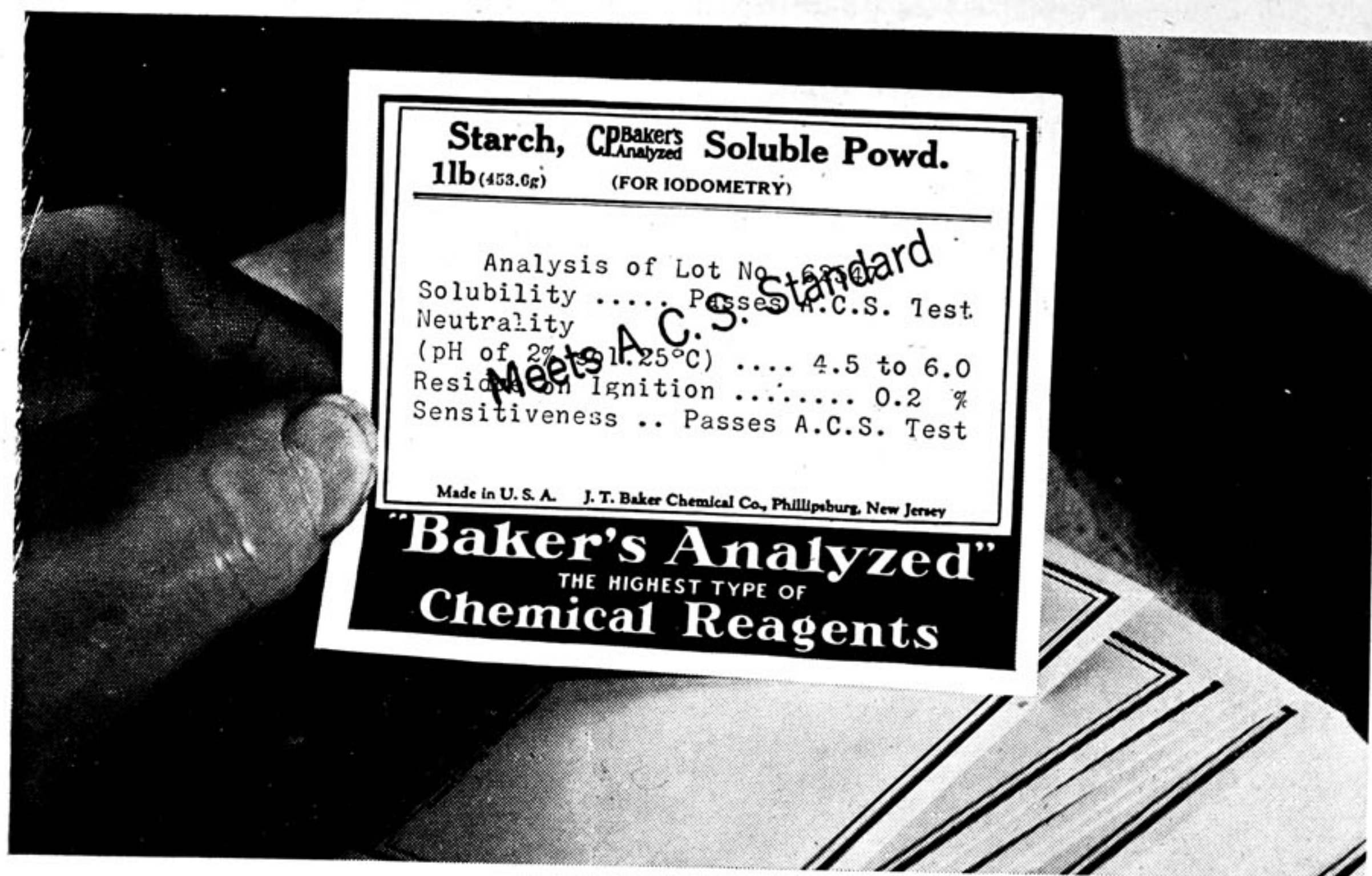


The
PUGET SOUND CHEMIST

Bulletin of the Puget Sound Section of the American Chemical Society



Skill on parade

This Baker's Analyzed label is a record of our chemists' skill.

It shows by *actual lot analysis* the degree of purity achieved—not just a listing of maximum limits of impurities.

In producing Baker's Analyzed Reagents, a sample from every lot manufactured is sent to our analytical laboratory for testing. Important impurities are defined and often to the third and fourth decimal.

Every analysis is a constant challenge to our production chemists. It is an incentive, not just to meet the established standard, but to better it as much as possible.

The *actual analysis* on the Baker label makes Baker's Analyzed Reagents the most precise chemical measuring tool available to the chemist.

When you order reagents, specify Baker. Available at your favorite laboratory supply house.

J. T. Baker Chemical Co., Executive Offices and Plant: Phillipsburg, N. J.
Branch Offices: New York, Philadelphia, Boston, Chicago, and Los Angeles

"Baker's Analyzed"

C. P. CHEMICALS AND ACIDS



BAKER'S ANALYZED C. P. CHEMICALS ARE SOLD IN YOUR AREA BY:

SCIENTIFIC SUPPLIES CO.

122 Jackson St., Seattle, Wash.

The **PUGET SOUND CHEMIST**

Published monthly by the Puget Sound Section, American Chemical Society

Volume VIII

December, 1947

Number 10

EDITOR: G. OTTO ORTH, JR., 2919 First Ave. South, Seattle 4, Wash., MA. 4090
ASSISTANT EDITOR: LESTER D. BERGER, JR., Carbide & Carbon Chemicals Corp., MA. 6247
ASSISTANT EDITOR: C. V. SMITH, Northwest Laboratories, MA. 0680
ASSISTANT EDITOR: ED. LINGAFELTER, University of Washington, Seattle, ME. 0630
BUSINESS MANAGER: RODNEY WILLIS, Standard Chemical Engineering Co., WE. 4666
ADVERTISING MANAGER: HAROLD RUDOW, Scientific Supplies Co., EL. 1134



Directory — Puget Sound Section

Chairman

HERBERT R. ERICKSON
Tower Co., Inc.
5421 First Ave. S., Seattle 8

Vice-Chairman

JOSEPH L. McCARTHY
Department of Chemical Engineering
University of Washington, Seattle 5

