

---

---

SECOND  
ANNIVERSARY  
ISSUE

---

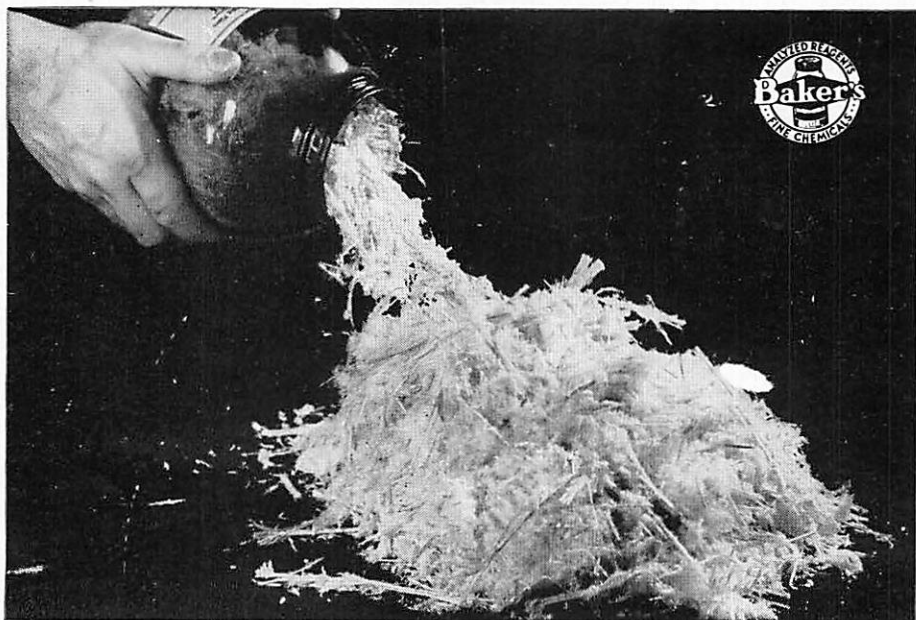
---

*The*  
**PUGET SOUND CHEMIST**

*Bulletin of the Puget Sound Section of the American Chemical Society*

---

---



## AMPHIBOLE FILTERING ASBESTOS BAKER PROCESSED, NOW AVAILABLE

### **Long fibered Ignited Grade Anhydrous, insoluble in acids**

After 207 tests of various lots of amphibole asbestos, we are glad to inform chemists that we have an unusually fine supply which meets Baker's rigid specification standards.

This hard-to-get amphibole filtering asbestos is available to you in both long and medium fiber, and in two grades—WASHED AND IGNITED—WASHED FOR GOOCH CRUCIBLES.

Both grades are supplied from carefully selected and graded American amphibole asbestos. Both are white in color, fluffy, with good body—ideal for removing precipitates.

Both are carefully washed in acid and then rewashed in distilled water and thoroughly dried. The ignited grade saves preliminary ignition in the laboratory.

Prices are extremely low for this superior filtering medium. Knowing the importance to each and every chemist of securing amphibole filtering asbestos, we are happy to interrupt our regular advertising to give you this important news.

For further particulars address J. T. Baker Chemical Co., *Executive Offices*, Phillipsburg, N. J., or a Baker distributor in your vicinity.

**J. T. BAKER CHEMICAL CO.**

MANUFACTURERS OF

**"Baker's Analyzed"**

C. P. CHEMICALS AND ACIDS

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

**SCIENTIFIC SUPPLIES CO.**

**SEATTLE, WASHINGTON**

# The PUGET SOUND CHEMIST

Volume 18 April, 1948 Number 4

**MANAGING EDITOR**  
LESTER D. BERGER, JR.

**ASSOCIATE EDITORS**  
LINTON W. LANG • CHARLES V. SMITH

**CORRESPONDENTS**  
DR. CARL M. ANDERSON, McMinnville  
DEAN BALKEMA, Shelton  
G. W. CAIRNS, Vancouver, B. C.  
R. J. CAMPBELL, JR., Bremerton  
DR. WALTER CARMODY,  
Seattle Pacific College  
DR. LEO FRIEDMAN, Corvallis  
DR. C. H. JOHNSON, Salem  
DR. JOHN M. MCGEE, Eugene  
L. T. HAGIE, Everett  
W. E. RENNEBOHM, Yakima  
DR. R. D. SPRINGER, Tacoma  
DR. A. W. STOUT, Portland  
VERN S. MILLER, Puyallup  
J. L. CULBERTSON, Pullman  
J. A. MACE, Seattle

