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President's Message

The Pittsburgh Conference takes its much traveled act to the Javits Center in the Big Apple for 1990 and so we follow for **SEAC's** prominent part of the festivities. A foomote to the time span of this early spring **fixture** - at a pre-retirement luncheon in December at AT&T Bell Labs, the honoree was introduced as the last active employee in the analytical chemistry department to have attended the Pittsburgh Conference in **Pittsburgh**. Further west we have new participants at the Gordon Conference on **Electrochemistry** who were not around when the WETS originators of that esteemed gathering were enjoying Pacific coastal airs (another, later offshoot of this visionary spirit being SEAC itself).

The stimulation of these historical twinges was not Back to the Future Part II, but Royce Murray's wann reminiscences in the last Newsletter. Perhaps I am especially susceptible to such time travel since I can remember associating fusion in a chemistry lab with refractory materials, fluxes, and crucibles, not efforts with palladium cathodes in heavy water. Our field does pay close heed to tracing lineages. Genealogical outlining of personal family trees can be more difficult than tracking electroanalytical heritages. One **can make** these historical excursions for most scientific disciplines, but, I suspect, not often with the personal response they generate in our readers. We certainly invite more contributions of this sort for our pages, as I am sure Pete Kissinger would of our physical artifacts for his collection.

These shared memories would not be enough to sustain us if the membership were not also actively generating tomorrow's archival precepts. With the productivity of our members, the question arises whether a SEAC presence would occasionally be warranted at joint conferences with other larger organizations in addition to our regular 'annual meeting coupled to the Reilley Award at the Pittsburgh Conference? We certainly represent diversity in chemistry, biology, and physics, and in pushing the limits of electrochemistry, as Al Bard described them in his Electrochemical Society Lecture in Hollywood, Florida.

I would like to raise occasionally in this space questions that concern any expansion of the SEAC role as a society and in service to its members. I won't just ask, but challenge, the readers for some response to these issues of broadening our activities. Our approaching 'annual meeting is also **an** appropriate forum for ideas.

Barry Millor

Editorial

As we begin another year, I wish you all the best in your scientific, and other, endeavors. Hopefully, this year will bring a definitive answer to what the cold fusion phenomenon is all about. If you plan on attending the Pittsburgh Conference, be sure to attend the SEAC reception and Reilley Award Symposium which is described elsewhere in this issue. Also, don't forget to stop by the SEAC booth at Pittcon for a visit or to help out.

I just returned from the Pacifichem '89 conference in Honolulu where the natives were complaining about the record cold that occurred the evening before I arrived. The temperature dropped to a frigid 57°F (14°C)! Of course, back here on the mainland. most of the country was experiencing sub-zero temperatures. It's really hard to feel too sorry for the Hawaiians. At the Pacifichem meeting, SEAC was well represented by speakers, coauthors, and just plain sun worshippers. As you know, Garry Rechnitz was recently transplanted to our 50th State, and he has really gone Hawaiian (even presenting a lecture in a flowered shirt). He had his hands full with visiting dignitaries to his new biosensor laboratory, which is described elsewhere in this issue. (Sorry that I didn't get a chance to stop by, Garry, but I had to perform some photochemical experiments at the sand/water interface.)

Today I received an interesting note from Karl Kadish requesting a replacement copy of our last newsletter. It was written (scrawled would be a better word) on a previously soaked and tattered copy of the newsletter. As best I could make out, it stated, "Frozen pipes = flooding in all of Chem. Bldg. - up to 8 inches on 3 floors X-mas day/eve. This is something that survived; please send duplicate. I'll send IUPAC report if computers work when they dry out. Karl." I've heard some pretty wild excuses for not getting a report in on time, but this is one of the best. I hope you have better luck in the new year, Karl.

President Miller's message concerning professional heritages reminded me that I had such a "family" tree tracing back from my mentor (who is also Barry's), Dave Hume. In fact, since it includes the "Father of Analytical Chemistry" in America (I.M. "Piet" Kolthoff), this tree is huge and includes the children, grandchildren, etc., of other US. greats such as Sandell, Lingane, Laitinen, Bowers, to name but a few. And if you think these names are impressive, you should see some of the second and third generation notables. For example, included among some of Lingane's students were Meites, Sawyer, Anson, and

Bard. As of 1982, **Kolthoff's** Ph.D. progeny numbered well over 1000; 51 in the first generation, 310 second, 497 third, 194 fourth, 10 fifth, and 11 in the sixth. How many more have been added since then?

