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THE NUCLEUS

February 1987

Of the Northeastern Section of the American Chemical Society

Vol. LXV, No. 5

Monthly Meeting:

Dr. Kenneth D. Legg to Speak on Biological Probes

Book Review

A History of ADL—Part II

Liability Insurance

How to Get It

December Meeting Photos



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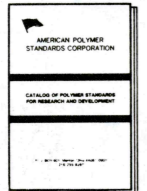
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Cover: Editor's front yard

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THE NUCLEUS

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Book Review

The Problem Solvers. A History of Arthur D. Little, Inc.—Part II

By E.J. Kahn, Jr.
Little Brown and Co., Boston, 1986.
234 pp. 15×23 cm. \$19.95.

Continued from the January Issue

Following the Texas City disaster in 1947 ADL was retained to determine the conditions under which ammonium nitrate fertilizer could be continued to be used safely. The work went on for about 10 years and was directed by Raymond Hainer, a physical chemist whose name didn't make Kahn's index. Ray, whose office was painted to resemble a Mondrian, was vice-president in charge of R and D at the time of his early death from cancer.

During the 1960s and early 1970s organic chemistry flourished at ADL. Contract research was performed for agencies of the U.S. government and for pharmaceutical concerns both here and abroad. The various programs included development of anticancer drugs, antiradiation drugs, antimalarials, and drugs affecting the central nervous system. The last named program lasted for 6 years and involved 15–20 chemists. The formal reports occupied 6 feet of shelf space. Most of the results from these drug programs were published in the open literature. The spinoffs from the programs were significant. Several chemists left ADL and set up a pharmaceutical company in Cambridge. Another joined the faculty of a local academic institution and continued with a major program in aporphine chemistry. Quite recently some of the compounds described in the literature are finding use in positron emission tomography designed to study the function of the human brain said to be "the ultimate challenge to chemists."

Closely related to the above drug work was a task undertaken by chemists and chemical engineers to prepare a large sample of pure tetrahydrocannabinol to be used in a nation-wide clinical study of the compound for therapeutic use. A superior synthesis was developed; the final purification involved chromatog-

raphy on silica and then molecular distillation. The procedure was scaled up from a half-inch column to an Abcor column one foot in diameter and ten feet high. The initial contract called for 2.5 kg of THC. In subsequent contracts about 25 kg has been prepared during 15 years, and other cannabinol derivatives have been prepared as well.

Kahn describes the important part that analytical chemistry played in the early years of the company. Roger Castle Griffin had an international reputation in analytical chemistry during the 40 years he was employed at ADL, primarily as the author of "Technical Methods of Analysis as Employed in the Laboratories of Arthur D. Little, Inc." (1921). By 1960 however there were very few analytical chemists left and even the most elementary analytical procedures required in the solution of clients' problems had to be performed in outside laboratories. At that time a consortium of three chemists proposed to the ADL administration that the company hire one analytical chemist and that he be instructed to develop a modern analytical facility. The administration agreed but only when the three chemists in turn agreed to employ the analytical chemist for at least 50% of his time for the first year. He and his successors took advantage of clients' needs for environmental work and of work generated by ADL organic chemists and developed the excellent present-day facility. When it was necessary to take out windows and part of a wall to move in the first mass spectrograph the instrument was said to be the largest capital expenditure for apparatus in the company's history. The environmentally secure Levins laboratory no doubt was even larger.

