry.....	400

From this you can see that these wastes are many times as "strong" as domestic sewage. Other factors which enter in, of course, are the volume of the wastes discharged and other characteristics of the wastes not measured by the 5-day B.O.D. determination. The total pollution load now being discharged to waters of this country, including domestic and industrial waste, is conservatively estimated to exceed the raw untreated sewage from a population of 150 million people, by coincidence approximately the population of this country. More than one-half of this 150 million population load is due to the oxygen demand of industrial wastes.

Individuals, cities, and industry cannot use just any water. If it is not already clean and suitable for use, it must be made so. Pollution costs money, more in the long run than the treatment of wastes to prevent pollution. Polluted water is almost as bad as no water at all and can destroy agricultural uses, such as livestock watering and irrigation; domestic uses, such as drinking, cooking, bathing, etc.; industrial uses such as processing, cooling, boiler feed, power, and commercial fishing, etc.; and recreational uses such as fishing, swimming, boating, camping, etc., as well as wild life. It can destroy land values and create serious health problems. Farm property values diminish and other sources of water must be obtained.

¹Presented at fall meeting, American Oil Chemists' Society, Minneapolis, Minn., Oct. 11-13, 1954.

Cities may be forced to provide expensive and complicated water treatment plants or actually go many miles to another source of supply. Industries also must spend large sums to provide satisfactory water for their operations and will move to cleaner sources of water, and new industry will never locate where water requirements are not assured. Fish and game are greatly affected by polluted water and disappear. Pollution has reduced the annual value of the salmon catch in one river in Oregon from \$5,000,000 to \$1,000,000. People are forced to seek recreation elsewhere, travelling long distances, constructing artificial facilities, etc. Polluting our lakes and streams and then trying to treat the water for further use is like locking the barn door after the horse is stolen.

Our Solution to the Problem

Wastes can and must be treated before they are discharged to water. The present and future use of the individual lakes and streams must be determined. Public Law 845, passed by the 80th Congress in 1948, gives the United States Public Health Service certain definite responsibilities in water pollution control. Official state agencies have been assigned the task of water pollution control. This either comes under the State Health Departments or special State Water Pollution Control agencies. Municipalities with the help of qualified engineers, technicians, etc., are solving their individual problems.

Industry is accepting its share of the responsibility. Some, like the dairy, pulp and paper, petroleum, and meat industries, are developing industry-wide programs for waste saving, salvaging, and treatment. Work in this field has developed greatly since World War II.

The prevention and abatement of stream pollution is a cooperative undertaking including: comprehensive corrective measures, aggressive action by water pollution control agencies, coordination of local, state, and federal efforts, industry-wide cooperation, and everyone's active participation and support.

Excellent work has been done and is being done in water pollution control and abatement by many states, municipalities, and industries, but much work remains to be accomplished to reclaim and protect our streams and lakes. I should like to conclude by repeating that water pollution is everyone's concern. It affects most of us in more than one way as citizens, parents, consumers, vacationists, conservationists, and scientists. Somehow, somewhere, each of us pays a price for the pollution of our surface water.

[Received October 11, 1954]

Expansion

The FRENCH OIL MILL MACHINERY COMPANY, Piqua, O., is building two duplicate oil mill installations in Mississippi, one at the Port Gibson Oil Works, Port Gibson, and the other at the Leland Oil Works, Leland. They will be used for direct extraction on cottonseed or soybean, and daily capacity of each plant will be 150 tons.

The inorganic chemicals division of MONSANTO CHEMICAL COMPANY, St. Louis, Mo., has established a new product sales group to handle all surfactants and a new section to coordinate sales of phosphate and surfactant products with the production effort.

WITCO CHEMICAL COMPANY, New York, N. Y., has acquired a half interest in Ultra Chemical Works Inc., Paterson, N. J. Witco and associated companies now operate 14 plants and 10 sales offices in the United States.

The first laboratory center in Colombia devoted specifically to technological research will be established in Bogota with the technical assistance of Armour Research Foundation of Illinois Institute of Technology, Chicago. Known as the DEPARTAMENTO DE INVESTIGACIONES TECNOLOGICAS, the new center will undertake research leading to developments in agriculture, industry, and mining.