Certainly, there are other professional family trees in which SEACers make up the limbs, branches, and I will be most happy to leaves. publish any of these that you care to send in to me. I would also like to get vour comments on the Kolthoff tree: especially anecdotes about the various generations and their accomplishments. Obviously, I have slighted, and apologize to, more than 1000 illustrious individuals who should have been mentioned above, but there is only so much space and time; and I have "miles to go before I sleep."

Dick Durst

The roots and trunk of the Kolthoff tree; see Editorial for comments on the **limbs**, branches, and leaves.



The Society for Electroanalytical Chemistry

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Barry Miller, President AT&T Bell Labs

Peter T. Kissinger, Past-President Bioanalytical Systems, Inc.

Joseph T. Maloy, Secretary and Membership Chairman Seton Hall University

Franklin A. Schultz, Treasurer IUPUI, Indianapolis

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Joseph Wang

IUPAC Activities

Commission 1.3 on Electrochemistry

Dear Dick:

In response to your request for information concerning IUPAC, I offer some comments on the activities of Commission 1.3. I think it might be helpful to include some preliminary comments about IUPAC and its activities. I don't know about V.5, but we are always looking for people who want to give some of their time. Let me start with some preliminary comments (which you can easily relegate to the trash can) followed by some specifics on 1.3.

I gave an opening address as the IUPAC representative at the recent ISE Meeting in Kyoto. IUPAC accordingly sent me some propaganda which enclose should you wish to use it. I have the feeling that many people consider IUPAC a club of closed membership (and I think there is some justification for that). It might be a good idea to indicate how U.S. scientists might participate before they get to the level of Titular Members. Clearly it is much easier for Europeans since many, if not most of the meetings, are in Europe. It is rather difficult to use precious travel funds for an activity of somewhat dubious value from the point of view of professional advancement, especially for young scientists. As you may know, the National Academy of Sciences is trying to do something about this, and they actually fund several people to go to the Biennial Meetings. It seems to me that there were about 3-5 people in Lund funded this way. I realize that you do not want to make this a major project, but if you want some further details on this, you could call Peggy Posey at the Academy and she can give you further details.

OFFICIAL PROPAGANDA

Commission 1.3 (Electrochemistry) is part of the Physical Chemistry Division. Its Chairman is Professor Gerhard Gritzner of Johannes Kepler University, Linz, Austria, and the Secretary is Professor George Wilson of the University of Kansas. There are five additional Titular Members: Dieter Landolt (Federal Polytechnic Institute Lausanne), Victor Lobo (University of Coimbra, Portugal), Waldfried Plieth (Free University of Berlin), Margarethe Sluyters-Rehbach (University of Utrecht), and Koichi Tokuda (Tokyo Institute of Technology). In addition. there are 8 Associate Members and 15 National Representatives. There is considerable overlap between the activities of this Commission and that of Commission V.5 (Electroanalytical Chemistry) and a number of persons have served on both commissions. Commission 1.3, however, focuses attention on the physical chemistry rather than the analytical aspects of electrochemistry, especially uniform terminology and measurement practices. Some recent projects include: Electrochemical Corrosion Nomenclature, Terminology and Semiconductor Photoelectrochemical and Energy Conversion. Real Surface Area Measurements in Electrochemistry, and Polarographic Half-Wave Potentials of Cations in Non-Aqueous Solvents. Consistent with IUPAC's newly defined focus on chemistry of the environment, the chemistry of new materials, and chemistry in biology, several new projects are being initiated. These include spectroscopy of electrode surfaces and bioelectrochemistry. Commission I.3 is always looking for persons who are willing to contribute to these efforts.

I hope this information will do the trick. Happy New Year!

Best Regards,

George S. Wilson Higuchi Professor of Chemistry and Pharmaceutical Chemistry

New Members:

Raymond B. Scott Mary Washington College, 6/13

Tahwu Chou Stevens Inst. of Tech., 7/9

Joseph Stemple Naval Research Lab, 8/7

Zhang Min Georgia Tech, 10/18

Mark Attridge University of Connecticut, 11/8

Frank Chang Seton Hall University, 11/8

Therese M. Cotton Iowa State University, 11/16

Joseph G. Gordon II IBM, San Jose, 11/16

New Facility

The **Hawall Biosensor Laboratory** was established in July, 1989 within the Department of Chemistry, University of Hawaii at Manoa, to conduct multidisciplinary research on **biosen**sors and provide advanced training in order to meet the world-wide demand for professionals in this field.

