OCTOBER 16th MEETING

DR. HYP J. DAUBEN, JR.

Professor of Organic Chemistry
University of Washington

will speak on

PSEUDOAROMATIC COMPOUNDS

BAGLEY HALL 8:00 P. M. UNIVERSITY OF WASHINGTON

BIOGRAPHY

Hyp J. Dauben, Jr., was born in Marion, Ohio, in 1915. He received his primary and secondary education in Columbus, Ohio, and his undergraduate training at the Ohio State University, from which he received B.A. and M.Sc. degrees in 1937. While at Ohio State, he conducted research in carbohydrate chemistry under William Lloyd Evans. His A.M. and Ph.D. degrees were received in 1941 from Harvard University, where he worked under Paul D. Bartlett on various physical organic problems. During World War II, he worked as a post-doctoral fellow under Bartlett at Harvard University on National Defense Research Committee war research problems on toxic agents and on insect repellents.

In 1945, he moved to the University of Washington as an assistant professor of organic chemistry and presently holds the rank of professor at the same institution. He has acted as visiting professor at the University of California (Los Angeles) and at Cornell University. He is a member of the American, London and Swiss Chemical Societies.

His research has included structural studies on biologically-active compounds, steric course and mechanism of radical reactions, hydride ion abstractions by stable carbonium ions, relative acidities of stable carbonium ions, estimations of strain energies and resonance energies, and for the past fifteen years extensive synthetic and physical organic studies on nonclassical aromatic systems (tropone, tropenium and substituted tropenium ions, tropenyl radical, trimethylammoniocyclopentadienylide, perinaphthenium ion, oxepin, azepin, thiepin dioxide, diphenylheptafulvene, hydroporphyrin systems, linear vinylogous amidinium systems, pentalene, and heptalene).

PSEUDO COMPOUNDS

By Hyp J. Dauben, Jr.

For some time, one of the most intriguing unsolved problems in aromatic chemistry has been the synthesis, the properties and the theoretical understanding of simple members of the group of mono-, bi- and polycyclic, completely-conjugated hydrocarbons containing only $4n$ pi electrons. Until relatively recently, only a few examples of compounds of this type had been prepared, in spite of the fact that simple valence-bond and molecular-orbital methods indicated that most compounds of this type should be capable of stable existence and should possess appreciable resonance stabilization. It has been argued (D. P. Craig) that predictions about these compounds by the simple theoretical methods are unreliable, and that nonempirical methods predict that these compounds, which he termed "pseudo-aromatic compounds," should have only limited cyclic resonance stabilization.

A definitive answer to this problem has not been supplied by the simplest known examples, cyclooctatetraene, due to its nonplanar conformation, cyclobutadiene (Nenitzescu) or its tetramethyl (Criegee) or monobenzo (Cava) derivatives, because of uncertainty about their discrete formation as transient intermediates. The more complex polycyclic examples, diphenylene, dibenzo [a,e] pentalene (Linstead), 1,2,3-triphenylpentalene (LeGoff), and dimethylpleiapentalene (Hafner), all contain additional fused rings or bulky substituents that obscure their most pertinent properties.

During the past few years, several new developments, the synthesis of heptalene and determination of some of its properties (Dauben and Bertelli), the preparation of monomacrocyclics, [16]-, [20]- and [24]-annulenes (Sondheimer), containing $4N$ pi electrons, and certain new theoretical deductions (Simpson; L. C. Snyder; der Boer-Veenendaal and den Boer; Longuet-Higgins; Gouterman and Wagniere) have provided rational understanding of the properties of these new pseudoaromatics and a cogent theoretical interpretation of the nature of pi-electron interaction in these and other compounds containing a complement of only $4N$ pi-electrons.

Nominating Committee

The Nominating Committee presents the following slate of officers for the Puget Sound Section of the American Chemical Society for 1963:

Chairman-elect, Norman Gregory.

Secretary, Diptiman Chakravanti.

Treasurer, Robert McKamey.

Councilor (1963-64-65), Dave Reed.

Alternate Councilor (1963-64-65), B. S. Rabinovitch.

The Chairman wishes to thank the members of the committee for their cooperation and careful deliberation which made the above selection possible.

—R. M. WAY, Chairman
Nominating Committee

MEETING SCHEDULE

At the meeting of Section Officers, A.C.S., held in Pullman last June, there was drawn up a schedule for future Northwest Regional meetings. Although the schedule is tentative and subject to change, it is definite enough so that the section membership might be interested in it:

1963—Bellingham (probably June 17-18). Western Washington State College.
1964—Richland.
1965—Oregon.
1966—Spokane.
1967—Portland.
1969—Vancouver, B.C.

REX J. ROBINSON, Chairman
Puget Sound Section

C. V. Smith

Charles V. Smith, partner with T. H. Williams, as owner and operator of Northwest Laboratories, Seattle, since 1946, came from the Middle West where he graduated in Chemical Engineering from the University of Illinois, where he served as a special research assistant in equipment design for his B.S. degree. A M.S. degree was earned under a duPont grant for humidity sensing cells. He entered their textile research department as a chemist and later as chemical engineer for developing equipment and controls for the manufacture of rayon tire cord and then nylon. One duty, which seemed insignificant at the time, was the twisting and plying of the first nylon thread from filament produced by Carothers.

Smith also served as a research engineer for the Univis Corporation, Dayton, Ohio, wherein pioneering work in plastic lenses, both contact and regular opthalmic type, resulted in more than 20 patents.

During the Second World War, he was employed as a resident engineer for the Norton Company, Worcester, Massachusetts.

He and Williams teamed up to go adventuring in commercial laboratory work located in what they considered "the place to live."