**TREASURER**  
R. M. WILLIS

**ADVERTISING MANAGER**  
HAL B. WILLIAMS

---

## OFFICERS OF THE PUGET SOUND SECTION

*Chairman*—JOSEPH L. MCCARTHY  
University of Washington

*Vice-Chairman*—JOHN G. MEILER  
Plywood Research Foundation, Tacoma

*Secretary*—COLLIS C. BRYAN  
Monsanto Chemical Company

*Treasurer*—Q. P. PENISTON  
Pulp Mills Research Foundation

*Councilors*—H. R. ERICKSON  
P. R. FEHLANDT  
O. GOLDSCHMID  
V. SIVERTZ

---

**EDITORIAL ADDRESS:** 2901 1st Avenue South  
Seattle 4, Washington

**BUSINESS ADDRESS:** 1745 Harbor Ave. S.W.  
Seattle 6, Washington

## THE EDITOR'S RETORT

It may come as a surprise to some of our newer members that this is the second anniversary issue of the PUGET SOUND CHEMIST in its present form. It is indeed a tribute to Fred Armbruster and Otto Orth, the first two Editors of the magazine, that it has attained the status of a recognized Local Section Publication in the brief span of two years. With considerable humility the present staff approaches the task of continuing the prosperous and successful career of the PSC, in the hope that they can do as well.

In view of the stated aim of this publication to assist in the furthering of chemistry and the chemical profession in the Pacific Northwest, we note with interest a number of recent developments in the area. Already well known is the establishment of a research project at the University of Washington, under R. W. Moulton, to investigate Washington coal as a source for synthetic fuels and chemicals. This is indeed a step in the right direction. In the field of chemurgy, investigations are under way relative to the production of alcohol, fertilizer and stock feeds from food processing wastes. Both of these developments indicate a trend toward the more complete utilization of area resources through the application of chemical knowledge. We cannot help but believe that in this direction lies the true and great future of industrial development in the Northwest. It is to be hoped that many more such studies will be initiated.

Also encouraging from the standpoint of possible chemical development is the recent oil and gas strike in the Grays Harbor area. While the true extent of this discovery is not yet known, it strengthens the possibility, long hoped for, that there are available petroleum reserves in the area. The confirmation of such reserves would make the industrial future of the Northwest even brighter.

If anyone doubts that chemistry has become big business, let him refer to the

(Continued on page 12)

# *May Meeting*

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

*Wednesday, May 12, 1948*

## **DINNER MEETING**

**SPEAKER**

**DR. S. H. LEE**

*Dean, College of Science, Nanking University*



**SUBJECT**

**"The Endeavors of Chemists in China"**



**PLACE**

**Chamber of Commerce Building  
3rd and Columbia**



**TIME**

**Dinner — 6:30 P. M. sharp**

**Talk — 7:30 P. M.**

***Reservation Cards are being mailed***

**LADIES INVITED**

# Our April Speaker . . .

## BIOGRAPHY

EUGENE ROCHOW

Eugene G. (for George) Rochow was born in New Jersey in 1909. He studied chemistry at Cornell University and received the degree of B. Chem. in 1931. During portions of this and the following year he was employed by the Halowax Corporation (a part of the Bakelite organization). He then entered on graduate study at Cornell where he undertook research on organometallic compounds and on the chemistry of fluorine. In 1933 Rochow was Hecksher Research Fellow. He was assistant to Professor Alfred Stock during the time Professor Stock gave his Baker Non-Resident lectures on the hydrides of silicon and boron.

In 1935 Rochow received the degree of Ph.D. and entered the Research Laboratory of the General Electric Company at Schenectady. His researches there were principally in the field of new materials intended for electrical insulation at high temperatures, leading to the novel and interesting compounds of silicon which are the subject of his talk.

On February 1, 1948, he transferred to Harvard University as Associate Professor in Chemistry.

**DON'T FORGET!**

**Wednesday, May 12**

**LADIES' NIGHT**

**Make it a record crowd**

## Summary

## SILICONES

By E. G. ROCHOW

The name *silicone* now is applied to a variety of organopolysiloxanes, or to any substance in which alkyl or aryl groups are bonded directly to the silicon atoms of a siloxane chain or network. The products may be oils, elastomers, crystalline solids, or resins, depending upon the composition and the molecular configuration. Some distinctive properties such as thermal stability, small change of viscosity with temperature, surface active properties, and low water absorption make certain of the silicone polymers interesting and valuable.

Among the subjects to be discussed are: the synthesis of organosilicon intermediates, the reactions of chlorosilanes, the various types of organosilicon polymers and the methods for their preparation, the rearrangement of siloxane structures, and the behavior of the silicone polymers in relation to the properties of the siloxane bond. Examples are drawn from the work of a number of laboratories and from the expanding technology of this field.