With research support from the National Science Foundation and the National Institutes of Health, the initial laboratory staff consists of 8 postdoctoral and 5 predoctoral researchers housed in new, fully equipped laboratories.

Current research targets **immuno**chemical, biocatalytic, and **receptor**based biosensors, as well as their application in biomedicine and biotechnology.

The Hawaii Biosensor Laboratory is intended to provide an international focus for research and training, with special emphasis on the Pacific Basin region.

Professor G. A. **Rechnitz** Department of Chemistry University of Hawaii Honolulu, Hawaii 96822 Tel: (808) **948-7480** FAX: (808) 949-8025

IUPAC Activities

As promised in my editorial in the last issue of the newsletter, I have asked the Secretaries of the two electrochemically oriented Commissions of IUPAC to provide a brief summary of their activities. I am happy to report that both have responded and their summaries follow. George Wilson supplied some supplementary material on the IUPAC raison d'etre and participation (affiliate membership) which is too extensive to publish here, but anyone interested can obtain a copy of this material by writing or phoning me.

Dick Durst

Commission V.5 on Electroanalytical Chemistry

Dear Dick,

Enclosed is a photograph of George Wilson's room at the Grand Hotel in Lund which was taken as part of our routine monitoring of Commission 1.3 activities during the last IUPAC General Assembly. We have a good group of people working for us and have obtained pictures of George next to the "Nödutgang" on several planes, trains and ferry boats between Lawrence and Lund. I believe that George adhered to his usual (and this time required) open door policy in Lund, and, to our knowledge, never utilized the "quick way out" in any of his dealings with fellow IUPAC members.

Sincerely yours, Karl M. Kadish

(Editor's note: As I implied in the last issue's Editorial, the fire escape route (emergency exit) in George's hotel was rather unusual. I was unaware at the time that photographic evidence of his unique accommodations existed. As Karl indicates in his letter, the electroanalytical intelligence network is highly professional, and little escapes our notice.)



George Wilson's Room at the Grand Hotel

Commission V.5 (Electroanalytical Chemistry) is part of the Analytical Chemistry Division in IUPAC. There are seven Titular Members, 12 Associate Members, and 17 National Representatives, each of which generally serve 4 year terms in this Commission. The elected Titular Members (whose travel expenses are paid by IUPAC) include the Chairman, Dick Durst (National Institute of Standards and Technology): the Secretary, Karl Kadish (University of Houston); and the Vice Chairman of the Commission, M. Senda (Kyoto University); as well as Maurice Gross (Université Louis Pasteur Strasbourg); Dick Buck (University of North Carolina); Klára Tóth (Budapest Technical University); and K. Stulik (Charles University, Prague). The elected Associate Members and the country from which they come are: A. M. Bond (Australia), K. Cammann (FRG), Filomena Camoes (Portugal), A. Fogg (UK), W. Kutner (Poland), T. Kuwana (USA), M. L'Her (France), G. Prabhakara Rao (India). Sandra Rondinini Cavallari (Italy), Y. Umezawa (Japan), H.P. van Leeuwen (Netherlands) and E. Wang (China). The appointed National Representatives and the countries they represent are G. E. Batley (Australia), H. Kao (China), A. A. Vicek (Czechoslovakia), H. B. Kristensen (Denmark), E. Lindner (Hungary), R. C. Kapoor (India), W. F. Smyth (Ireland), E. Grushka (Israel), T. Mussini (Italy), K. Izutsu (Japan), A. J. McQuillan (New Zealand), Z. Galus (Poland), J. Galvez (Spain), G. Johansson (Sweden), G. Somer (Turkey), A. K. Covington (United Kingdom), and I. Piljac (Yugoslavia).