Secretary

COLLIS C. BRYAN
Monsanto Chemical Co., Western Div.
911 Western Ave., Seattle

Treasurer

Q. P. PENISTON
Bagley Hall, Univ. of Washington
Seattle 5, Wash.

Program Committee

D. M. RITTER, Chairman
Bagley Hall, Univ. of Washington
Seattle 5, Wash.

Finance Committee

JOHN MEILER, Chairman

Public Relations Committee

LESTER D. BERGER, JR., Chairman
Carbide and Carbon Chemical Corp.
2901 First Ave. S., Seattle 4

Social Committee

JOHN SCOTT, Chairman

Membership Committee

R. C. SCOTT, Chairman
Adhesive Products Co.
3400 Thirteenth Ave. S.W.
Seattle 4, Wash.

Professional Practice and Legislation

W. R. MOFFITT, Chairman

Library Committee

H. DAUBEN
L. H. BROWN

Employment Committee

JOHN STEPHAN, Chairman
Monsanto Chemical Co., Seattle

Councilors

GEORGE H. CADY
R. W. HARRISON
T. S. HODGINS
A. J. NORTON

Representatives to the Puget Sound Engineer Council

FRANK WEST

Regional Activities—VICTORIAN SIVERTZ

EDITORIAL ADVISORY BOARD: FRED ARMBRUSTER, Chairman
JOSEPH L. McCARTHY
D. M. RITTER

December Meeting

**PUGET SOUND SECTION OF THE
AMERICAN CHEMICAL SOCIETY**

Tuesday, Dec. 16, 1947

8:00 P.M.

UNIVERSITY OF WASHINGTON

BAGLEY HALL

ROOM 140



Speaker

DR. WENDELL W. MOYER

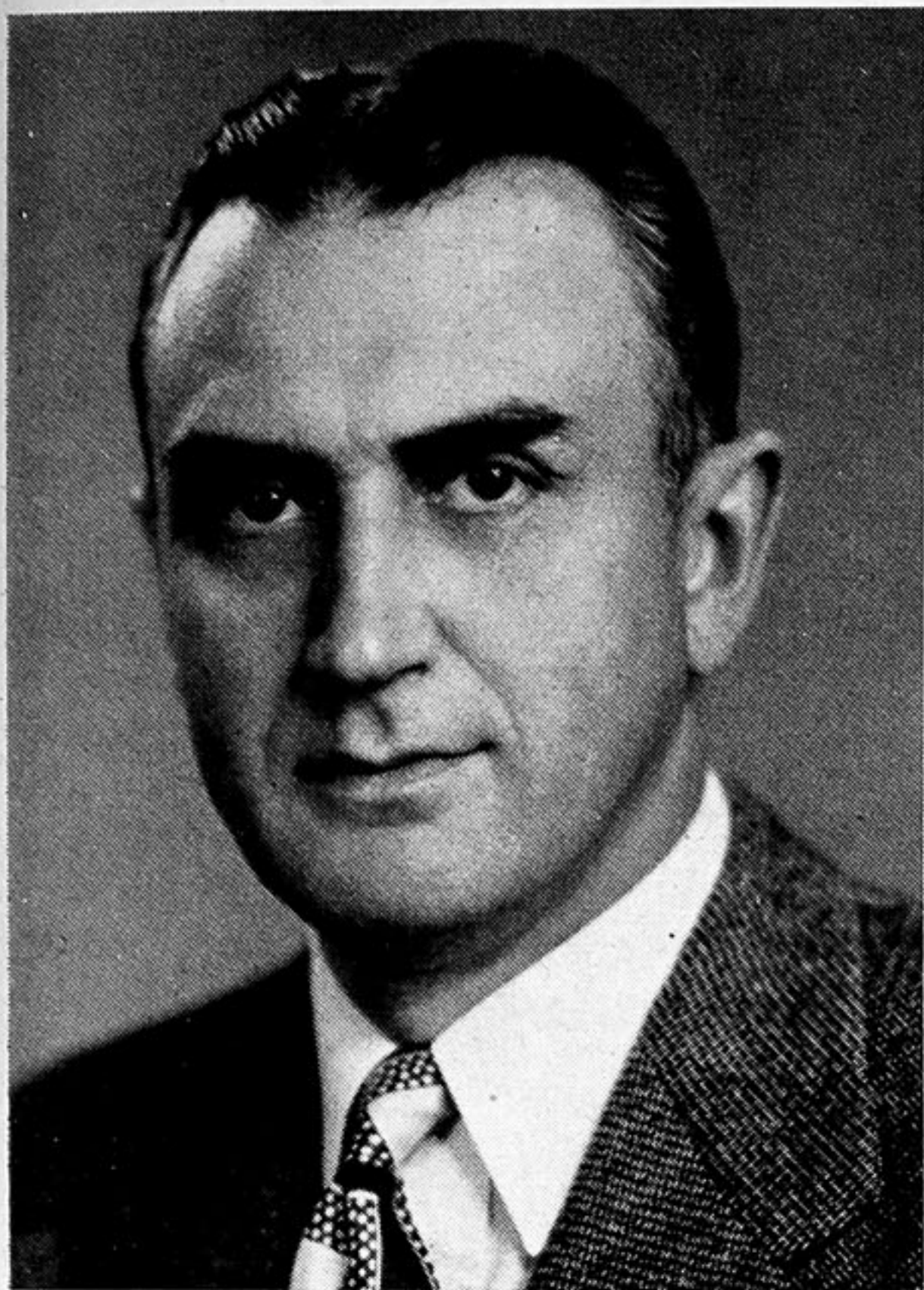
Director of Research

CROWN-ZELLERBACH CORPORATION

Subject

**RECENT ADVANCES IN
STARCH CHEMISTRY**

Our December Speaker . . .



WENDELL W. MOYER

Wendell W. Moyer is Director of Research for Crown-Zellerbach Corporation, with headquarters at the Central Research and Technical Department, Camas, Washington. He was born at Glidden, Iowa, in 1903, was graduated from Findlay College, and obtained his Ph.D. degree in organic chemistry under the direction of Roger Adams at the University of Illinois in 1929. During 1929-30 he was a research assistant to Dr. James B. Conant at Harvard, and the following year he worked with H. Wieland at Munich on a National Research Council Fellowship. From 1931 to 1933 he was a Research Associate at Princeton University.