For the U.S. Coast Guard, Department of Transportation, a crew of chemical engineers and chemists developed a Chemical Hazards Response Information System (CHRIS) which enabled the Coast Guard to respond rapidly to spills and accidents involving so-called "hazardous" materials. The

system was computerized and included special data pertaining to specific ports. The hard copy section of CHRIS contained 75 items of data for each of 900 compounds originally in the system. The collection and critical review of these data involved the work of many chemists whose efforts, alas, must forever go unrecognized. When the work entered the public domain the reprint company in New Jersey (mentioned by Kahn in connection with an earlier EPA project) published it without recognition of ADL or any of the authors. Indeed, when reviewed in *Chemical and Engineering News* the author cited (and presumably indexed) was an employee of the reprint company! ◇

I mentioned above the prominent role that ADL has always played in the affairs of the Northeastern Section and the American Chemical Society as a whole. Dr. Little was our second chairman and throughout the years several ADL people have filled this office. The most recent was George Kimball (1967). Untold hours of company time have been donated to ACS affairs as company employees occupied a variety of ACS offices at the local and national level. About 10 years ago ADL was retained by the ACS to make a study of the organization and governance of the Society and to bring in recommendations for change. Some of the recommendations were adopted, some were not.

As I look back over the years I agree with Kahn that the constant turnover in the professional staff at ADL is a natural consequence of the variety of tasks it is hired to do. Everyone who has experienced employment at ADL agrees that the scarcity of mass layoffs is most surprising, given the ephemeral nature of the business. When he was president of ADL Howard McMahon used to describe the company as a place where professionals could do the kind of work they enjoyed doing and make a good living at the same time. One colleague, who left to become Canada's leading inorganic chemist, added, "Yes,

Continued on page 6

Biography

Dr. Legg received his B.S. from Union College and his Ph.D. from M.I.T. He was on the faculty of the Department of Chemistry at California State University at Long Beach from 1969 to 1978. In 1978 he joined Instrumentation Laboratory where he is presently Director of Research. He oversees research projects which have as their goals the development of novel electrochemical and spectroscopic sensors for clinical chemistry and new fluidic designs. ◇

Abstract

The future of sensors in clinical chemistry is very bright. Several techniques are rapidly maturing, and they will probably have significant impact on the way clinicians monitor their patients. This talk addresses various aspects of sensor implementation and will focus on new technologies that are especially promising. These include potentiometric, amperometric and optical sensors and surface acoustic wave (SAW) detectors. ◇

Liability Insurance

ACS Group Insurance Plans

As most of you know the Professional Liability Insurance for ACS Members was cancelled by the insurer on July 1, 1986. The Board of Trustees, Group Insurance Plans for ACS Members has conducted an aggressive search for replacement coverage but we have been unsuccessful to date.

What you can do. Although we have been unable to find a policy to cover all of our members, professional liability insurance is becoming available in some areas of the country for some individuals.

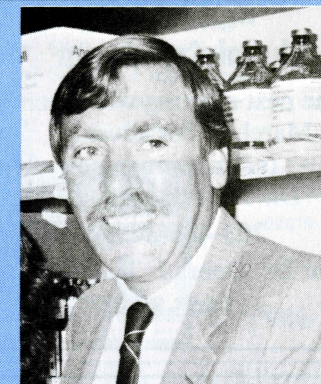
1. *Contact the Insurance Commission*—Insurance is regulated by the individual states and each state has a de-

February Meeting

The 698th Meeting of the Northeastern Section of the American Chemical Society

Dr. Kenneth D. Legg

Instrumentation Laboratory,
Lexington, MA



Thursday, February 12, 1987

Northeastern University, Huntington Avenue, Boston

5:30 pm Social Hour: Faculty Center, Kerr Hall, 96 The Fenway

6:30 pm Dinner: Faculty Center

8:00 pm Lecture: 97 Cargill Hall, Forsyth St. at Huntington Avenue

"The Future of Sensors in Clinical Chemistry"

Parking: Forsythe Street Visitor's Lot

Dinner Reservations: No later than February 9, 1987. Please call Mrs. J. Fineman at 965-5245. Reservations not cancelled at least 24 hours in advance will be billed for dinner price. Members, \$10.00; Non-Members, \$12.00; Students and relatives, \$5.00. **THE PUBLIC IS INVITED.**

partment, usually called the Insurance Commission, designed to monitor compliance with that state's regulations. If there is a professional liability policy available to you it would have been filed with the state Insurance Commission. They may be able to guide you to an appropriate insurance company.