There are a wide range of topics now under investigation which include but are not limited to "Chemically Modified Electrodes - Recommended Terminology and Definitions"; "Voltammetry and Potentiometry Involving Immiscible Solvents"; "Acid-Base Dissociation Constants in Dipolar Aprotic Solvents": "Microelectrodes": "Electroanalytical Biosensors: Classification and Characterization"; "Consistency of pH Standard Reference Values with the Corresponding Thermodynamic Acid Dissociation Constants"; "Recommended Methods for Determining Selectivity Coefficients for Ion-Selective Electrodes"; "Recommendations for Nomenclature of Ion-Selective Electrodes"; "Liquid Chromatography with Electrochemical Detection": "Electrochemical Detectors in Ion Chromatography"; "Chemometrics in Electroanalysis"; and "Critical Compilation of Electrochemical Data on Biological Systems." New projects are proposed and approved at the General Assembly which takes place every two years or at the off year commission meeting. Completed projects, once approved, are generally published in the journal Pure and Applied Chemistry. However, numerous exceptions exist such as the book "Standard Potentials in Aqueous Solution" which was published by Dekker and resulted from a joint project involving Commission V.5 and 1.3.

Karl M. Kadish, Secretary IUPAC Commission V.5

Pittsburgh Conference

March **5, 1990 -** Monday Afternoon SEAC Board Meeting 68 p.m.: **Reliley** Award Reception

New York **Hilton** Hotel Rendezvous Trianon Room

All SEAC Members Welcome

March 8,1QQ0 - Tuesday Afternoon Reliey Award Sympoelum

Charles N. Reilley Award - arranged by F. C. Anson, California Institute of Technology Room 1A06 F. C. Anson Presiding California Institute of Technology

1:30 Introductory Remarks - F. C. Anson

<u>Meetings</u>

GORDON RESEARCH CONFERENCE IN BIOANALYTICAL SENSORS

MARCH **12-16, 1990** Doubletree Inn Ventura, **California**

Chairperson: Ted Kuwana University of Kansas Vice Chair: John Peterson National Institute of Health

Monday, March 12th

Morning Session

Discussion Leader: Richard Durst

John Higgins - Biosensors: Exploring the Limits

Stephen Weber - Calibration, Sensitivity and Reversibility - The General Sensor Problem

Mark Meyerhoff - Enzyme Linked Binding Assays in Biosensing; Principles, Chemistry and Analytical Capabilities

Evening Session

Discussion Leader: Kathleen O'Connell

David Walt - Enzyme Immobilization Methods for Optical Biosensors Steven Choquette - Optical

Waveguide Biosensors

1:35 Award Presentation

1990 Charles N. Reilley Award will be presented to Jean-Michel Saveant of

Universite de Paris VII

by Barry Miller, AT&T Bell Labora tories President, Society for Electroanalytical Chemistry

- 1:40 (562) Award Address : Electrochemical Approach to Electron Transfer Chemistry - A Few Examples - J. M. Saveant, Universite de Paris VII
- 2:15 (563) The Characterization of Metal Chelates - DNA Interactions by

Electrochemical and ECL Methods -A. J. Bard, University of Texas

2:50 (564) Recent Mechanistic Studies by Cyclic Voltammetry - D. H. Evans, University of Delaware

3:25 RECESS

- **3:40** (565) Reorganizational and Other Factors for Electron 'Transfer Rates at Two-Immiscible Liquid and Semiconductor- Liquid Interfaces - R. A. Marcus, California Institute of Technology
- 4:15 (566) New Electrochemical Microstructures, New Views of Dynamics - L. R. Faulkner, University of Illinois

The Annual Meeting of SEAC Members will be held immediately following the symposium in Room 1A06.

Tuesday, March 13th

Morning Session

Discussion Leader: Glenn J. Bastiaans

Richard Thompson - Improving the Sensitivity of Waveguide Binding Fiber Optic Biosensors

Richard White - Biosensing with Ultrasonic Waves in a Thin Membrane

Michael Ward - Piezoelectric Experimental Detection of Biological Targets via Mass Amplification

Evening Session

Discussion Leader: Mark Arnold

Masuo Aizawa - Homogeneous Immunoassay by Electrochemical Luminescence

Walczak, Irene M.High Sensitivity Evascent Wave Fluorescence Immunoassay

Wednesday, March 14th

Morning Session

Discussion Leader: John Owicki

Moyhee E.Eldefrawi- Acetylcholine Receptor Based Optical Fiber Biosensor

J. Wallace Parce - Cellular Responses to Biological Effector Molecules Monitored with a Biosensor

Henry Y. Wang - Automated Bioscreening System Using Cellular Bioelectrodes Evening Session