## JUNE MEETING

•

Speaker

**DR. EUGENE D. FARLEY**

*Patent Attorney*

Portland, Oregon

Subject

**CHEMICAL PATENTS**

•

*Date and place of meeting  
will be announced in  
our next issue.*

# You Should Know

**GEORGE OTTO ORTH, Jr.**

**Retiring Editor Puget Sound Chemist**

(EDITOR'S NOTE: *Although this is the beginning of a success story, it does not conform to pattern. We suggest that there may even be a moral to this brief biographical sketch.*)

George Otto Orth, Jr., was born in Seattle, July 14, 1913; the second child in a family of seven children. He attended high school at Lincoln in Seattle and graduated in 1931.

Otto admits to interest in chemistry from the age of six years. He started to work with chemicals at the first opportunity, working in a drug store from his eleventh birthday till he was eighteen years old. Before he left he was filling prescriptions, and although he states "under supervision," we presume the pharmacist had time to wait on counter trade.

Business Cycles of this period hit lows unprecedented. Otto attended the University of Washington, and also opened an amateur chemistry shop specializing in analytical chemical work. He abandoned this venture for more remunerative work with Van de Kamp's bakery. Although they hired a routine employee, through his off-hour work on the development of Vitamin D enriched bread, they were the first in the Northwest to make such enriched breads commercially. During this period he also became interested in the fine art of glass blowing. While he modestly states that he is strictly an amateur in the field, we can testify that the products of his efforts compare very favorably with the precision made mass-produced article. Otto thus has the advantage of being able to "roll his own" when special glass equipment is called for.

Other hobbies in which Mr. Orth is proficient include steelhead fishing (about which he is not modest at all), wood-working and music. While he is no Iturbi, we understand he bangs the ivories with considerable competence.

In 1933 Otto went to work for Solvents, Inc. This company was situated on Lake Union in Seattle, and although now defunct, the concern materially benefitted at the time from Otto's building and operation of a coal-tar solvents refining plant. He also did work in building anti-knock fluids for gasoline, and weathered several explosions during his experimentation in this field.

In 1936 Mr. Orth took a position at Preservative Paint Co., Seattle, in which he was in charge of the Lacquer Division. He started their laboratory and built and operated a benzene plant for them. Here, being a member of the Paintmaker's Union, he was elected President of Local 1094, and was on the Seattle Labor Council for two years.

He left this job for a position with the Seattle Gas Co. where he was in charge of By-products Research with emphasis on the field of resin development. It is presumed that we can warmly thank Otto every time our hands come away black from a Gasco Briquette. The termination of Otto's employment with the Seattle Gas Co. was forced on him due to his contracting over a period of years a serious case of benzene poisoning.

In 1940 he affiliated with the American Chemical Society. He and Fred Armbruster of Dow Chemical Company were pioneers of the PUGET SOUND CHEMIST in its present form. The enlarged magazine was intended to help develop chemical industry in the Northwest and bring closer association between the American Chemical Society and the people of the Northwest. Otto served as Business Manager in 1946, doing yeoman's work with Mr. Armbruster, who was the first Editor. At that time the business manager's job entailed more varied duties than present themselves now. For example, all mailing and sorting was done by hand by the magazine staff. When other business interfered with the publication, Mrs. Orth, being a Seattleite and Northwest Booster, did a large part of the work. Their two boys, now two and five years old, were just a little too young at that



time to be of much help with the magazine.

In 1947 Mr. G. O. Orth, Jr., assumed the job of editing the PUGET SOUND CHEMIST, and carried on until L. D. Berger, Jr., present Managing Editor, took over. Although his name does not now appear on the staff of the PSC, Otto always responds to cries of "Help," and gives of his time freely whenever asked.

In addition to his affiliation with the Society, Mr. Orth is also the President of the Northwest Plastics Association.

Otto is now working as an associate with the Arthur J. Norton Laboratories, well-known throughout the Northwest as consulting chemists. His intense interest and diversified knowledge in a wide range of subjects make him a valuable man in any organization. He now holds two chemical product patents, and in addition has a number of applications pending which have not been officially granted.

We wish Otto well in all his future endeavors and acknowledge the indebtedness of the Puget Sound Section for the many contributions he has made to its growth and development.

—L. W. Lang

**SEPTEMBER NATIONAL  
MEETING**

★  
**Portland, Oregon**

★  
***Let's all plan to attend***

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.

## **DR. MARK TO HEAD RESEARCH COMMITTEE**

GENEVA, SWITZERLAND—The Technical Committee on the Chemistry of Wood in the Forest Products and Forestry Division of the United Nations plans to arrange a meeting in Geneva in May, 1948. European and American experts will discuss, on this occasion, possibilities of better wood utilization in all parts of the world. Chairman of this Committee is Dr. Herman Mark, of the Polytechnic Institute of Brooklyn, N. Y., who gave an ACS lecture in Seattle last year and had, on this occasion, several scientific discussions with the staff of the Puget Sound Products Company on wood utilization.