Plans have been made for the construction of a four-story addition to the New Chemical Engineering building at CASE INSTITUTE OF TECHNOLOGY, Cleveland, O.

The Netherlands Minister of Economic Affairs has granted THE DOW CHEMICAL COMPANY, Midland, Mich., permission to establish a wholly-owned subsidiary company, to be known as Nederlandse Dow Maatschappij N. V., in Rotterdam.

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Appointments

John T. Connor, administrative vice president of MERCK AND COMPANY INC., Rahway, N. J., is the new vice president and general manager of the Merck-Sharp and Dohme International Division.

BECCO CHEMICAL DIVISION, Food Machinery and Chemical Corporation, Buffalo, N. Y., has promoted F. A. Gilbert to vice president and assistant division manager; J. F. Shea to vice president in charge of sales; and W. J. Wetzel to controller.

Thomas L. Harrocks Jr. has been appointed sales manager of H. REEVE ANGEL AND COMPANY INC., New York, N. Y.

A. E. STALEY MANUFACTURING COMPANY, Decatur, Ill., has named Ralph E. C. Fredrickson as the new director of the development engineering department.

FRANK J. STEELE, chief pharmacist at the Greenwich Hospital School of Nursing, Greenwich, Conn., has been appointed instructor in pharmacology at the school.

Appointments at CHARLES PFIZER AND COMPANY INC., Brooklyn, N. Y., include W. D. Celmer, research supervisor in the chemical research and development department; Peter P. Regna, technical assistant to the director of that department; and Virgil V. Bogert, research associate.

Benjamin S. Mesick has joined the staff of ARTHUR D. LITTLE INC., Cambridge, Mass.

SPENCER KELLOGG AND SONS INC., Buffalo, N. Y., have named Robert L. Terrill as manager of industrial products research.

L. H. DUNLAP has been promoted to manager of the chemistry department at the Research and Development Center of Armstrong Cork Company, Lancaster, Pa.

Jervis J. Babb has been elected chairman of the board of LEVER BROTHERS COMPANY, New York, N. Y.

HEYDEN CHEMICAL CORPORATION, New York, N. Y., announces the election of Arthur Minich as president of Nuodex Products Company Inc., a subsidiary of Heyden, and Kenneth C. Russell as president of Nuodex International Inc.

Robert S. Mathews has been appointed manager of a newly-formed vinyl plasticizer department at ARCHER-DANIELS-MIDLAND COMPANY, Minneapolis, Minn.

R. M. HOLLINGSHEAD CORPORATION, Philadelphia, Pa., has named George F. Sharrard as manager of the technical service division.

Chester Stevens has filled the newly-created position of technical director in charge of new product development and laboratory research at the EATON-DIKEMAN COMPANY, Filtertown, Mount Holly Springs, Pa.

Appointments at AMERICAN CYANAMID COMPANY, New York, N. Y., include L. C. Duncan, general manager of the Lederle laboratories division, and V. E. Atkins, general manager of the organic chemicals division. Henry C. Zeni has been named sales manager of Arizona Chemical Company, which is jointly owned by American Cyanamid Company and International Paper Company. Robert T. Schoepflin is the new midwest sales representative for Arizona.

Charles Loring has been appointed eastern district sales manager of the industrial chemicals division of STAUFFER CHEMICAL COMPANY.

NOFCO CHEMICAL COMPANY, Harrison, N. J., has appointed Robert T. Whelan as field sales manager for the company's agricultural department.

R. A. Schlegel and J. F. Smith have been named associate sales managers for the oil and chemical industries by the industrial division of MINNEAPOLIS-HONEYWELL REGULATOR COMPANY, New York, N. Y.

Appointments at DOW CHEMICAL COMPANY include Louis E. Tallman, head of the western section of plastics technical service; E. E. Merrill, head of the eastern section of plastics technical service; and J. L. McCurdy, assistant manager of the plastics production department. R. E. TenHoor has been appointed supervisor of the new industrial chemicals section of technical service and development.