Discussion Leader: Yoshio Umezawa

Mark Porter - Organized Monomolecular Assemblies on Electrode Surfaces

Adam Heller - Electrical Wiring of Enzymes with Redox Macromolecules

Thursday, March 15th

Morning Session

Discussion Leader: Herb Silverman

Joe Jordan - Chronoamperometric Biosensors for Glucose and Theophylline

George Wilson - Problems and Challenges in the Development of an Implantable Glucose Sensor

Kuwana Discussion of Peterson Open Session

Evening Session

Discussion Leader: John Peterson

OPEN SESSION

Friday, March 18th

Morning Session

Discussion Leader: George Wilson

Kenzo Kurihara - Molecular Mechanisms of Olfaction and Taste: Application to Artificial Membrane Sensor

Paul Yager - Lipid-based Optical Sensor for Detection of Anesthetics and Other Small Organic Molecules

A wards

Congratulations to Buzz Adams. Professor Ralph Adams of the University of Kansas has been awarded the ACS Division of Analytical Chemistry Award in Electrochemistry sponsored by EG&G Princeton Applied Research Corporation. He received the award for his early research on the mechanisms of organic electrode reactions and his more recent applications of electrochemistry to problems in neuroscience. After completing three vears of training in psychiatry in 1975. he focused his research on electroanalytical techniques used to measure neurotransmitters implicated mental illness - particularly in schizophrenia. (I'm sure he is beside himself over this award. Sorry, Buzz, I couldn't resist - Editor.)

The Eastern Analytical Symposium is proud to announce the following names of the 1990 awardees in Analytical Chemistry and Chromatography.

Dr. Allen J. Bard, Hackerman/Welch Regents Chair, Department of Chemistry, University of Texas at Austin, is the 1990 recipient of the Eastern Analytical Symposium Award for the Outstanding Achievement in the Fields of Analytical Chemistry.

Dr. Daniel W. Armstrong, Chairman of Analytical Chemistry, Department of Chemistry, University of Missouri-Rolla, is the 1990 recipient of the Eastern Analytical Symposium Award in Chromatography.

EAS plans to have special symposia to honor these awardees at its November 12-16, 1990 meeting to be held at our new location at the Garden State Convention & Exhibit Center in Franklin Township in Somerset County, New Jersey. The Garden State Convention & Exhibit Center is located just off I-267, midway between New York City and Philadelphia.

In conjunction with the Symposium, the Somerset Hilton Hotel will be the host hotel for the 1990 EAS.

For more information, please write to:

Eastern Analytical Symposium PO Box 633 Montchainin, DE 1971 O-0633

Or call:

The EAS Hotline - (302) 453-0785

Positions A vailable

Postdoctoral Research **Position** In Electrochemistry and Spectroscopy of Molten Salts:

A postdoctoral research position is available at the Department of Chemistry, University of Tennessee, Knoxville. The appointment is for one year with the possibility of extension. For further information contact:

Professor Gleb Mamantov Department of Chemistry University of Tennessee 575 Buehler Hall Knoxville, TN 37996-I 600 (615) 974-3141

Faculty Position In ANALYTICAL CHEMISTRY:

Tenure-track appointment at Assistant Professor level beginning August 20, 1990. Ph.D. in Analytical Chemistry required. Post-doctoral experience desirable. Expertise in bioanalytical preferred: however, candidates in all fields of analytical chemistry will be considered. Teaching, active research program at the undergraduate and M.S. level, and service expected.

Send statement of research plans, vita, copies of selected publications, three letters of recommendation to:

Search Committee Department of Chemistry East Carolina University Greenville, NC 27858.

Screening begins January 7, 1990, and continues until the position is filled. ECU encourages applications from minorities and women. Documentation of identity/employability/transcripts required upon employment.

(This notice was received too /ate to be included in our last newsletter. However, Prof. Li, Chairman of the Chemistry Department, indicated that even though screening has already begun, applications will continue to be accepted until the position is **filled.**~ Editor)

AS IT WAS IN ANCIENT TIMES. . .

INTERFACE ("A Newsletter of Electroanalytical Science") began in Venable Hall at UNC, Chapel Hill, with Vol. 1 No. 1 on February 2, 1968. IN-TERFACE began before computerized literature searching was widely available.

A group of Journal Worms volunteered to search the journal literature for articles pertinent to electroanalytical chemistry, then (as now) a rather small fraternity (and even smaller sorority).