## **"MODERN COLLOIDS"**

**By ROBERT B. DEAN**

The appearance of a new book entitled "Modern Colloids" (D. Van Nostrand Co., Inc., 1948) written by one of the new members of the Department of Chemistry of the University of Oregon, has aroused considerable interest in the author as well as in the book itself. Dr. Robert B. Dean is a "Native Son of the Golden West," having been born in San Francisco in 1913 and received the A.B. degree from the University of California in 1935. This accomplished, he set out to see the world: first to the University of Cambridge, England, where he had the Ph.D. degree conferred upon him in 1938. Then to the University of Copenhagen where he studied with Professor August Krogh. Back in the United States, he was at the University of Rochester and at the University of Minnesota. He was also an associate with the famous Professor James W. McBain at Stanford University, after which he spent four years on the staff of the Department of Chemistry at the University of Hawaii. Now he is located at the University of Oregon where he is an assistant professor of chemistry.

The new book is an introduction to the behavior of colloidal materials.

# *The Puget Sound Chemist*

## **—It Happened This Way:**

Most worthwhile undertakings go through an evolution over a period of years in which improvement and change gradually take place until the end product represents the cumulative ideas of many people. Not so the PUGET SOUND CHEMIST. The March, 1946, edition of the PUGET SOUND CHEMIST was a ten-page, stapled, mimeographed bulletin. The April issue was a slick twenty-four page bulletin, replete with pictures and advertisements, and well-written articles of interest. There has been very little change in the general make-up of the magazine since that time.

Who was responsible for the PUGET SOUND CHEMIST emerging from its cocoon? The April, 1946, issue lists as Editor, F. B. Armbruster, and Associate Editors, G. Otto Orth, Jr., Herbert R. Erickson, Harold Rudow, and R. B. Black.

Prior to 1946, the Secretary of the Puget Sound Section was responsible for meeting notices and keeping lists of membership. Once a year a directory list was sent to the members. Joe McCarthy was at that time Secretary of the Section, and, finding these duties were more and more time-consuming, asked Mr. Armbruster to take over the work of the notices. Fred agreed and asked if he could change the form of such notices and possibly put out the bulletin as a small magazine. Joe McCarthy had been putting out a monthly mimeographed notice on legal size paper called the PUGET SOUND CHEMIST, and thoroughly approved of the enlarged bulletin.

After a study of various section publications, and a thorough review of the problem with Max Wells of the Metropolitan Press, the idea of THE CHEMIST

in its present form began to shape up in Mr. Armbruster's mind. One of the main stumbling blocks was (and remains) the cost of putting out a slick publication of this type. The January, February and March issues of THE CHEMIST were small mimeographed bulletins issued as fill-ins while the detail and finances were being worked out for the new PUGET SOUND CHEMIST. He had to sell between two hundred fifty and three hundred dollars of advertising to cover the cost of the magazine. It can well be imagined the difficulties encountered in selling advertising copy for a magazine that at the time did not even exist. However, Fred Armbruster managed, and he got out the April edition pretty much unaided.

After the first edition, Fred received much assistance from his associate editors. Otto Orth took care of the books and business details; Herbert Erickson, then Vice-Chairman, did a good deal of feature writing; a fine job of securing advertising copy was done by Harold Rudow; and Bob Black took care of news items and publicity. These men carried on till 1947, at which time Rodney Willis assumed business managerial duties from Otto Orth, who in turn took over the Editor's post. Harold Rudow remained advertising manager, and Ed Lingafelter became Assistant Editor. Lester D. Berger, Jr., was later appointed as another Assistant Editor.

Mr. Armbruster and his hard-working associates should take a great deal of pride in a job genuinely well-done. The PUGET SOUND CHEMIST has contributed a great deal of prestige to Northwest Chemistry, and as the Group's Vocal Effort should be strongly supported.

—L. W. Lang



## MODERN TECHNOLOGY— A NEW NATURAL RESOURCE

By C. V. SMITH, Northwest Laboratories

America has one natural resource that is peculiar to her alone. This resource is modern technology—applied research and development. During recent years application of this resource has graduated from an art of a few to scientific mass operations as evidenced by the rapid industrial expansion and employment increase. Current estimates for expenditures in the fields of industrial, academic and government sponsored research are 1.2 billion dollars annually or one-half per cent of the nation's income.