He joined the research staff of the Solvay Process Company at Syracuse, New York, as a project leader in 1933. In 1937 he accepted the position of Director of Research for the A. E. Staley Manufacturing Company of Decatur, Illinois, where he remained until June, 1947.

During the past ten years, he has taken an active part in starch research, not only in the laboratory of the Staley Company but also in the university laboratories through the Fellowship sponsored by the Corn Industries Research Foundation. He took an active part in the Starch Round Table Meetings.

He has been a member of the American Chemical Society since 1929 and has participated actively in its affairs. He was Vice-Chairman of the Division of Sugar Chemistry and Technology in 1946 and served as Chairman in 1947. He is also a member of the A.A.A.S. and TAPPI.

Dr. Moyer was married in 1927 to Miss Gladys DeRodes, and they now have five children.

JANUARY MEETING

**Special Cards Will Be Mailed
Announcing
Our January Speaker
and Date of Meeting**

OUR COVER PHOTO

Courtesy of
**NORTHWESTERN MUTUAL FIRE
ASSOCIATION**

**WINTER SCENE—The Cowlitz
Glacier high on the south
side of Mount Rainier.**

RECENT ADVANCES IN STARCH CHEMISTRY

WENDELL W. MOYER

The development of a fundamental understanding of the nature of starch is an accomplishment of the present decade. In order to account for the recent advances and the prior backwardness of research on such a common and economically important substance, it is necessary to survey the history of starch chemistry in the light of present knowledge.

The era of the older starch chemistry covers the long period from the beginnings of carbohydrate chemistry up to 1905, and requires little comment. Starch was recognized to be a polymer of glucose. The technology of the manufacture and transformation of starch to a variety of useful commodities developed to an advanced stage. The advances of this era seem to be highly satisfactory in view of the primitive status of high polymer chemistry.

In 1905 Maquenne and Roux published the results of an investigation in which they claimed that starch was a mixture of two carbohydrates. They named one of these substances amylopectin because they thought it was responsible for the gelatinous character of starch pastes. The second substance, amylose, was found to be soluble in water and lacking in colloidal properties. By the action of malt, the amylopectin was converted to dextrans and the amylose almost completely to maltose.

The concept of the heterogeneity of starch inaugurated and permeated a second era in starch chemistry, which may be aptly called the era of confusion. This designation is unjust to many brilliant individual contributions made during the time, but as a whole, the literature of the era is a record of conflicting data and interpretations. Not because Maquenne and Roux were wrong, but because they were amazingly right! Beyond doubt they had separated starch into the two fractions now accepted, but the technique of the separation could not be repeated either by them or others. Unfortunately, Ma-

quenne later doubted his own work. Toward the end of the era of confusion, which lasted until 1940, substantial progress was made by working with starch as a homogeneous material.

The event that ended the era of confusion and began the era of the newer starch chemistry was not a chemical experiment but a fruitful experiment in human relations. Early in 1940 Norman Kennedy, Director of Research for the Corn Industries Research Foundation, conceived the idea of bringing together, at an annual meeting, the most capable research men in carbohydrate chemistry from the university, governmental and industrial laboratories. The purpose was to discuss informally and "off the record" the problems of fundamental starch chemistry and to exchange ideas, theories and information. The first starch Round Table was held in 1940 under the leadership of Dr. C. S. Hudson of the National Institute of Health.

A Starch Round Table meeting has been held every year since 1940. The influence of this stimulating force can only be estimated by the tremendous achievements of the past seven years in solving the majority of the hitherto most obstinate problems of starch.

The newer starch chemistry includes:

- 1 Precise methods for separating the starch fractions, amylose and amylopectin.
- 2 An accurate analytical method for determining the percentage of the two fractions in starch.
- 3 Information on the chemical structure and molecular weight of each of the two fractions.
- 4 A rational explanation of the unique properties of starches.
- 5 The enzymatic synthesis of starch.
- 6 An understanding of the mechanisms of the degradation of starch by various enzymes.
- 7 An understanding of the chemical differences between starches of different plants.

(Continued on Page 16)

THE WESTERN CHEMICAL MARKET RESEARCH GROUP

Interested Members of the Puget Sound Section are Urged to Join

On October 21, the Western Chemical Market Research Group sponsored, as a part of the program of the Pacific Chemicals Exposition, a Conference on Western Chemical Markets. This excellent symposium consisted of a series of eight papers, dealing with the usage of chemicals by the basic West Coast Industries including the Wood Industry, Plastics Industry, Pulp and Paper Industry, Paint and Varnish Industry, Petroleum Industry, Agriculture and the Food Industry. The paper presented by Arthur J. Norton and Donald V. Redfern on the Western Plastics Industry as a Consumer of Chemicals was reprinted in the November Issue of the PUGET SOUND CHEMIST and has aroused considerable public interest. An article based on this paper appeared in the *Seattle Times* on November 27.

The Western Chemical Market Research Group was organized in June, 1946 as a Western counterpart of the Chemical Market Research Association of New York, although there exists no formal affiliation between the two organizations. An informal statement issued by the group concerning its purpose and organization reads, in part, as follows:

- 1 PURPOSE—To provide a means for informal contact among persons in the Western States engaged in chemical market research or chemical technical service and for the mutually beneficial exchange of general information in these fields.
- 2 MEMBERSHIP—Persons living in the Western States who devote a major portion of their time to chemical market research or chemical technical service, or who are in administrative charge of chemical marketing in basic raw material industries, are eligible for membership.

Nominations for membership of persons meeting these requirements will be reviewed by the membership committee

and the nominee informed of action taken. Persons being nominated for membership are expected to be willing to take an active part in the activities of the group when and if called upon. Persons not meeting the membership requirements are welcome to attend meetings on invitation, but will not be considered members.