The SEAC Newsletter is a descendant of INTERFACE. We have abstracted (censored) some material published twenty years ago on the occasion of the appearance of the text "Electrochemistry at Solid Electrodes" by Prof. Ralph (Buzz) N. Adams. At the time, the price seemed a little high (nothing has changed).

Lets imagine ourselves back in 1969 before word processors, before laser printers, and before disk drives cost less than cars.

INTERFACE BOOK REVIEW

Most reviewers, like taxi riders, com-

Jaroslav smile in his grave, but what do they do for the rest of us? Names for techniques should give an operational description of same. Cyclic voltammetry (which Adams uses!) is so much more satisfying than stationaryelectrode polarography (which Shain et al. persist in using). Similarly chronopotentiometry with current reversal (which most folks use) is better than reverse current chronopot (which Adams likes). [How many graduate students in 1990 have even heard of this technique?]

This is an intermediate level text that gives a practical introduction to an important area of modern electrochemistry. We highly recommend it for graduate students entering the field.

July 17, 1969

SIr:

Thanks very much for the copies of Interface. It's delightful and useful. I think you should expand it and we can all forget the nonsense of publishing -just pass on comments of what we're all doing via this "underground" medium.

I enjoyed your review of my book. I, too, was irritated by the final price. My early discussions with Dekker centered on a sensible price. However, when it all ends up, you have little or no choice in the matter -- it's set and you hear about it.

Ralph N. Adams Lawrence, Kansas

SIr:

I enjoyed the recent versions of your "underground" electroanalytical publication, Interface, and hope you will keep sending them to me. You might suggest to Harry Mark that this become the official publication of W.E.T.S.

I saw your review of Adams' book. I am sending it to Marcel Dekker with the recommendation that he make some comments about the pricing of books and perhaps justify the price of this one ... Anyway, keep up the good work. I hope we can contribute from time to time ...

Allen Bard U of Texas (Austin)

* *

SIr:

I think your point of high price is well taken. \$16.50 [sic] in "relative" terms appears to be high. The question that really seems pertinent is whether the book could have been published at a lower price.

Scientific books can really be categorized into textbooks selling thousands per semester or year, supplementary textbooks geared to sell between five and fifteen thousand copies, and research and reference books expected to sell approximately 2,200 to 5,000 copies. The "Adams" is clearly a research and reference type book. As a book becomes more specialized, the unit cost becomes higher and so does the price ... In the case of the "Adams," the price per page is four point five (4.5) cents per page. This on the whole is lower than our competitors. The average is about four point six (4.6) cents per page of books on a comparable level.

Publishers are anxious on behalf of their authors to sell or maximize the largest possible audience for a book. In reference books, timeliness and subject matter are the overriding ingredients. Price is secondary and is a consideration only in realizing a normal return on the investment. A book that has a low sale and carries too low a price is a disservice to the author.

The author's rewards for writing in terms of money are, indeed, small. A few thousand dollars is a pittance for his time and energy. However, authors write as a service to science. Your attempt at throwing a monkey wrench at us is really a disservice to Dr. Adams.

From the above explanation you will see that the original question -- could the price of the "Adams" have been lower -- has to be answered in the negative. The unit cost is high, the sale is limited, and the low return on royalties are, as it is, a small reward for the author's efforts. Your assumption that libraries are coerced to buy books is, of course, naive. If that were true, we should be able to sell thousands more of every title.

Marcel Dekker President

* * *

Further (and we hope final) cornments per The Book etc. ...

Since Ralph Adams is not (thank God) like Johns Updike and O'Hara, and is not writing about sex life and/or murder in a small Kansas university town, he can't be peddling movie and paperback rights to malevolent violators of public decency ... Mr. Dekker has described very nicely his side of the story. When writing our review we fully understood this story in kind, if not in degree. In any case, it is interesting to note that the 66-69 mdi catalog quotes a price of "about" \$16.75, Mr. Dekker says \$16.50 now and we paid \$16.75. This, by our computer, amounts to four point seven (4.7) cents per page which suggests that the "competitors" are more efficient corporate enterprises than mdi.

I still feel that libraries have a relatively inflexible demand for the books they "specialize" in (especially technical libraries). Although the UNC Chemistry Library would not accept a free copy of Valley of the Dolls, it goes out of its way to purchase books demanded by the faculty (with little concern for price). **[This** has certainly **changed!]** Similarly, the Kalamazoo Children's Library would give copies of "Adams" to the Salvation Army. [This has probably not changed.]

> PTK 6-6-69