Out of the past program has come the steel, plastic and chemical age; the electrical or atomic energy era—threatening to revolutionize the world as nothing has since the wheel was invented or fire discovered. The layman sees reflection of technology in all items from better tin whistles to the entire job of winning a world conflict. If modern technology is not a natural resource, why does this nation have one automobile to every five people while Brazil, with ample supplies of petroleum, iron, cotton and rubber, has one to each 300 people? The answer is easy. Brazil does not have the industrial "know-how."

The recent war gave the West Coast the necessary impetus to stand on its own feet and become self-sufficient by rounding out its industrial stature. Decentralization of heavy industrialized areas is changing the last frontier. To the list of natural resources in this area, one must now add industrial technology.

Beyond the earthly natural resources and the capital which the American system provides, what is this new resource—research? Simply stated it is a mental attitude—a curious attitude, backed by training and experience to cope with technical problems in proper sequence. How are the monies for research most efficiently spent? Overall costs of supporting just one good technical man run

from 10 to 15 thousand dollars a year. Several heads are always better than one, so a group of technologists usually functions more efficiently than a single operator. Operating costs of an optimum group soon eats up many thousands of dollars.

What can the smaller business do to keep abreast of the times when it needs sound technical help? It cannot afford even one good man unless it is grossing a half million dollars. The best answer lies in the research centers or industrial problems clinics, staffed with men whose experience and training are such as to provide a well rounded approach to industrial problems. Here the smaller industry can buy an hour or a month or whatever time is needed to solve its problem.

Industrial research has become a necessity for modern business. It is a form of life insurance—literally—for those who would stay in the competitive industrial race, which is American.

### ARTHUR J. NORTON

#### Consulting Chemist

•  
RESIN, PLASTIC and  
CHEMICAL RESEARCH  
and DEVELOPMENT

•  
Associates  
G. OTTO ORTH, JR.  
L. H. BROWN

•  
2919 First South  
MAin 4090

Seattle

*Wherever Chemical Quality Counts...*

*Specify*



For Chemical Control



For Product Planning and Development



For Industrial Laboratories



For Research Laboratories



For Educational Laboratories



For Production Requiring Fine Chemicals

**BAKER & ADAMSON** *Reagents and Fine Chemicals*

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

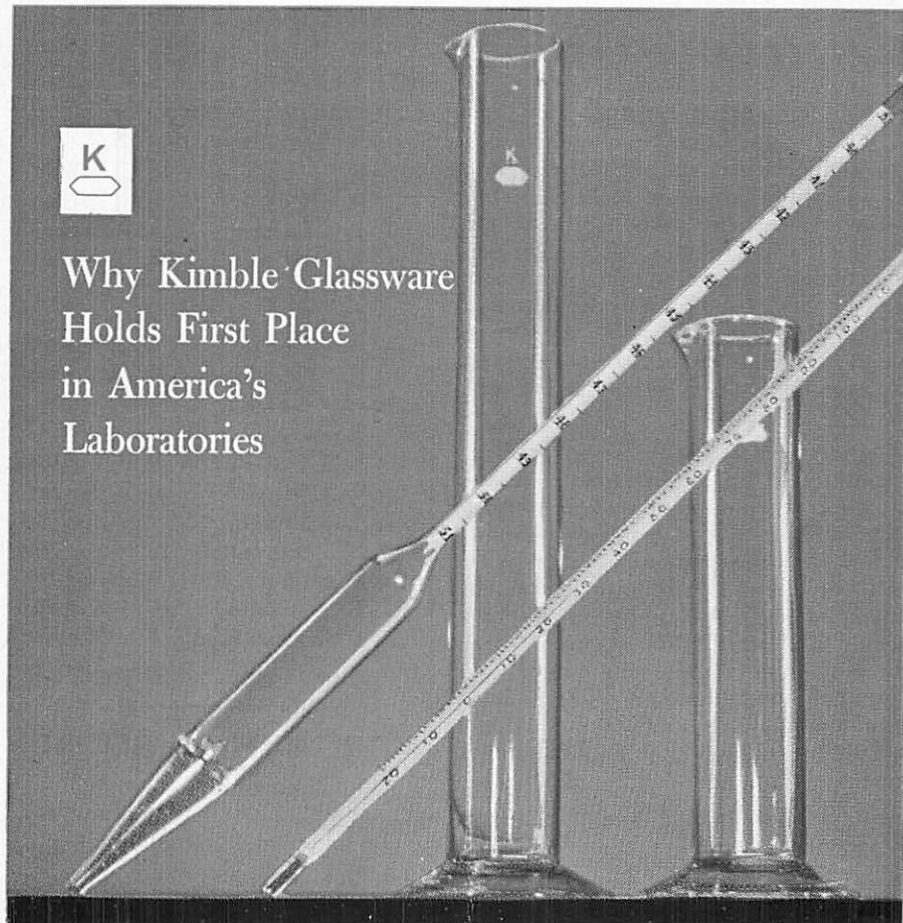
**GENERAL CHEMICAL DIVISION**

ALLIED CHEMICAL & DYE CORPORATION  
40 RECTOR STREET, NEW YORK 6, N. Y.