Tom R. Ragland has been named vice president of UNION CARBIDE INTERNATIONAL COMPANY, New York, N. Y., and will be responsible for the direction of the chemicals and plastics departments.

W. F. Munnikhuisen has been elected chairman of the board of KOPPERS COMPANY INC., Pittsburgh, Pa. Fred C. Foy was named president and chief executive officer.

The research and control instruments division of NORTH AMERICAN PHILIPS COMPANY INC., Mount Vernon, N. Y., has appointed Industrial Controls Inc., Tulsa, Okla., as an authorized distributor.

Appointments at CHARLES PFIZER AND COMPANY INC., Brooklyn, N. Y., include Donald F. Rugon, to the staff of the new product coordination department; Stanley W. Ensminger, as European manager of production; I. A. Solomons, assistant director of chemical research and development; and C. I. Jarowski, manager of the pharmaceutical research and development department.

N. R. Kuloor has joined FOSTER D. SNELL INC., New York, N. Y., as a trainee chemical engineer. He is on leave of absence from the Shri Ram Institute for Industrial Research in India.

Bruce S. Old, formerly president of Cambridge Corporation and more recently chairman of the board, has resumed full-time activities as vice president of ARTHUR D. LITTLE INC., Cambridge, Mass.

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R. M. Hammes has been appointed general sales manager of the NIAGARA FILTER DIVISION and the Tolhurst Centrifugals Division of American Machine and Metals Inc., East Moline, Ill., succeeding F. C. Weicker.

The D. H. Litter Company Inc., of New York and Boston, has been appointed exclusive sales representative for Centrol Lecithin to the paint and allied industry fields in the New York and New England areas, according to an announcement by CENTRAL SOYA COMPANY INC., Fort Wayne, Ind. Don E. Sincroft has been named manager of the lecithin department at Central Soya.

Appointments at KOPPERS COMPANY INC., Pittsburgh, Pa., include M. G. Sturroek, research associate and group leader of the central staff research department; E. W. Volkmann, manager of the research department; and George H. Sollenberger, technical coordinator of plastics market development in the chemical division.

Wilbur B. Pings has been named head of the department of chemical research and development of VITRO LABORATORIES at West Orange, N. J.

HAGAN CORPORATION, Pittsburgh, Pa., has appointed F. R. Dickenson as a director of Hagan and its subsidiaries, Hall Laboratories Inc., Calgon Inc., and The Buromin Company.

James T. Eaton has filled the newly created position of production vice president at E. F. HOUGHTON AND COMPANY, Philadelphia, Pa.

DRACO CORPORATION, Pittsburgh, Pa., has announced the appointment of H. W. North as chief engineer of the newly established process equipment department of its engineering works division.

Ira Bennett has joined the sales staff of DODGE AND OLCOTT INC., New York, N. Y., and will work as a special representative out of the New York office.

Barrett Division, ALLIED CHEMICAL AND DYE CORPORATION, New York, N. Y., has appointed Edward M. Lemon as west

coast representative of chemical sales, with headquarters in Los Angeles, Calif.

Alvan H. Tenney has been appointed manager of market research at Carbide and Carbon Chemicals Company, a division of UNION CARBIDE AND CARBON CORPORATION, New York, N. Y.

New staff assignments in the industrial chemicals division of AMERICAN CYANAMID COMPANY, New York, N. Y., are F. W. Zipf, manager of manufacturing; P. M. Tompkins, manager of the Warners plant; H. P. Callahan, technical director of the manufacturing organization at Linden, N. J.; R. F. Warren, manager of sales service and statistics; and D. F. Robinson, assistant to Mr. Warren.

Louis McDonald, for the past three years laboratory director of KELITE PRODUCTS INC., manufacturers of industrial chemicals, has been elected vice president and technical director.

George R. Bryant is the new president of JEFFERSON CHEMICAL COMPANY INC., owned jointly by American Cyanamid Company and The Texas Company.