Meetings of the group are held at approximately six-week intervals in the San Francisco area, and at present the majority of the membership is from this area. Papers are presented at these meetings dealing with chemical markets in various industries of interest in the area, and are followed by a round table discussion. The following papers have been presented to the group to date:

Ceramic Industry as a Consumer of Chemicals—*Dr. W. O. Brandt, Director of Research, Gladding, McBean & Co., Glendale, California.*

Recent Developments in the Use of Organic Chemicals in Agriculture—*R. R. McPherson, Assistant Manager of Technical Service, Dow Chemical Company, Pittsburgh, California.*

Western Markets for Rayon and Chemical Requirements of the Rayon Industry—*W. C. McIndoe, Chemical Engineer, Bonneville Power Administration, Portland, Oregon.*

The Story of Tenite—*Lewis West, Wilson & Geo. Meyer Co., San Francisco, California.*

Market Research Sources—*Carleton Green, Regional Economist, U. S. Department of Commerce, San Francisco, California.*

Consumption of Chemicals by the Paperboard Industry—*H. L. Rammer, Market Research Division, Fibreboard Products, Inc., Antioch, California.*

The Paint, Varnish and Lacquer Industry—*Dr. J. J. Matiello, Vice President, Hilo Varnish Corp., Brooklyn, N. Y.*

(Continued on page 16)

Minutes of the 263rd Regular Meeting of the Puget Sound Section of the American Chemical Society Bagley Hall, October 29, 1947

The meeting was called to order by our Chairman, Herbert R. Erickson, at 7:40 p.m.

The minutes of the preceding meeting were read and approved.

The Chairman explained to the section the possible necessary change in our section constitution, in relation to the election of Councilors, in the event the proposed national society constitution were adopted by the vote of the membership.

As our section constitution must not conflict with the constitution of the parent society, a committee consisting of Vic Sivertz, Chairman; Collis Bryan and Herbert Erickson was appointed to formulate the necessary changes in our constitution to conform with the new national constitution if adopted.

The Chairman also pointed out that normally the nominating committee, acting in accordance with our section constitution, would present their nominations for the officers of the section for the ensuing year at the October meeting. However, the probable change just mentioned, together with the possible adoption of one of the three pending proposals for our having a Chairman-elect, made it advisable that these matters be settled before the nominations be made.

Regarding the proposals for a Chairman-elect, it was pointed out from the chair that one of the following actions might be taken. They may be:

1. *Rejected.*
2. *Tabled.*
3. *Approved for adoption.*
4. *Approved for incorporation into a revised local constitution.*

It was pointed out that to have a Chairman-elect was desirable to achieve continuity of officer functioning, that to have a completely new set of officers in the middle of the season created considerable confusion. Further, frequently mat-

ters come up, such as appointment of the editor of the Puget Sound Chemist that should be taken care of before the end of the year, but at present no one officially has the authority to do so.

The following suggestions and comments were made from the floor:

1. *That the time of officer term be changed to start in June or July.*
2. *That the Program Chairman be an elective office.*
3. *That the officers be elected in June even though their term of office starts on January 1.*

After considerable discussion, it was moved by Otto Orth that Proposition 2, which was that the office of Chairman-elect be created and that as a part of his duties he assume the chairmanship of the Program Committee, be adopted.

The motion was seconded by Dr. H. V. Tartar.

Immediately a motion to table the motion was made by B. L. Bussard, his reason being that as we had a very outstanding speaker we should not deprive him of any of his allotted time.

The motion was seconded and carried.

The speaker of the evening was Dr. Herman Mark. Dr. Mark gave an exceedingly interesting and instructive talk on "*The Mechanical Behavior of High Polymers.*"

COLLIS C. BRYAN, *Secretary*

NORTHWEST LABORATORIES

CONSULTING ENGINEERS — CHEMISTS

Second Avenue and James Street

Seattle 4, Washington

Phone MAin 0680

Applied Research

Physical and Chemical Testing

Process and Product Development

Equipment Engineering

Minutes of the 264th Regular Meeting of the Puget Sound Section of the American Chemical Society Bagley Hall, November 25, 1947

Following a day of The Annual Research Conference and a dinner in honor of Dr. Joel H. Hildebrand, the meeting was called to order by our Chairman, Herbert R. Erickson, at 8:00 p.m.

In order to give the speaker of the evening time to adequately present his subject and have plenty of time to catch his train, the reading of the minutes of the preceding meeting was dispensed with and the business meeting was postponed until after the main address and usual discussion.

The speaker of the evening, Dr. Joel H. Hildebrand, Dean of the College of Letters and Science, University of California, was introduced by one of his former students, Dr. Edward C. Lingafelter.

Dr. Hildebrand delivered an extremely instructive and interesting as well as entertaining talk on "*The Solvent Power of Liquid Ammonia*." Considerable discussion followed.

The business meeting began at 9:30 p.m.

Dr. Ritter announced that the next meeting would be held on December 16 and at that meeting Dr. W. W. Moyer would speak on "*Recent Advances in Starch Chemistry*."

Lester Berger stated that the Puget Sound Chemist had been delivered to the mailing bureau in plenty of time to have been in the hands of the members at least a couple of days before the meeting but that most of the membership did not receive theirs until the day before. He pointed out that there was a coupon on the back page that could be clipped out and used, and that the degree of use made would be looked upon by the advertiser as an index of the effectiveness of the advertisement. He also requested that anyone desiring to help out with the Puget Sound Chemist meet with Otto Orth and himself after the meeting.

The most important business of the evening was the report of the nominating committee. Prior to that report our Chairman pointed out that as far as the local section is concerned there was no difference in the rank of the councilors and the alternate councilors.

The report of the nominating committee, Edward Lingafelter, Chairman, Roger Harrison, Robert Sprenger, Ed Lovell and John Stephan, was made by its Chairman.

The following nominations were made by that committee:

Chairman.....	Joseph L. McCarthy
Vice-Chairman.....	J. G. Meiler
Secretary.....	Collis C. Bryan
Treasurer.....	Q. P. Peniston
Councilors.....	H. R. Erickson
	P. R. Fehlandt
Alternate Councilors.....	O. Goldschmid
	V. Sivertz

The chair then called for nominations from the floor but there were none.

After a small amount of discussion as to how the motion should be worded it was moved that the report of the nominating committee be accepted as read. The motion received a second and was carried without a negative vote.

The chair then instructed the Secretary to cast a unanimous ballot accordingly.

It was pointed out by the chair that according to the new national society constitution the councilors should be elected in such a way as to bring about rotation. However, as each councilor would normally be elected for a three-year term and as there were just two councilors and two alternates it would not be possible to have uniform rotation. However, if one of the four were elected for three years, two for two years, and one for one year, or some such scheme, at least one of those offices would become vacant each year.