Seattle 1, Wash.—1326 Fifth Avenue—Elliot 5287  
Los Angeles 21, Cal.—2461 East 8th Street—Van Dyke 1001  
San Francisco 4, Cal.—235 Montgomery Street—Douglas 2-0904



## Why Kimble Glassware Holds First Place in America's Laboratories



*Kimble Laboratory Thermometer No. 43504;  
Hydrometer No. 31658; Hydrometer Cylinders No. 20060*

THE KIMBLE ORGANIZATION is unique in the precision of its Kimble-developed automatic production units . . . its skilled craftsmen . . . and the driving urge to translate precision and skill into glassware of the highest possible quality.

Kimble Thermometers and Hydrometers are precision-made and calibrated by the finest equipment of its kind. They are thoroughly tempered and aged to insure stability...they

are *individually retested* before shipment . . . are guaranteed within accuracy limits as specified by the National Bureau of Standards.

A complete variety of standard types is now listed in the Kimble Catalog of Laboratory Glassware. Order by number for prompt deliveries from your laboratory supply dealer. Special types can be furnished on reasonable notice.

*LOOK FOR THE KIMBLE "K", THE VISIBLE GUARANTEE OF INVISIBLE QUALITY.*

KIMBLE GLASS TOLEDO 1, OHIO

Division of Owens-Illinois Glass Company



# Anniversary...

## FAMILY TREE

On a hunch that statistics often, contrary to general opinion, make very interesting reading, we asked Collis Bryan if he had a list of the officers of the Puget Sound Section of the American Chemical Society. He did not have a complete list, but very obligingly went through the minutes of previous years and came up with a list of the officers from 1909 to present.

If space were available we would like to print the complete list just as given to us. However, not intending to minimize the importance of the Secretary, Treasurer or Councilor positions, they will have to at least be omitted in this issue. It would not be out of place to mention, though, that Dr. H. K. Benson runs away with honors for being Councilor, having held that position no less than twenty years. Dr. V. Sivertz was Secretary-Treasurer from 1931 to 1943, also a record.

Here is your list of past Chairmen and Vice-Chairmen:

<i>Year</i>	<i>Chairman</i>	<i>Vice-Chairman</i>
1909	H. K. Benson	M. J. Falkenburg
1910	M. J. Falkenburg	J. K. More
1911	H. M. Loomis	A. Jacobsen
1912	A. Jacobsen	C. A. Newhall
1913	C. A. Newhall	C. E. Bogardus
1914	C. E. Bogardus	H. K. Benson
1915	H. G. Byers	E. O. Heinrich
1916	E. A. Dieterle	Rex Smith
1917	Rex Smith	W. M. Dehn
1918	R. W. Clough	S. C. Langdon
1919	F. H. Heath	A. L. Knisely
1920	A. L. Knisely	A. G. Bissell
1921	H. V. Tartar	T. G. Thompson
1922	W. L. Haley	F. H. Heath
1923	T. G. Thompson	A. G. Bissell
1924	T. G. Thompson	W. L. Seamon
1925	T. G. Thompson	W. L. Seamon
1926	W. D. Clarke	W. L. Seamon

1927	H. V. Tartar	L. C. Boynton
1928	W. R. Gailey	F. C. Conrad
1929	W. R. Gailey	F. O. McMillin

(No meetings between May '29 and June '30)

1931	B. B. Coyne	J. C. Palmer
1932	B. B. Coyne	J. C. Palmer
1933	J. C. Palmer	K. A. Kobe
1934	J. C. Palmer	K. A. Kobe
1935	F. B. MacKenzie	
1936	(No record)	
1937	H. C. Diehl	W. A. Nicholson
1938	E. G. Thompson	W. A. Nicholson
1939	(No record)	
1940	Robert S. Roe	George H. Cady
1941	J. M. Kniseley	P. R. Fehlandt
1942	W. L. Beuschlein	G. R. Beezer
1943	S. G. Powell	W. A. Nicholson
1944	(No record)	
1945	V. Sivertz	W. R. Gailey
1946	T. S. Hodgins	H. R. Erickson
1947	H. R. Erickson	J. L. McCarthy
1948	J. L. McCarthy	J. G. Meiler

## THE EDITOR'S RETORT

(Continued from page 3)

March 22 issue of *C. & E. News*. Therein he will learn that the chemical industry spent \$1.4 billion dollars on new plant and equipment in 1947, or approximately 10% of the total amount invested in new plant and equipment by all industry in the U. S. Furthermore, more money was spent by the chemical industry on expansion during 1947 than by any other single branch of manufacturing industry, including the electric utilities and the railroads. To quote Mr. Henry C. Breck, "There is probably no branch of American industry which, during the past generation, has shown such a steady and uninterrupted rate of growth or which promises to grow more vigorously during the generation ahead of us." If the Northwest can realize its own true potential of industrial chemical development, in view of the tremendous impetus which chemical progress is gaining, the possibilities can only be regarded as unlimited.