Announces New Soybean Blue Book

The 1955 edition of the Soybean Blue Book is now available from the American Soybean Association, Hudson, Ia., at \$3 per copy. It contains the latest statistics on production, prices, and utilization of soybeans, meal, and oil, and directories of soybean processors, oil refiners, and manufacturers using soy products, as well as firms offering their services and products to the soybean industry. Included again this year are a list and descriptions of most soybean varieties in the United States and a map showing recommended varieties for most production areas.

Micro Switch, a division of the MINNEAPOLIS-HONEYWELL REGULATOR COMPANY, New York, N. Y., has established new sales and engineering offices in Phoenix, Ariz., Charlotte, N. C., and Denver, Colo.

FRENCH

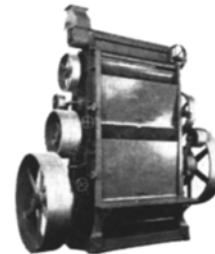
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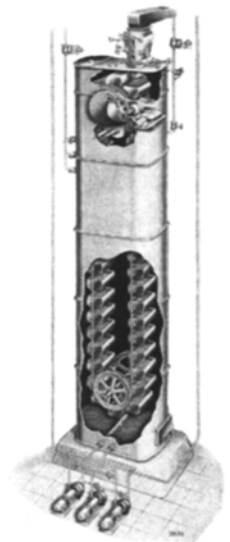
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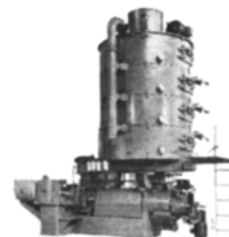
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1200	325	4 1/4	5 3/4	3.60	3.25
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New Literature

The latest edition of Scientific Apparatus and Methods, published by E. H. Sargent and Company, Chicago, Ill., features an article on "Cells for Polarographic Analysis and Amperometric Titrations."

Food Facts, a monthly newsletter for the food industries issued by Foster D. Snell Inc., New York, N. Y., is entering its sixth month of publication.

Precision Scientific Company, Chicago, Ill., has published data sheet No. 10866R on the Micro-Set Manostat, an instrument for regulating and holding a constant vacuum within 0.1 mm. mercury pressure.

The back cover of the January-February issue of Heat Engineering, a publication of Foster Wheeler Corporation, New York, N. Y., shows Dowtherm vaporizers which were recently fabricated for Canadian Industries Ltd.

New bulletins from Fisher Scientific Company, Pittsburgh, Pa., include FS-211, on a new high-sensitivity constant temperature bath; FS-247, on titration by instrumentation; and FS-252, on a new all-electronic spectrograph.

A new 20-page bulletin No. 115 describes rotameters and accessory equipment offered by Brooks Rotameter Company, Lansdale, Pa.

New indicators, recorders, and controllers are described in data sheets ND46-33(100) to (104) from Leeds and Northrup Company, Philadelphia, Pa.

A 16-page catalog of sintered bronze filters has been published by the Permanent Filter Corporation, Los Angeles, Calif.

Tall Oil in Industry, bulletin No. 15, published by the Tall Oil Association, New York, N. Y., contains part three of an article entitled "Tall Oil for Resins."

Bulletin 1060 describes the newest millivoltmeter offered by Minneapolis-Honeywell Regulator Company, Philadelphia, Pa., and bulletin 1161 includes a discussion of the basic principles of liquid level measurement, control, and transmission.

A new 40-page technical bulletin offering laboratory findings on lacquers and lacquer plasticizers has been published by Archer-Daniels-Midland Company, Minneapolis, Minn.

Howards and Sons Ltd., Montreal, Canada, have issued a technical service data on a commercial solvent, Sextol.

The 1955 edition of "A List of American Standards" is available from the American Standards Association, 70 East 45th street, New York 17, N. Y. It lists and indexes about 1,500 American standards on 48 pages.

Offers Engineering Data Book

The American Society for Testing Materials has published in book form the Edgar Marburg Lecture, "Interpretation of Engineering Data: Some Observations," by Harold F. Dodge. The 36-page book may be obtained from the ASTM, 1916 Race street, Philadelphia, Pa., for \$1.50. This is the 28th in the lecture series and was presented at the 57th annual meeting of the ASTM.

