SEAC
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President's Message

Every now and then I read an article that impresses me in the quality of the science, the organization, and the writing. Such an article recently appeared in Accounts of Chemical Research 1988, 21. 407-413. Fraser Armstrong, Allen Hill, and Nicholas Walton reviewed a decade of work on "Direct Electrochemistry of Redox Proteins" from the perspective of the Hill group. If you are interested in such things, the article is a good one!

The response to my request for an Electroanalytical Museum has been surprisingly good, The principal problem is discovering what to do with all the Philbrick vacuum tube op amps. I've only accepted a few of them offered. Particularly noteworthy is a K2-X which was used in Glen Booman's famous instrument at Lawrence Livermore. We also received a KS-XA from Ralph Adams, a unit purported to have been in one of the first voltammetry instruments to ever operate with a nonaqueous solvent. John Sease at Wesleyan cleaned out his closet and found examples of George Philbrick's heirlooms as did Harvey Herman at UNC Greensboro. We've got a Reilley-type thin-layer micrometer cell coming from Larry Anderson of Ohio State. There is a great need for an early ring-disk, a IP25 or IP65 op amp, early spectroelectrochemical cells, a recorder pen from a Fisher Electropode, early polarographic cells, etc.

We seemed to have struck an out of tune cord in the last issue when the editor and I made reference to politics. Some readers suggested that this had no place in a scientific society newsletter. I fail to see this. These were signed opinions. In a democracy we should give our opinions freely and openly. Those with a counter point of view are afways welcome to debate the issues. It is interesting to receive critical comments on a topic such as politics and no comment at all on most of the issues raised regarding the funding of electroanalytical research and other topics of direct interest to members.

Perhaps the popular press is right and automobile accidents, sports, sex, and gossip sell more papers than do "the issues" of the day. In any case, my opinion is that the election turned out fine. I think the Canadians do a much better job of getting these elections over pronto for almost no real cost vs. the $140 million we burned up on TV. That could have done a lot of electrochemistry. Then again, the stealth bomber will cost a minimum of $500 million each, so we may not be doing that bad on elections. Please don't blast me too much now; our incoming President, Barry Miller, will perhaps stick to topics more relevant to the electrode-solution interface.

The Reilley Award Committee is already at work for 1990. If you have a worthy candidate in mind, please write a letter supporting him/her to Professor Richard P. Buck, Department of Chemistry, the University of North Carolina at Chapel Hill, Chapel Hill, NC 27514. I've asked a number of people about the award who are quick to name viable candidates whom they ASSUME have already been nominated. This is an untenable assumption. Prof. Buck would like to hear from you. Now is the time.

As I retire as SEAC President, I'd like to acknowledge the tireless work of the Society Officers who have made real improvements in procedure and substance during the past two years. It has been gratifying to have their support in completing a reorganization which will carry us in good stead through the 1990's. Congratulations to the three new Board members just elected. Mike Elliot, Mark Meyerhoff, and Joe Wang have been selected from among six excellent candidates Let them know directions you want pursued so that Barry Miller and his team can get to work for you.

P.T. Kissinger

EDITORIAL

It's finally happened! I've been inundated with mail; some of it was even positive. Actually, all of it was positive, since I didn't get any of the anti-political correspondence that Pete Kissinger received (see President's Message). My thanks to everyone who wrote and sent material to me. It's all here (some of it edited for space considerations), and I hope this type of response will continue.

Let me begin with another congratulations to Fred Anson. The November 7th issue of C & EN announce his selection to receive the ACS Award in Analytical Chemistry (Fisher Award). In contrast to my earlier biographical sketch, an honest one (reprinted from C & EN) appears in this issue. I love the accompanying picture, Fred; patented bow tie and all. My only question is, "Have you become a California blond after all these years or could that be gray hair?" (Now you just had to know that I couldn't be completely serious.)

Speaking of Fred, this brings me to a letter I received from Janis Gulens at the Chalk River Nuclear Laboratories in Ontario. As I suspected, someone (in this case Janis, Dusan Konrad and Fred) had observed the "unexplained phenomenon" which I described in the last issue of SEAC Communications (a.k.a. the Newsletter). The proposed explanation is contained in Janis' letter and a short section which I excised from the original paper. Thanks very much, Janis; I'm relieved that I wasn't reporting merely an artifact of my experiment. However, it does point up how well I survey the literature.