**THE NAME TO WATCH IN CHEMICALS**



200 Bush Street, San Francisco 4, Calif.  
Standard Oil Bldg., Los Angeles 15, Calif.

30 Rockefeller Plaza, New York 20, N.Y.  
600 S. Michigan Ave., Chicago 5, Illinois

### **Accidental Discovery**

One of the stories Fred Colvin tells in his book, *60 Years with Men and Machines*, concerns discovery of how to weld plexiglas, the clear plastic used for airplane windshields and navigator's domes.

It seems that a workman at the Alameda Air Base made the discovery by accident. He noted a minute crack in a sheet of plexiglas, and figured he could seal it with cement. However, the crack was too small to get the cement where it was needed, so he sandblasted a fine wire to roughen its surface and started to file the crack wider.

To his surprise he found the crack closing behind the wire, and realized that the low heat generated by filing was enough to weld the plastic back into a solid sheet. As soon as this principle was grasped he substituted a fine high-resistance wire and applied a weak current to provide the required heat.

And that is how it is done today.

### **Mercury from Gold**

Alchemists a few centuries ago passed their lives unsuccessfully trying to change mercury into gold, writes G. Edward Pendray. Today it's an everyday affair at Oak Ridge, Tennessee—but in reverse.

David E. Lilienthal, Chairman of the United States Atomic Energy Commission, recently disclosed that government atomic alchemists are now in regular production of mercury, using gold as the raw material. It has turned out to be the least expensive way of making a special mercury isotope, not found in nature, that produces radiation needed in certain physical measurements.

"It is instructive to note," remarks Mr. Lilienthal, "that we live in a time when a good standard of measurement is worth more than gold."



## RESEARCH GRANT AWARDED CPS

A grant of \$3,500 from the Research Corporation to be used to investigate the structure of an anti-biotic, citrinin, which has been found to have properties similar to penicillin, has been awarded to the College of Puget Sound, announced President Thompson last week.

A portion of the funds will be used to purchase new equipment for a research laboratory which will be built in Howarth Hall. Three outstanding chemistry graduate students will work on this project under the direction of Dr. Robert Sprenger. He was instrumental in securing the grant and will be in charge of the research laboratory.

The board of trustees has voted to establish a limited number of graduate fellowships, each paying \$1000 per nine month school year, to enable outstanding students to do research work leading to the master's degree in chemistry and

geology. These fellowships will enable the three assistants chosen to work with Dr. Sprenger on this project to devote their full time to research work. Results of this work may be incorporated in their theses for master's degrees.

Research Corporation has made grants totalling more than \$2,000,000 to more than 120 institutions. Representing the broad fields of chemistry, physics, nucleonics, engineering and mathematics, the grantee institutions are located in more than thirty states, Alaska and the District of Columbia; more than half of them are smaller colleges and universities.

CPS is the only small college in this state to have received a research grant. Both Washington State College and the University of Washington have received them.

Resting on past performances never makes a new record.

SERVICE BY

*Laucks*

... Includes a Toxicological  
Testing Program of  
National Significance



**LAUCKS LABORATORIES INC.**

Established 1908

**THESE PAGES ARE READ BY EVERY CHEMIST  
IN THE  
PUGET SOUND SECTION**



***Does your company take advantage  
of this highly selective  
advertising medium?***



**ADVERTISE**  
  
*in the*  
  
**PUGET SOUND CHEMIST**



**It's good business . . .  
It supports Northwest Chemistry . . .  
IT PAYS . . .**

## THE BIOLOGICAL SYNTHESIS OF LACTOSE

The biological synthesis of lactose is being investigated at the University of Oregon, Eugene, Ore. Professor Francis J. Reithel, who is directing the research, has planned to study the chemical mechanism by which lactose is produced in the mammary gland. He hopes to isolate the enzymes that are involved in this synthesis and he and his assistants are undertaking to prepare the likely intermediate compounds which form the connecting links between glucose and lactose and will then test the ability of these intermediates to produce lactose by adding them to a tissue homogenate of the proper type. Also as one of the necessary parts of their investigation, this group is working out an analytical method for the determination of galactose and of lactose in biological tissue.