ARTHUR S. LAPINE AND COMPANY, Chicago, Ill., is offering a new technical balance equipped with a chain-loading device which dispenses with fractional weights.

Blue M Electric Company, Blue Island, Ill., has released a 4-page brochure on five control units for use in the laboratory.

The uses of sodium dispersions to speed chemical reactions and to make possible new reactions are outlined in a 32-page booklet issued by Ethyl Corporation, New York, N. Y.

Other Associations

New officers elected by the Commercial Chemical Development Association are R. L. Bateman, Carbide and Carbon Chemicals Corporation, president; F. S. Swackhamer, Shell Chemical Corporation, vice president; J. M. Rogers, fluorochemicals department of Minnesota Mining and Manufacturing Company, treasurer; and J. R. Dudley, Carwin Chemical Company, secretary.

Carl S. Marvel, research professor of organic chemistry at the University of Illinois, Urbana, has been unanimously chosen to receive the 1955 Gold medal of the American Institute of Chemists, to be presented at the 32nd annual meeting in Chicago, Ill., May 11-13, 1955.

Eighty-six representatives of cottonseed oil mills, equipment manufacturers, users of cottonseed products, and state and federal agencies, in addition to staff members at the laboratory, participated in the two-day meeting of the fourth cottonseed processing clinic, held February 7-8, 1955, at the Southern Regional Research Laboratory, New Orleans, La.

Officers elected at the 13th annual meeting of the American Foundation for Pharmaceutical Education are James J. Kerrigan, Merek and Company Inc., Rahway, N. J., president, and Francis C. Brown, Schering Corporation, Bloomfield, N. J., vice president.

National officers of the Society of Women Engineers are Katherine Stinson, Civil Aeronautics Administration, Washington, D. C., president; Dot Merrill, Merrill and Company, Chicago, Ill., vice president; Lois McDowell, Illinois Institute of Technology, Chicago, Ill., corresponding secretary; Deloris Keister, industrial engineer, Los Angeles, Calif., recording secretary; and Isabelle French, electrical engineer, Allentown, Pa., treasurer. The Society now has about 600 members in 20 sections across the United States.

New officers of the National Association of Corrosion Engineers are F. L. Whitney Jr., Monsanto Chemical Company, St. Louis, president; W. E. Fair Jr., Tar Products division of Koppers Company Inc., Westfield, N. J., vice president; and R. A. Brannon, Humble Pipe Line Company, Houston, Tex., reelected to a sixth term as treasurer. T. P. May, International Nickel Company, New York, N. Y., has been named chairman of the publications committee, and Arthur W. Tracy, American Brass Company, Waterbury, Conn., chairman of the editorial review subcommittee.

Benjamin H. Dauziger, of Climax Molybdenum Company, New York, N. Y., stated in an address before the New York Pigment Club that the light fastness of molybdenum orange appears to be substantially better than that of chrome oranges in full color paint formulations. He based his remarks on the results of a series of tests conducted by the United States Testing Company.

Discuss Linear Programming

MORE THAN 350 mathematicians, economists, and chemists attended a symposium on linear programming held in Washington, D. C., January 27-29, 1955, under the auspices of the National Bureau of Standards and the Directorate of Management Analysis of the United States Air Force. The sessions, which were sponsored by the Office of Scientific Research and Development Command, were held in the Pentagon on January 27 and at NBS on the two remaining days.

The symposium included 26 lectures dealing with all phases of current research in this field. In addition, one-hour expository addresses were given by Walter Jacobs, U.S.A.F., on military applications; Alan J. Hoffman, NBS, on computation procedures; Paul Samuelson, Massachusetts Institute of Technology, on linear inequalities; and George B. Dantzig, Rand Corporation, on future prospects. Stefan Vajda, Admiralty Research Laboratory, England, delivered a special address on linear programming activities in Great Britain.

The papers presented indicate that rapid progress has been made since a similar symposium was conducted in Washington in 1951. A number of papers reported practical applications. Among these was a discussion of the award of contracts by the Quartermaster Corps with strict adherence to the principle of cost control. SEAC, the NBS automatic electronic computer, has been used for over a year on this bid evaluation problem.