Sincere thanks are also due our outgoing SEAC President, Pete Kissinger. As most of you know, Pete has been an extremely strong force in making SEAC what it is today - a

growing organization of specialists who share an enthusiasm for electrochemistry and electroanalytical chemistry. Pete has also been one of the prime movers of the Reilley Award and also, via BAS, its major financial contributor. We owe Pete a rousing vote of thanks for his efforts, and I am sure we can count on him in numerous ways in the future. Of course, one of these is the continued efforts of Pete, Candice, and the staff at BAS in helping with this Newsletter.

To make sure Pete doesn't relax too much, I would like to take this opportunity to invite him to be the editor of a new, and I hope, regular column in SEAC Communications to be called, "The Best of Interface," or another title of his choosing. For you electroanalytical youngsters and oldsters with poor memories (but who could forget!), Interface was the title of the predecessor of SEAC Communications and the official organ of WETS (but that's another story). It serves as a pattern for what I am trying to achieve with this Newsletter: newsy, enlightening, cultural (believe it or not, poetry) and fun. Actually, I think its real purpose was merely a vehicle to zing Harry Mark. Pete, as a grad student at the University of North Carolina, was its editor, and when he left to go to Kansas and then to Michigan State University, it followed him there and then on to Purdue University. But enough of the Fractured Fable on the history of Interface. I'm sure that Pete, if he accepts my request, will fill us in on the true story and select some of the classics from long ago and far away.

While on the subject of the SEAC Presidency, I congratulate Barry Miller for his hard-fought victory in the election. I am sure that he will be another fine SEAC President, and I hope he will receive everyone's support during his term in office.

Pete called to my attention an article in the September 2, 1988, issue of the Wall Street Journal concerning the research of one of our members, Don Sawyer of Texas A&M. It appears that Don made the headlines as a result of his work on "Super Oxygen" as the article called it. I phoned Don to get some additional details, and he sent me a sheaf of press clippings and a couple of technical publications. I really enjoyed some of the titles on the clippings: "A&M Turns deadly toxin into table salt" (Bryan - College Station Eagle), "Superoxide ions neutralize PCBs" (Electric Light and Power), and "PCB zapper hopes finding is put to use" (Ft. Worth Star-Telegram). For those of you more technically minded who would like more detailed information, check out these references: Environ. Sci. & Tech. 22, 1182 (1988) and JACS 109, 8081 (1987). Finally, let me end with some bad news/good news. While talking to Roger Bates in early December, I learned that Herb Laitinen had suffered a mild heart attack sometime around Thanksgiving and spent a week in the hospital. The good news is that I just spoke to Herb, and he sounds great! He told me that it was a very mild attack (apparently a week's hospitalization is SOP in such instances) and he's back to a normal schedule again.

Dick Durst

LETTERS TO THE EDITOR

Dear Dick:

The summer went by quite quickly after the 3rd NACC in Toronto, and I presume your summer was even more hectic with the Gordon Conference arrangements.

I read with interest the latest SEAC Newsletter, particularly your column "Unexplained Phenomena Department" (of course, you may have to explain in a later column that you are not referring to normal UPDI). The results you presented are strikingly similar to what Fred Anson, Dusan Konrad and I saw in the electrochemistry of tr $Rh(en)_2Cl_2^+$ at Hg electrodes. Our results were reported in J. Electrochem. Soc., 121, 1421 (1974), and a copy is attached. We saw similar influence of pH, scan rate and Rh concentration in the voltammetric response and concluded, as you have, that the behavior reflects kinetic influences of adsorption/desorption reactions, and the attack of the Hg electrode by products of the preceding electrochemical reactions. The effect displayed in Figure 13 is quite mild, as there were many voltammograms (at lower scan rates in particular, e.g. 20-200 mV/sec) that were much more "hideous" than this.

If you can find it, I would appreciate receiving a copy of your slide "Boy at the Dike" that you showed in Toronto, or the drawing for it so I can make my own. Perhaps you could start a new feature in the Newsletter, where readers send in "memorable" slides?

I will be interested to hear the response you get from other readers (Fred Anson?) regarding your UPD item. I hope my response has been of some value.