(Continued on page 13)



**chemical
control**

with B & A Reagents:

THE KEY TO QUALITY PRODUCTS

FOR CERTAINTY in chemical control, depend on B&A Reagents to give you precision analyses . . . to adhere so minutely to decimal-point accuracy that they will show the slightest variation in your processing from raw materials to finished product.

AMERICA OVER, B & A REAGENTS are noted for their quality, purity and dependability—recognition which has been gained by Baker & Adamson through 65 years of "Setting the Pace in Chemical Purity."

EXTENSIVE STOCKS of B&A Reagents are carried in General Chemical's own chain of regional distributing stations from Coast to Coast. Take advantage of the one serving your territory. Your B&A salesman can plan these local stocks to supply your month-to-month needs swiftly, surely.

GET THIS QUICK, convenient service . . . and Industry's most dependable reagents . . . by phoning or writing the nearest B&A Office below.



BAKER & ADAMSON *Reagents*

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N. Y.

Seattle 1—1326 Fifth Avenue—Elliot 5287

Los Angeles 21—2461 East 8th Street—Van Dyke 1001

San Francisco 4—235 Montgomery Street—Douglas 0904

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

KIMBLE LABORATORY HYDROMETERS

Kimble Precision Hydrometers possess the same superior qualities of material, design and workmanship that mark all Kimble scientific glassware.

- Thorough **ANNEALING — RETESTED** before shipping
- Design to avoid trapping of bubbles
- Paper scales secured to prevent slipping
- **ACCURACY** within limits allowed by National Bureau of Standards, as given in Circular 16, "Testing of Hydrometers"
- Complete Line, to suit all Laboratory purposes

Consult leading Laboratory Supply Houses throughout the United States and Canada about *your* requirements in Hydrometers and other items in the comprehensive line of Kimble Laboratory Glassware.

For Assurance

Visit our Display Booths 342 and 344 at the Chemical Exposition, Grand Central Palace, New York, December 1 to 6.

KIMBLE  GLASS

The Visible Guarantee of Invisible Quality

Toledo 1, Ohio

DIVISION OF OWENS-ILLINOIS GLASS COMPANY

1140

1290

THE EDITOR'S RETORT . . .

As the very first item on this month's agenda, we wish to present a large bouquet of editorial orchids to Chairman D. M. Ritter of the program committee and his able staff for an excellent and smoothly organized program presented at the Annual Research Conference. In cooperating with the program group to obtain abstracts of the papers presented, for publication in last month's PUGET SOUND CHEMIST, we obtained a slight insight into the problems involved in arranging a program of this type. That the Conference itself proceeded so smoothly as to make the effort behind it invisible to the naked eye is further token of the able organizing job that was done.

Due to limitations of space, the article by Arthur J. Norton and Donald V. Redfern, entitled "*The Western Plastics Industry as a Consumer of Chemicals*," was run in last month's issue without editorial comment. Those of our readers who did not take the time to absorb this article are cheating themselves out of some stimulating reading and a breathtaking glimpse into the future of chemical industry in the West. The authors present a convincing story of expansion on a grand scale to take place within the next few years. Their "guesstimates," as they are modestly called, find many bases in observable trends and developments familiar to those working in the field of market analysis. Without doubt they erred, intentionally, on the conservative side in their predictions, yet their material was of enough interest and popular appeal to appear as the basis of a special article in the *Seattle Times* on November 27.

The publication of an article based on this paper by the local press serves to remind us again that chemistry makes news. The news so made, however, is in a highly undigestible form from the standpoint of the average layman. It should be one of the functions of the local sections to dilute and pre-digest the highly technical details of chemical progress in the area for the benefit of all

concerned. It has been, and will continue to be the policy of this publication to work toward the goal of more widespread knowledge and understanding of the part chemistry plays in the progress of mankind. We firmly believe that the spade-work which will be necessary to pursue such a policy will pay handsome dividends in the long run.

On page 9 of this issue appears an article on the Western Chemical Market Research Group. It should be possible to organize such an informal group in the Northwest, which would be an excellent instrument for crystallizing and reducing to readily understandable terms the rapidly growing importance of chemical processing to Northwest Industry. In full realization of the fact that many of us are already burdened with more extra-curricular activity than can readily be handled, we urge that all those who have an interest in chemical markets give serious consideration to membership in this group and the formation of such a group in this area. In cooperation with the various technical societies, an organization concerned with market development and chemical utilization could generate some very interesting information with a high level of popular interest.

Preliminary notice should be taken of the fact that plans are now fixed for the holding of the 1948 Western Session of the National Meeting of the Society in Portland, Oregon, on September 13-17, 1948. Every possible assistance which can be offered to the Portland group to make this gathering an outstanding success should be extended both by this section and by the members individually. We will continue to report the progress of plans for this meeting as information becomes available.

Notice has been received of the publication of A.C.S. Monograph No. 105, entitled "*The Chemistry of Organic Cyanogen Compounds*," by Vartkes Migrdichian of American Cyanamid Company, Stamford, Connecticut. This is a

(Continued on page 14)

Book Reviews . . .

Industrial Experimentation by K. A. Brownlee. Chemical Publishing Co. Inc., N.Y., \$3.75

This book is designed primarily for the use of those concerned with pilot-plant and plant-scale experiments on chemical manufacturing processes. The statistical methods presented have long proved to be of great value in other fields of experimentation, notably agriculture.

Those who must apply critical tests of statistical significance in practice, often without a full knowledge of their theoretical background, will find this volume particularly useful.

It is a guide to both the planning and interpretation of experiments on an industrial scale and paves the way to efficient quality control. 151 pages.

Pyrotechnics by George W. Weingart, \$7.00.

This revised, enlarged and up-to-date edition of Pyrotechnics will assist newcomers in the industry, those engaged in the manufacture of pyrotechnical products, as well as students.

Important methods and uses discovered during the recent years are fully covered.

Basis ingredients, methods of manufacture and valuable formulas are all given. Safety precautions are stressed, the history and development of pyrotechnics, the production of every known piece of fireworks, from the beginning to the finishing product, are discussed. Methods used in large factories are described.

Many illustrations, a glossary of terms, a bibliography and a detailed index, help make this book a standard reference in the field of fireworks and explosives. 244 pages. 1947 edition.

Concise Chemical and Technical Dictionary by H. Bennett, \$10.00.