2. *Call Your Broker*—The agent or broker who handles your homeowners or automobile insurance should be aware of other casualty products available in your area. Even if your broker does not deal with professional liability insurance, he or she may be able to put you in touch with someone who does.

3. *Going Bare*—Sometimes by

choice and sometimes out of necessity certain individuals have elected to practice without any type of professional liability insurance. If you are considering taking this route we strongly suggest that you discuss the implications with an attorney.

4. *Call or Write to Your Congressional Representative*—One of the reasons there is a crisis in professional liability insurance today is that under the current legal system defendants in liability cases have received enormous awards. The insurance companies have difficulty determining their potential liability under these circumstances.

Continued on page 8.

Medicinal Chemistry Group

The next meeting will be on
March 3. For advance
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BOOK REVIEW

Continued from page 4.

but only if you enjoy living by your wits." Some chemists preferred the more orthodox life style of familiarity with the literature and laboratory-based research. They watched as the company did less and less contract research and more and more consulting work. This transmogrification was illustrated nicely when one of the consulting lads, who had sold a client a job dealing with asphalt, phoned Roger Doggett one day to ask some questions about the substance. Among them was, "Roger, what is the color of asphalt?"

In a recent review of "The Problem Solvers" in the *New York Times* Ron Rosenbaum concludes that Dr. Little would be unhappy to see what his company has become. However, those who would agree may take some solace by considering ADL to be like the title character in the 1920s song that went, "Why do they all call him Freshman? Because he isn't what he'll be and isn't what he was!" ♦

Edward R. Atkinson
Amherst, Mass.

The December Meeting

Photos by Andrew Fingland



Dr. Debra J. Trantolo on right chatting with Dr. Katarina Kacik, physical chemist, Giner, Inc., Waltham, MA. In background, Dr. David L. Williams, Senior Scientist at Giner, Inc. Dr. Trantolo organized this exciting and informative meeting.



Symposium speaker Dr. Jue-Chen Liu after her detailed presentation of Iontophoresis as a drug delivery system.



Dr. Jindřich Kopeček, Dr. Thomas R. Tice, symposium speakers.



Our student contingent (except for Dr. Weinberg). Left to right: Dr. Jim Weinberg, Ellen Weinberg, Boston University, and Emilio Sequillante, Tracy Chen, Francois Nemard, and Eleanor Zour, all pharmacology graduate students from Rhode Island University.

STATE GRANTS AVAILABLE

Application Deadline: February 6, 1987

The Massachusetts Centers of Excellence Corporation (MCEC) announces the availability of state funds for research and/or development grants in the scientific fields of Biotechnology, Marine Science and Polymer Science and Technology. Massachusetts-based companies in conjunction with Massachusetts-based public and private universities jointly apply for the state funds. These grants require matching funds (cash or in-kind) from the applicants.

The grants are for use in activities supportive of MCEC goals and responsive to subject areas designated by the MCEC Board of Directors.

This year's designated subject areas include:

Biotechnology—Diagnostics and therapeutic drugs; Agriculture and animal health; Toxic waste degradation and treatment.

Marine Science—Marine electronics; Marine resources; Water quality and marine pollution.

Polymer Science—Advanced materials; Polymer processing and fabrication technology; Biopolymer technology; Environmental considerations.