With sincerest regards,

Janis Gulens
Atomic Energy of Canada Limited
Chalk River Nuclear Laboratories

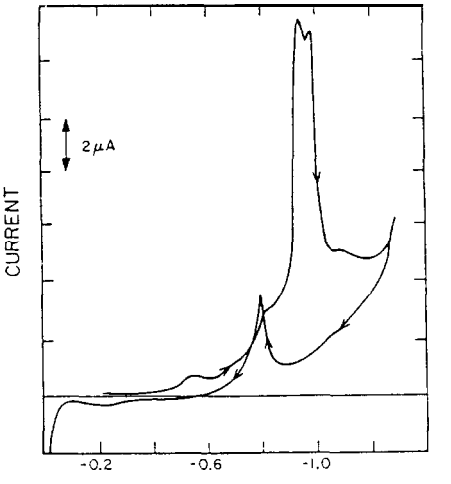


Fig. 13. Cyclic voltammogram for 0.9 mM *trans*-$Rh(en)_2Cl_2^+$ at a low scan rate: 0.18 V/sec. All other conditions as in Fig. 1.

Dear Dick:

Herb showed me the copy of the newsletter and the little item you inserted concerning my recent indisposition. It was very thoughtful of you and much appreciated. If the line drawing of a tennis player was intended to relate to the adjacent item, however, the coiffure was a bit too bouffant/

Fortunately, I really feel in good shape now. I play tennis three times per week and, on non-tennis days, walk-jog 3 miles. My only complaint is that I get out of breath more readily than

before, when I have to run around the court chasing lobs, etc. The walking and jogging are supposed to remedy this through enhanced conditioning, and I hope this will happen. . . [Jo and I] both benefited greatly from two weeks in Gstaad, Switzerland, at the end of August. We did a lot of walking on the beautifully kept trails along rushing mountain streams, took cable cars up the surrounding mountains (including visiting a glacier at 10,000 ft.), attended two concerts, visited friends made during our year in Zurich, and just loafed on our balcony. The Swiss Open tennis is played there, but we were too late for that.

How are things going at NBS, oopsl NIST? In particular, how does the staff, in general, react to this change in name? I, and other outsiders I have encountered, think it is too bad to change the name of an institution recognized world-wide. Many, I am afraid, will fail to realize that NIST is not just another new agency but incorporates the distinguished history of NBS. Oh, well, I guess I am just too conservative in my old age.

Sincerely,

Roger G. Bates

[I'm sure that all of Roger's many friends are happy at the news of his full recovery; I certainly am. As far as your comments about the name change, Roger, you *have* a lot *of company here, especially among the old-timers such as myself. But I don't want* to get *started on the subject or e/se it will turn into another lengthy editorial. Time will* tell *what* effect *it has on us; let's hope for the best. --Editor]*

Dear Dick,

While flattered to see my name appear in your Kudos column in the November issue, I was nonetheless surprised to see my affiliation transported back in space and time to East Lansing, Michigan. Nevertheless, I look on my association with MSU with great pride, especially given the recent exploits of such notable Spat-tans as Earvin Johnson, Kirk Gibson, and Pete Kissinger.

Please keep up the editorial humor, even though it might seem a little discriminatory with regard to height.

Sincerely,

Michael J. Weaver
Boilermaker Professor Emeritus,
Michigan State University

Dear Dick:

Enclosed is an announcement of the availability of a postdoctoral position at Portland State University. Please include this notice in the next issue of the SEAC Newsletter.

Keep up the good work!

Regards,

David K. Roe
Professor of Chemistry
Portland State University

Postdoctoral Position

Electrochemistry and surface IR spectroscopy of fluorinated acids. Recent Ph.D. with some experience with IRRAS preferred. Position available on December 16, 1966, initially for six months, and may be renewed, contingent upon funding for an additional two years. Salary is $16,000 - $20,000/year. Send curriculum vita and three sources of references to D. K. Roe, Department. of Chemistry, Portland State University, Portland, OR 97207-0751. EO/AA Employer.

MEETINGS

March 28 - 31, 1989

FOURTH MEETING OF THE PORTUGUESE ELECTROCHEMICAL SOCIETY to be held at the Coast of Estoril, near Lisbon. Areas of discussion include molecular electrochemistry, physical chemistry of ionic conductor media. interfacial processes, electroanalysis, corrosion, spectroelectrochemistry and photoelectrochemistry.