About 50,000 definitions are included in this volume, which covers every field of scientific and technical development. Written for both professionals and laymen, this book contains a great many

internationally accepted terms which facilitate mutual understanding between the scientists and technical workers of many countries.

Practical and easy to use, the nomenclature in this dictionary is that generally adopted by the chemist and engineer. Thousands of helpful cross-references are included, and arranged so that the desired terms can be located with a minimum of effort.

A special feature is an up-to-date compilation of thousands of trade-names or proprietary products in the synthetic resin, plastic, metal, rubber, textile, food, pharmaceutical, paint and varnish fields, including emulsifying and wetting agents, plasticizers, detergents, etc. The definitions are concise, clear and to the point. Thousands of abbreviations, contractions, and many useful tables add to the value of the book.

Minutes of the 264th Meeting

(Continued from Page 9)

After some discussion at the suggestion of the chair, it was moved that the four elected councilors and alternates determine among themselves the terms of their office. The motion received a second and was carried.

The meeting adjourned at 9:45 p.m.

COLLIS C. BRYAN,
Secretary

F. L. COOPER PASSES

It was with deep sorrow that we learned of the death on November 28 of F. L. Cooper, Vice President and Sales Manager of Scientific Supplies Company of Seattle. Mr. Cooper succumbed to a heart ailment from which he had been suffering for some time.

Mr. Cooper was born in London, England in 1892 and came to Seattle in 1938. He was a member of the Kiwanis Club, the American Legion, and The American Chemical Society. For many years he had been interested in the activities of the Puget Sound Section, and his cooperation and assistance in the affairs of the Section will be greatly missed.

THE EDITOR'S RETORT

(Continued from page 12)

highly important treatise which explores exhaustively every aspect of the complex chemistry of the cyanogen compounds. Further information, or the book itself, may be obtained from Reinhold Publishing Corporation, 330 West 42nd St., New York 18.

Along less technical lines, but of definite interest to those concerned with the chemical industry, is a booklet recently published by Merrill Lynch, Pierce, Fenner & Beane, entitled "*Chemicals*." This booklet reviews briefly the fields of activity and the financial position of the twenty largest chemical corporations in this country, and also includes a tabulation of all other chemical producers of importance with a brief indication of their activities and status. This is highly recommended reading for all who sometimes wonder what makes the chemical industry tick. Copies are available from the local offices of M. L., P., F. & B.

Expanded Library Facilities In Bagley Hall

The Chemistry and Chemical Engineering Library in Bagley Hall at the University of Washington was expanded on October 1 into a Branch Library of the University Library. Since the expansion, practically all of the books and periodicals in Chemistry and Chemical Engineering are collected in one place. It is felt that this change will greatly increase the efficiency of the library service, both

(Continued on Page 16)

REGISTERED CHEMICAL ENGINEERS

•
Telephone WEst 4666
•

**STANDARD CHEMICAL
ENGINEERING CO.**

Professional Service to Industry
•

Laboratories
R. M. WILLIS 1745 Harbor Ave. S.W.
General Manager SEATTLE 6, WASH.