Dr. Reithel is especially fitted to undertake such research since he served his apprenticeship in biochemistry under three Nobel Prize winners; Professors E. A. Doisy of Saint Louis University, A. J. Haagen-smit of California Institute of Technology and C. F. Cori of Washington University Medical School. Oregon is justly proud of Dr. Reithel since he is a product of the State; born in Portland in 1914, he received his A.B. degree from Reed College, his A.M. from Oregon State College and his Ph.D. from the University of Oregon Medical School. Assisting him on his project are Mr. Harold M. Davidson and Mr. Myer G. Horowitz.

J. M. McGEE,  
Eugene, Ore.

### 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**  
**Plastics Technology**



## CHEMICALS

West Coast Products for  
West Coast Industry

INDUSTRIAL CHEMICALS  
COMPRESSED GASES  
ORGANIC SOLVENTS  
FLOTATION REAGENTS

GREAT WESTERN DIVISION  
THE DOW CHEMICAL COMPANY

SAN FRANCISCO, CALIFORNIA

Seattle

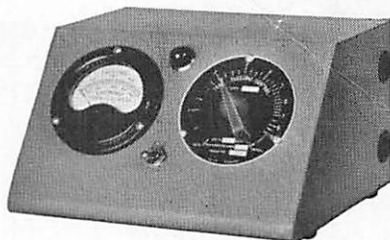
Los Angeles



# DOW

CHEMICALS INDISPENSABLE  
TO INDUSTRY AND AGRICULTURE

# New Temperature Controller and Indicator



**D**ESIGNED for use with electric furnaces, ovens, melting pots, heating tanks and other heating devices. Combines in a single compact unit an advanced type of input controller and an indicating pyrometer, providing a stepless and wasteless control of the power supply, at the same time indicating the operating temperature of the heating equipment with which it is used.

The input controller includes a sensitive thermostatic switch actuated by a tiny heater. By knob control the current input can be set to operate anywhere between 5% and 100% time "on." Incorporated in the unit is a magnetic or mercury relay with ample capacity to carry the rated power load.

The pyrometer is a dependable instrument calibrated in both Fahrenheit and Centigrade scales to 2000° F. and 1100° C. A four-foot color-coded thermocouple of 14-gauge chromelalumel is supplied.

The instrument is housed in a welded steel case, finished in gray wrinkle. Dimensions: 5" high, 9" wide, and 8" deep. Rubber feet are supplied for desk use and a metal bracket for wall mounting. Weight, 6 lbs.

	<i>Maximum Watts Load</i>	<i>Volts</i>	<i>Cycles</i>	<i>Amperes</i>	<i>Price Each</i>
23304	2300	115	50/60	20	42.50
23305	2300	230	50/60	10	45.00
23306	4000	115	50/60	35	52.50
23307	5700	230	50/60	25	55.00

*In Seattle stock for immediate delivery*



## SCIENTIFIC SUPPLIES COMPANY

122 Jackson Street  
Seattle 4, Washington

**PATRONIZE  
OUR  
ADVERTISERS**

---

***They are our friends!***

**The Tower Company, Inc.**

★  
MANUFACTURERS  
OF  
MEDICAL EQUIPMENT & SUPPLIES

★  
Seattle, Wash.                      Geneva, Ill.

**INDEX TO ADVERTISERS**

J. T. Baker Chemical Co. . . .	2
[Wildrick & Miller, Inc.]	
The Dow Chemical Co. . . .	16
GREAT WESTERN DIVISION	
[McManus, John & Adams, Inc.]	
General Chemical Division . .	10
ALLIED CHEMICAL & DYE CORP.	
[Atherton & Currier, Inc.]	
Kimble Glass Co. . . . .	11
[J. Walter Thompson Company]	
Laucks Laboratories, Inc. . . .	14
Merck & Co. . . . .	19
[Charles W. Hoyt Co., Inc.]	
Northwest Laboratories . . .	16
Arthur J. Norton . . . . .	9
Oronite Chemical Co. . . . .	13
[L. C. Cole]	
The Puget Sound Chemist . .	15
Reichhold Chemicals, Inc. . .	20
[McManus, John & Adams, Inc.]	
Scientific Supplies Company .	17
Standard Chemical	
Engineering Co. . . . .	16
The Tower Co., Inc. . . . .	18
Van Waters & Rogers, Inc. . .	18

# CHEMICALS

## INDUSTRIAL • AGRICULTURAL

## RAW MATERIALS

***Largest and Most Complete Stocks in Northwest***

---

# VAN WATERS & ROGERS

INCORPORATED

SEATTLE

PORTLAND

SPOKANE

BOISE