Further information from:

Professor Cesar A. N. Viana
Instituto Bento da Rocha Cabrai
(CECUL)
Cakada Bento da Rocha Cabral, 14
1200 LISBOA
Portugal

April 11 - 14, 1989

7th INTERNATIONAL SYMPOSIUM ON ELECTROANALYSIS IN BIOCHEMICAL, ENVIRONMENTAL & INDUSTRIAL SCIENCES to be held in the University of Technology, Loughborough, Leicestershire, England. In addiiion to papers on the main theme areas relating to the title, papers on the Electroanalysis of Natural waters will be especially welcome. Plenary Lecturers will include Dr. C. M. G. van den Berg, University of Liverpool and Dr. J. D. R. Thomas, University of Wales College of Cardiff, as well as

ELECTROCHEMICAL WORD JUMBLE

Unscramble these four Jumbles to form four common words.

ELCL ◯_ _◯ NIOCI _◯_ _ _

PREMAE ◯_ _ _ _◯ LAROM ◯_◯◯_

Now arrange the circled letters to form the answer to the question below.

HOW WOULD AN ELECTROCHEMIST VISIT THE PYRAMIDS?

Answer: On _ _ _ _ _ _ _ _ _.

(Answers on page 4). *Contributed by Mark Lange, SERI*

others from overseas countries.

Further information from:

Electroanalysis Conference
Chemistry Department
Loughborough Univ. of Technology
LOUGHBOROUGH
Leicestershire, LE1 1 3TU, U.K.

June 29 - 30, 1989

EUROSENSORS III AND 5th INTERNATIONAL CONFERENCE ON SENSORS AND ACTUATORS to be held in Montreux, Switzerland.

Further information from:

EUROSENSORS III (TRANSDUCERS '89)

COMET S.A. (Conference Organizers in Medicine, Science and Technology)
PO Box 415
1001 LAUSANNE 1
Switzerland

August 20 - 25, 1990

The J. Heyrovsky Centennial Congress on Polarography is being organized jointly with the 41st Meeting of the International Society of Electrochemistry, and will be held in Prague, Czechoslovakia. The main topics will be polarography and other electroanalytical methods in industrial, biomedical and environmental applications, molecular electrochemistry, theory of charge transfer, non-metallic electrodes, and energy conversion and storage.

Further information from:

The Secretariat of the J. Heyrovsky Centennial Congress

J. Heyrovsky Institute of Physical Chemistry and Electrochemistry
Czechoslovak Academy of Sciences
Dolejskova 3
182 23 PRAGUE 8
Czechoslovakia

MISC.

"Super Oxygen" Eases Environmental Problem

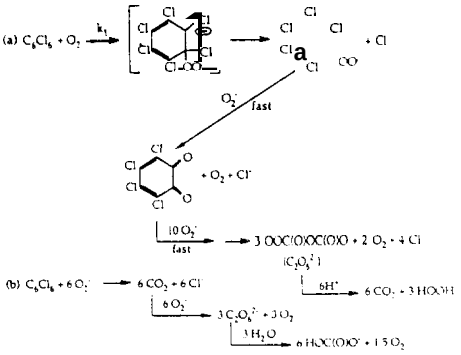
Safe Disposal of polychorinated diphenyls, or PCBs once widely used as insulation in electronics and transformers, has been a nagging problem ever since they were found in the 1960's to be deadly.

PCBs' virtues - chemical stability and high heat resistance - have made them dIffkult to burn. The Environmental Protection Agency approves incineration, but the process gives off dioxin, which is substantially more toxic than PCBs themselves. So the safest method of disposal has been storage in sealed containers.

Chemists have tried unsuccessfully to render PCBs chemically harmless, which would allow them to be disposed safely. In fact, Donald Sawyer at Texas A&M University, who discovered a way to break down such chlorinated pesticides as DDT, and other chemists believed that PCBs couldn't be broken down.