CHEMICALS

INDUSTRIAL • AGRICULTURAL RAW MATERIALS

Largest and Most Complete Stocks in Northwest

VAN WATERS & ROGERS

INCORPORATED

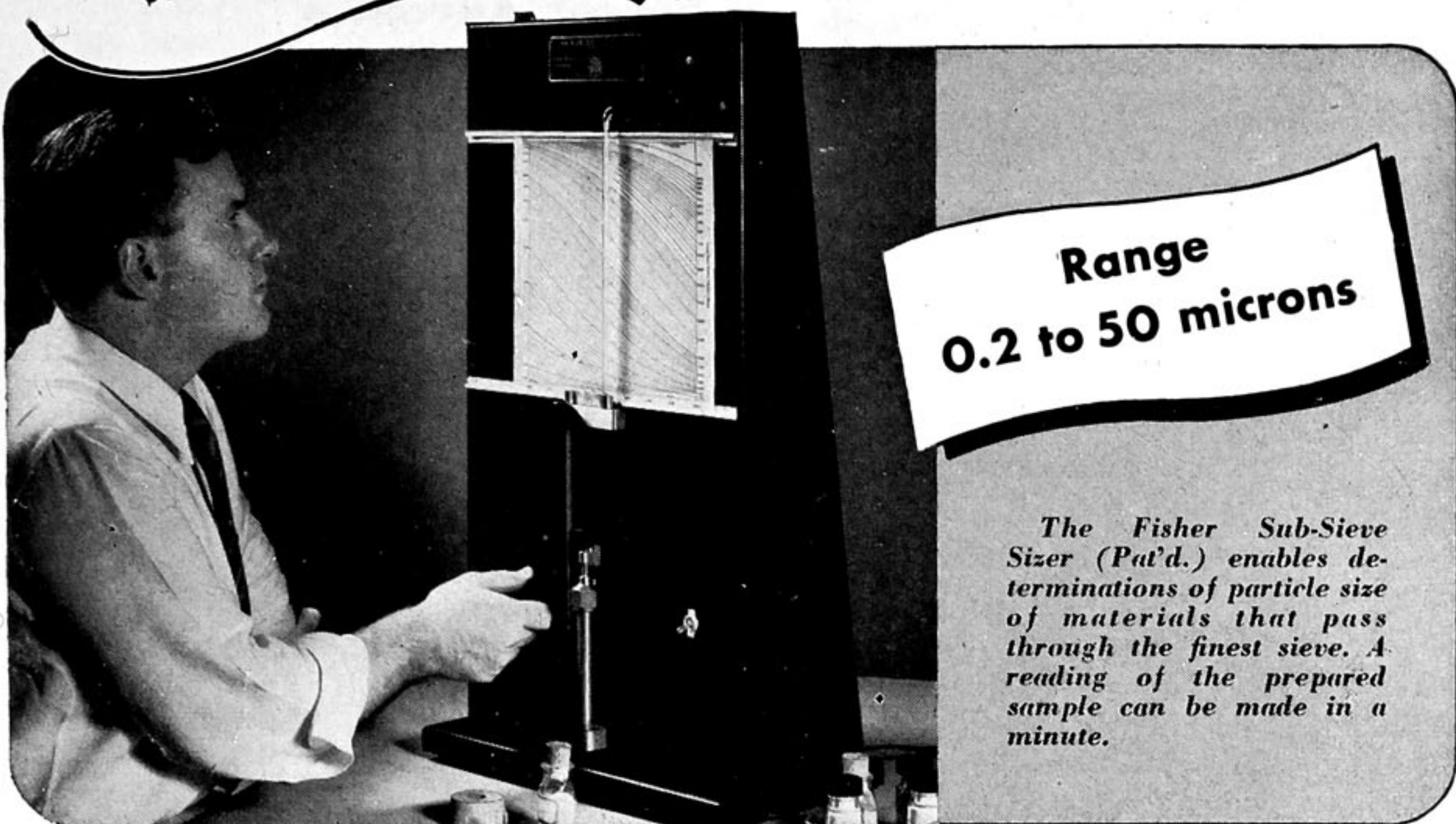
SEATTLE

PORTLAND

SPOKANE

BOISE

MEASURE PARTICLE SIZE DIRECTLY WITH THE *Fisher* SUB-SIEVE SIZER



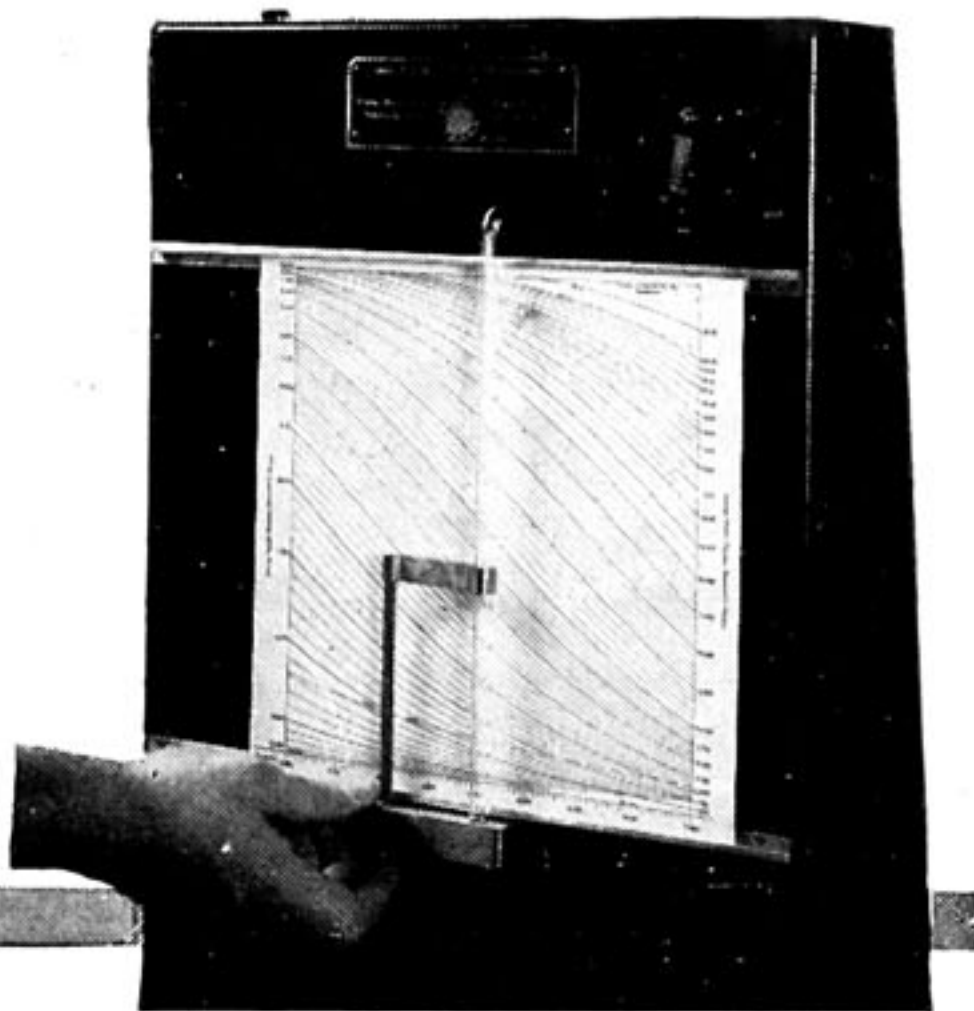
Range
0.2 to 50 microns

The Fisher Sub-Sieve Sizer (Pat'd.) enables determinations of particle size of materials that pass through the finest sieve. A reading of the prepared sample can be made in a minute.

The Fisher Sub-Sieve Sizer provides the means of making particle size determinations of materials such as cement, pigments, pulverized coal, carbon black, cosmetics, powdered metals, insecticides, etc. Such determinations of weighed samples can be made in a minute.

Fisher Sub-Sieve Sizer,
with copyrighted calculator
chart and directions,
\$225.00

The Fisher Sub-Sieve Sizer (Trade Name) has standardized parts and a unique design based upon original work by Ernest L. Gooden and Charles M. Smith. It employs the air permeability method of particle size measurement. When a sample is placed in the instrument and the air pressure is applied, the average particle size in micron units is read directly from the chart.



SCIENTIFIC SUPPLIES CO.

SEATTLE, WASHINGTON

The Western Chemical Market Research Group

(Continued from page 7)

Chemistry Upsets Economics—*Dr. T. J. Kreps, Professor of Business Economics, Stanford University, Palo Alto, California.*

Use and Requirements of Chemicals by the Pacific Coast Detergent Industry—*Dr. T. R. Cleveland, Vice President, Philadelphia Quartz Co. of California, Berkeley, California.*

Abstracts of the papers presented at these meetings are mailed to the membership of the group in order that those who are unable to attend may profit, even at long range, from the work of the organization.

During the week of the Pacific Chemicals Exposition an informal meeting was held to discuss the formation of other such groups on the West Coast. In view of the probability that a formal organization of this type could not be brought into existence overnight in the Puget Sound area, it was urged that individuals from the Northwest who are qualified and who have an interest in chemical market research apply for membership in the group now organized in San Francisco. Those desiring to apply for membership or to obtain further details concerning the group should write to Mr. R. H. Ewell, 100 Bush Street, San Francisco, California. Members will receive announcements of all meetings, as well as abstracts of papers presented. While no membership dues are assessed, an extremely nominal fee may be charged to cover the cost of preparation of reprints.

It is planned to publish a list of members of the Western Chemical Market Research Group early in January, 1948. It is therefore urged that those desiring membership apply before the first of the year in order that their names may be included in the new directory.