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Meetings

The American Management Association will hold the 24th national packaging exposition at the International Amphitheatre, Chicago, Ill., April 18-21, 1955, and the accompanying packaging conference at the Palmer House, April 18-20. An estimated 30,000 viewers are expected to attend the exhibits, and 40 speakers will report new developments in packaging materials, machinery, and methods at the 15 sessions of the conference.

The 37th annual meeting of the Scientific Apparatus Makers Association will be held at the Greenbrier, White Sulphur Springs, W. Va., April 24-28, 1955.

An informal luncheon meeting of the Association of Consulting Chemists and Chemical Engineers Inc. will be held March 25 at the Chemists' club, New York, N. Y. Richard L. Moore, director of public relations at Foster D. Snell Inc., will give an informal talk on "The Intrinsic Values of Professional Advertising."

The American Society for Testing Materials has set dates for its meetings through 1957. They include the 58th annual meeting, June 26-July 1, 1955; 59th annual meeting, June 17-22, 1956; and 60th annual meeting, June 16-21, 1957. All will be held at Chalfonte-Haddon hall, Atlantic City, N. J.

The Electrochemical Society will hold its 107th meeting at the Sheraton-Gibson hotel, Cincinnati, O., May 1-5, 1955.

The spring Northeast Regional Corrosion Conference, co-sponsored by the Northeast Region and the Metropolitan New York Section of the National Association of Corrosion Engineers, will be held at the Statler hotel, New York, N. Y., May 9-11, 1955.

The World Plastics Fair and Trade Exposition, originally scheduled for April, will be held October 5-9, 1955, at the National Guard armory, Los Angeles, Calif.

More than 700 chemists and chemical engineers will attend the 38th annual conference of The Chemical Institute of Canada at Quebec City, May 30-31 and June 1, 1955. About 100 papers will be presented, and a feature event will be the awarding of the 1955 medal of the Chemical Institute of Canada. Plant tours and a visit to the Saguenay area have been scheduled.

The American Society of Lubrication Engineers will feature a symposium, "Skin Diseases Due to Cutting Oils and Lubricants," during their 10th annual meeting and lubrication exhibit at the Hotel Sherman, Chicago, Ill., April 13-15, 1955. A special short course in lubrication engineering will also be held in connection with the meeting.

AEC Meetings and Contracts

REPRESENTATIVES of the power equipment industry attended a conference on March 9, 1955, of the Atomic Energy Commission, Washington, D. C., to discuss regulations being prepared under provisions of the Atomic Energy Act of 1954. A meeting was held March 8 with public and private electric utility officials, and on March 10 there was a meeting of representatives of the chemicals industry. A fourth meeting was held March 16, with representatives of research organizations.

Organizations represented at the power equipment session were American Machine and Foundry Company, Allis-Chalmers Manufacturing Company, Sylvania Electric Products Inc., Andale Company, General Electric Company, Westinghouse Electric Corporation, Combustion Engineering Inc., American Locomotive Company, Fluor Corporation Ltd., Minnesota Mining and Manufacturing Company, Sharples Corporation, Babcock and Wilcox Company, Foster Wheeler Corporation, and General Dynamics Corporation.

Those of the chemical industry invited to the March 10 session were American Cyanamid Company, Diamond Alkali Company, Dow Chemical Company, E. I. du Pont de Nemours and Company, Mallinckrodt Chemical Works, Monsanto Chemical Company, Union Carbide and Carbon Corporation, Vitro Corporation of America, General Aniline and Film Corporation, Lindsay Chemical Company, and Spencer Chemical Company.

Among the schools and universities represented at the meeting on March 16 were North Carolina State College of Agriculture and Engineering, Iowa State College of Agriculture and Mechanical Arts, University of California at Los Angeles, University of Michigan, Pennsylvania State University, and University of Minnesota.