Now Mr. Sawyer and his researchers at the university have discovered that PCB's can be made to react with an oxygen atom that has "a lot of energy," says Hiroshi Sugimoto, one of the researchers. They combined two oxygen atoms and added an electron to form a highly charged "superoxide ion," and found that it broke down highly chlorinated PCBs into harmless bicarbonate of soda and table salt.(Wall Street Journal

Donald Sawyer



Reprinted from:The Wall Street Journal, Friday, September 2, 1988, Page 13

ELECTROCHEMICAL WORD JUMBLE

ANSWERS:

ELCL = CELL NIOCI = IONIC

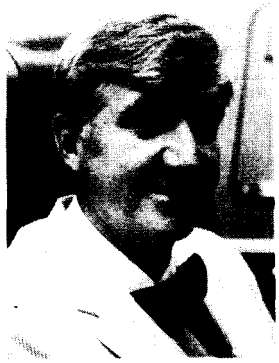
PREMAE = AMPERE LAROM = MOLAR

HOW WOULD AN ELECTROCHEMIST VISIT THE PYRAMIDS?

Answer: On A CALOMEL.

ACS A ward in Analytical Chemistry

sponsored by Fisher Scientific Co.



Anson

A world leader in research on electrochemistry of the division of chemistry and chemical engineering at California Institute of Technology has made contributions to electro-analytical chemistry. He has done pioneering work on polymer-coated electrodes, electrocatalysis, and in thin-layer electrochemistry. And he has contributed greatly to the teaching of electrochemistry.

Anson's concern with the importance and power of electrochemistry in analytical chemistry continually influenced his choice of research problems. His early research on the effects of oxide films on electrode reactions was the result of his recognition of the need to improve the sensitivity and precision of potentiometric and amperometrlc sensor electrodes. His later achievements include (in collaboration with R.A. Osteryoung) the invention, development, and exploitation of the chronocoulometric method for the analysis of adsorbed layers on electrode surfaces. In work directed primarily to an audience of analytical chemists, Anson and his group were first to address the effects of adsorption in analytical pulse polarography in a quantitative and comprehensive way. In research that paved the way f or analytical applications of polymer-coated electrodes, Anson's laboratory explored the extraordinary power of polyvinylpyridine coatings to extract metal ions from highly dilute solution and hold them on electrode surfaces.

"Anson's work," says a colleague, "has been characterized by an extremely high level of experimental skill; the results have been highly reliable; the experiments were carefully designed to prove the chemical principle involved; and the conclusions have been carefully defined."

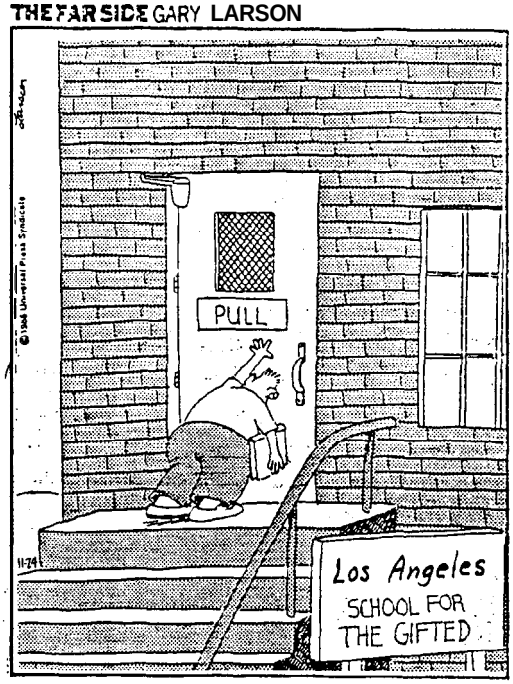
Around the world, the award winner is perpetuating education in analytical chemistry. From Wyoming to Florida in the U.S. to Canada, Brazil, Japan, Poland, and Spain, Anson's former students and post doctoral associates occupy important academic positions, most often in analytical chemistry.

Anson received a B.S. degree from Caltech in 1954 and MS. (1955) and Ph.D. (1957) degrees from Harvard University. His many honors include a John Simon Guggenheim fellowship at the University of Brussels (1*964);* a Fulbright-Hays research scholarship at the University of Florence, Italy (1972); the Electrochemical Society's David C. Grahame Award (first recipient, 1983); an Alexander von Humboldt senior scientist award (1984); the Society for Electroanalytical Chemistry's C.N. Reilly Award (1986); and election to the National Academy of Sciences (1988).

The award winner has published more than 200 papers. He has *served on* the editorial board of *The Journal of Physical Chemistry* (1974-83) and of the *Journal of Electroanalytical Chemistry* since 1975.

Reprinted from: C&EN, Nov. 7, 1988

THE FAR SIDE GARY LARSON



Fred Anson's first day of school