In the event that a number of memberships are requested by individuals from the Puget Sound Area, consideration can then be given to the formation of an informal sub-group or section of the organization. It is earnestly hoped that eventually we may have a full-fledged

Puget Sound Area Chemical Market Research Group, or that we may join with Portland and inland areas in forming a Northwest Chemical Market Research Group, of which at least occasional meetings could be held in this area.

Recent Advances In Starch Chemistry

(Continued from page 6)

Not all the problems have been solved, but it is safe to predict that when work now under way is completed, the future research on starch will deal with the fine points, and the use of the new information by industry.

Expanded Library Facilities

(Continued from page 14)

for the faculty and students at the University and for the other chemists and chemical engineers in the Puget Sound Area.

The Bagley Hall Library is under the capable supervision of Miss Winifred Jones, Science Librarian of the University of Washington for the past 21 years.

ARTHUR J. NORTON

Consulting Chemist

•

RESIN, PLASTIC and
CHEMICAL RESEARCH
and DEVELOPMENT

•

Associates

G. OTTO ORTH, JR.

L. H. BROWN

•

2919 First South

Seattle

MAin 4090

Bartlett Elected Chairman Of the Organic Division

Dr. Paul D. Bartlett, professor of Chemistry at Harvard University, has been elected chairman of the Organic Division. He succeeds Dr. Arthur C. Cope, chairman of the Department of Chemistry at Massachusetts Institute of Technology.

Dr. Ralph W. Bost of the University of North Carolina was re-elected Secretary of the Division, and Dr. Ralph L. Shriner, Iowa State College, Dr. William G. Young, University of California, and Dr. Cope were named to the executive committee.

Dr. Bartlett, a member of the Harvard chemistry faculty since 1934, received the \$1,000 American Chemical Society Award in pure Chemistry in 1938 for his "notable progress in the borderline field between organic and physical chemistry." During World War II he conducted research on chemical warfare agents, insecticides, and insect repellants

for the National Defense Research Committee.

Born in Ann Arbor, Michigan, in 1907, Dr. Bartlett received the Bachelor of Arts degree from Amherst College in 1928, the Master of Arts degree in 1929 and the Ph.D. degree from Harvard in 1931. After a year at the Rockefeller Institute for Medical Research and at Columbia University as a Research Fellow, he served as an instructor at the University of Minnesota before joining the Harvard staff.

Dr. Bartlett is an associate editor of the "Journal of the American Chemical Society" and a member of the Editorial Advisory Board of the "Journal of Polymer Science." He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, the New York Academy of Sciences, Sigma Xi, Phi Beta Kappa, Ouroboros, Alpha Chi Sigma and Theta Delta Chi, and has served for a number of years as Secretary of the Association of Harvard Chemists.

SERVICE BY

Laucks

THIS TIME WE'RE
JUST SAYING . . .

**Merry Christmas,
Everyone!**



LAUCKS LABORATORIES INC.

Established 1908

NEW CHEMISTRY and CHEMICAL ENGINEERING FACULTY MEMBERS AT THE UNIVERSITY OF WASHINGTON

The greatly increased enrollment at the University of Washington has brought the necessity of expanding the teaching staff, and accordingly six new members have been appointed to the staff this year. They are:

ALDEN L. CRITTENDEN, Instructor in Chemistry, who received his B.S. degree from the University of Illinois in 1937 and his Ph.D. degree from the same school in 1947. Between 1943 and 1946 he was in a Navy Bomb Disposal Unit. He will assist in the Analytical Chemistry courses. Dr. Crittenden's main field of research is instrumental chemistry and polarography.

LLOYD C. FETTERLY, Part-time Acting Instructor in Chemical Engineering, who received his B.S. degree in 1940 and his M.S. degree in 1941, both from the University of Washington. During the past six years he has held several positions with the Shell Oil Company in Wilmington, California, including plant and laboratory operation and technologist in charge of the Process Development Section of the Research Laboratory. He will assist primarily in the laboratory course in Unit Operations. Mr. Fetterly's main research interest lies in the field of special separation processes (and the development and training of a pair of twin boys born this Fall).

CURTIS F. GERALD, Assistant Professor of Chemical Engineering, who received his B.S. degree in 1936 from Iowa State College, his M.S. degree in 1938 from the University of Cincinnati, and his Sc.D. degree in 1941 from Massachusetts Institute of Technology. In 1941-1942 he was a Research Engineer with the R. R. Donnelley and Sons Company in Chicago, and from 1942 until this Summer, he was a Research Chemical Engineer with the Universal Oil Products Company in Chicago. He will assist in the lectures and laboratory supervision for sophomore and junior

Chemical Engineering students and in the supervision of their research. Dr. Gerald's main field of research interest is in fluidized catalysts.

LYLE H. JENSEN, Acting Assistant Professor of Chemistry, who received his B.A. degree from Walla Walla College in 1939 and his Ph.D. degree from the University of Washington in 1943. He was a member of the staff of the Metallurgical Laboratory at the University of Chicago during 1943-1944; Professor of Chemistry at Emmanuel Missionary College during 1944-1946 and Research Associate in the Cryogenic laboratory of Ohio State University during 1946-1947. He will assist in the General Chemistry Program. Dr. Jensen's main research interest is in the crystal structures of paraffin-chain salts.

GARTH L. PUTNAM, Research Associate in Chemical Engineering, who received his M.S. degree in 1937 from the University of Washington and his Ph.D. degree in 1942 from Columbia University. During the years 1938-1942 he was assistant to Dr. Colin G. Fink, from 1942-1946 he was a Research Engineer with Carborundum Company and in 1946-1947 he was an Associate Professor of Chemical Engineering at Oregon State College. He will assist in the supervision of undergraduate and graduate thesis research. Dr. Putnam's research interests cover many phases of Electrochemistry.

W. M. (FRED) SCHUBERT, Instructor in Chemistry, who received his B.S. degree from the University of Illinois in 1941, and his Ph.D. degree from the University of Minnesota in 1947. From 1944 to 1946 he was employed in the Research Division of American Cyanamid Co. in Stamford, Connecticut. He will assist in the lectures and laboratory supervision in Organic Chemistry. Dr. Schubert's research interests lie in the field of Physical Organic Chemistry.