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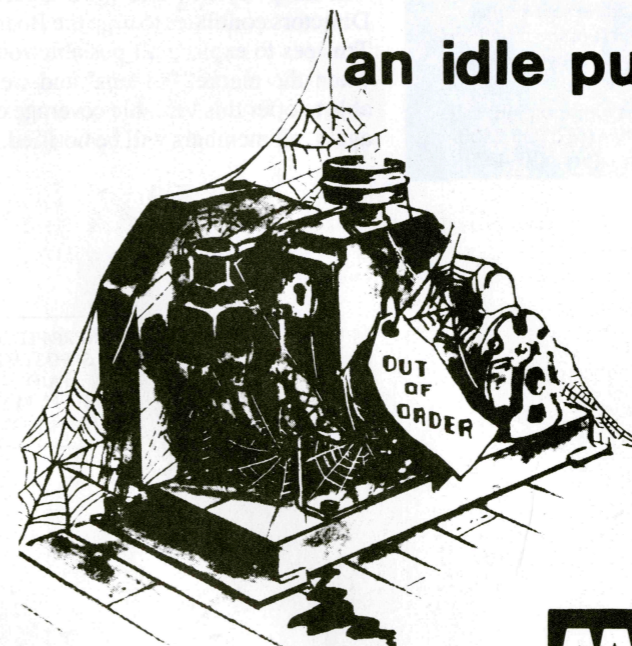
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Calendar

Monday, February 2

Professor D. Hart
(Ohio State University)
"Synthetic Approaches to Gelsamine
and Pleurotin"
Brandeis University
Gerstenzang 122 at 4:00 P.M.
Refreshments at 3:30 P.M.

Thursday, February 5

Dr. Ulrich Mueller-Westerhoff (UConn)
Title to be announced
Dartmouth College
Steele Room 107 at 10:30 A.M.

Monday, February 9

Professor Robert Pascal, Jr.
(Princeton University)
"Mechanistic Studies of Non-Heme Iron
Oxygenases"
Harvard University
Mallinckrodt, MB-23, at 4:15 P.M.
Refreshments at 3:45 P.M. in MB-9,
lower level

Tuesday, February 10

Dr. William A. Haseltine
(Harvard Medical School, Dana-Farber
Cancer Inst.)
Title to be announced
Tufts University Health Science Campus
Sackler A at 4:00 P.M.

Thursday, February 12

Dr. S.B. Ross-Murphy (Unilever)
Title to be announced
Dartmouth College
Steele Room 107 at 10:30 A.M.

Thursday, February 19

Dr. Tom Scott (Exxon)
Title to be announced
Dartmouth College
Steele Room 107 at 10:30 A.M.

Monday, February 23

Professor S. Denmark
(University of Illinois)
"New Synthetic Methodology:
Mechanistic, Preparative and
Stereochemical Aspects"
Brandeis University
Gerstenzang 122 at 4:00 P.M.
Refreshments at 3:30 P.M.

Tuesday, February 24

Dr. Joanna B. Olmsted
(University of Rochester)
Title to be announced
Tufts University Health Science Campus
Sackler A at 4:00 P.M.

Thursday, February 26

Dr. George McLendon (Rochester)
Title to be announced
Dartmouth College
Steele Room 107 at 10:30 A.M.

Notices for the NUCLEUS Calendar
should be sent to:

Marilyn J. Schneider
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Wellesley, MA 02181
Phone: 235-0320, ext 3031

(Note: Material should be sent so that
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to the month for which the event is
scheduled.)

For additional seminar information, call:
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Harvard University—(617) 495-4070

INSURANCE

Continued from page 5.

One way to change all that is with legislative action which limits the awards that can be made. If you are concerned about the lack of availability of professional liability insurance, make sure your representative takes your concerns to Washington.

What the ACS is Doing. The Board of Trustees continues to search for a professional liability policy for its members.

Many of our members have made us aware of other policies that exist, usually because they are members of other organizations which have this kind of coverage. We have contacted each of these organizations and we are currently dealing with the brokers who handled their policies.

The Board's Insurance Consultant is following through on some leads through contacts that he has, and our Legal Counsel is investigating other avenues.

Although we have not been encouraged by any of the above as yet, we will keep trying. The ACS Board of Directors continues to urge the Board of Trustees to explore all possible routes; when the market "softens" and we are able to offer this valuable coverage once again, all members will be notified. ◇

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