Others were Battelle Memorial Institute, New England Deaconess Hospital, Nuclear Metals, Inc., Walter Kidde Nuclear Laboratories Inc., Nuclear Development Associates Inc., and Sloan Kettering Institute for Cancer Research.

ON THE DAY following the conference, the Atomic Energy Commission announced that 48 unclassified life science research contracts have been awarded in the fields of biology, medicine, biophysics, and radiation instrumentation. They were awarded to universities and private institutions as a part of the continuing policy of assisting and fostering research and development in fields related to atomic energy.

Eight of the awards are new projects. Forty contract renewals for one year were awarded to allow for continuation of research already in progress. One of these is for work on "Nutritional Biochemistry on the Metabolism of Vitamins and Amino Acids" being carried out at the University of Illinois.

CHARLES PFIZER AND COMPANY INC., Brooklyn, N. Y., has announced plans for a new Canadian plant in Arnprior, Ont., for the manufacture of pharmaceutical products. Pfizer now has nine manufacturing plants outside the United States, with eight more authorized or under construction. The company's English plant at Sandwich, Kent, has recently begun production.

The Canadian affiliate of FRITZSCHE BROTHERS INC., known as Fritzsche Brothers of Canada Ltd., has opened a new office in Montreal at 6999 Côte des Neiges road.

THE DRAVO CORPORATION, Pittsburgh, Pa., has been appointed by the Davis Engineering Company as exclusive distributors of Davis heat transfer equipment through its Pittsburgh, Cleveland, and Detroit offices.

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Atlas Opens Plant at Memphis

WHAT IS CONSIDERED to be the world's largest food emulsifier plant went into production at Memphis, Tenn., in March, according to William W. Hays, manager of the food industry division, Atlas Powder Company.

Atlas also has announced the development and manufacture of new high mono content food emulsifiers. Less of these emulsifiers are needed to obtain the same results as standard emulsifiers containing lower percentages of monoglycerides. They are 100% active, contain no extenders, and are available in plastic and powdered forms. Controlled crystallization and creaming give the plastic emulsifiers a smooth creamy texture. In addition to monoglyceride emulsifiers, the Memphis plant produces Atlas Span type of food emulsifiers which use sorbitol rather than glycerine as the base polyol.

The new plant at Memphis supplements the plant at Atlas Point in Wilmington, Del., and a recently completed one at Brautford, Ont., Canada. It puts Atlas in a position to produce emulsifiers at three widely separate locations, affording increased dependability and flexibility in source of supply. In addition, the Memphis plant, which is situated adjacent to the plant at the HumKo Company, and one of the country's leading processors of fats and oils, can now take advantage of a close raw material source and the latest technological improvements. The Memphis plant also provides faster service and savings in freight costs to the increasingly important Southern industrial market.

Atlas food emulsifiers are sold to the baking industry through R. T. Vanderbilt Company Inc., New York, and to the ice cream industry through R. G. Moeck and Company, New York. Emulsifiers for other food uses are sold directly to the food industry through Atlas' own technical representatives.

H. J. Wissel Dies

Herbert J. Wissel (1952) died in Cincinnati on February 9, 1955, at the age of 44. A graduate of the University of Cincinnati, Mr. Wissel had been with the Procter and Gamble Company since January 27, 1928, and had worked with the oil mill technical group of the Buckeye Cotton Oil Company for a number of years.

Referee Applications

Second Notice. Robert W. Bartlett of the Barrow-Agee Laboratories, Memphis, Tenn., has applied for a Referee Certificate on Oil Cake and Meal, Cottonseed, and Fatty Oils. The chairman of the Referee Board will be happy to receive information relative to certification from interested parties. Please write to N. W. Ziels, chairman, Referee Board, Lever Brothers Company, 1200 Calumet avenue, Hammond, Ind.

Second Notice. Claude E. McLean, president, Arizona Testing Laboratories, Phoenix, Ariz., has applied for a Referee Certificate on Cottonseed and Oil Cake and Meal. Any member of the American Oil Chemists' Society wishing to comment on this application may address his comments to N. W. Ziels, chairman, Referee Board, Lever Brothers Company, 1200 Calumet avenue, Hammond, Ind.

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