

DEPARTMENTS

Society News - Winter 1994

To cite this article: 1994 *Electrochem. Soc. Interface* **3** 8

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Bob Lovett

In Memoriam

The world of electrochemistry is saddened by the untimely death of Heinz Gerischer, a scientist who, to quote Dieter M. Kolb [*Electroanal. Chem.*, 228 (1987) on the occasion of Gerischer's 68th birthday and his retirement as director of the Fritz-Haber-Institut der Max-Planck-Gesellschaft], "is, rightly, considered to be one of the prime movers of modern interfacial electrochemistry, a man who gave new and forward-looking impetus to the entire field of electrochemistry, changing its relatively insignificant status as a purely electro-analytical discipline to that of an essential and modern interdisciplinary science."

Heinz Gerischer was born in 1919 in Wittenberg, Germany. He studied chemistry at the nearby University of Leipzig from 1937 to 1946 (with some interruptions by the war) and received the Dr. rer. nat. degree in 1946. It was here that he first encountered Karl Friedrich Bonhoeffer, who was to be his future teacher and supervisor of his doctoral work.

For his doctoral thesis, under Bonhoeffer's guidance, Gerischer worked with



HEINZ GERISCHER
1919-1994

periodic reactions at electrode surfaces, a phenomenon that is still an important topic in surface science and synergetics. After receiving his Ph.D from Leipzig in 1946, Dr. Gerischer

accepted an assistant professorship under the directorship of K. F. Bonhoeffer at the Humboldt University. During this time Gerischer established his first contact with the Kaiser-Wilhelm-Institut for Physical Chemistry (now the Fritz-Haber-Institut) in Dahlem of which Bonhoeffer was appointed department head in addition to his position as director of the Institute for Physical Chemistry at the Humboldt University. It was here that he met Klaus Vetter, who had joined Bonhoeffer from the school of M. Bodenstein. The rapid development of electrochemical kinetics in Germany at that time can be attributed to the competition between these two young assistants, Gerischer and Vetter. In 1949, Gerischer joined the Max-Planck-Institut for Physical Chemistry in Göttingen as a research associate.

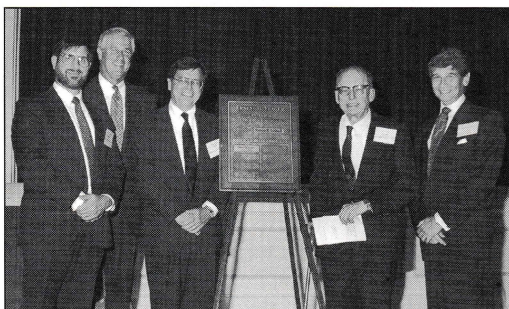
Over the years Gerischer worked intensively in the area of electrode kinetics. He developed the so-called double-pulse method in which double-layer charging was achieved during the first pulse and the reaction to be investigated took place in the second pulse. This technique, together with others

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CWRU Honors Ernest B. Yeager

A special Frontiers in Chemistry symposium at Case Western Reserve University marked the dedication of the Ernest B. Yeager Center for Electrochemical Sciences on September 22, 1994. Founded by Professor Yeager in 1976 as the Case Center for Electrochemical Sciences, this interdisciplinary enterprise now involves 35 faculty members from eight departments, as well as 75 graduate students, and 20 senior research personnel. The researchers involved in this interaction include chemists, chemical engineers, metallurgists, physicists, polymer scientists, and electrical engineers. In 1991, direction of the Center was handed over to Prof. Robert Savinell, but Prof. Yeager continues to be an important contributor to its research activities. In the morning there was a poster session including 31 contributions from the Center reflecting a broad range of activities in electrochemistry.

Three internationally renowned scientists spoke at an afternoon symposium. Gabor Somorjai, Prof. of Chemistry at the University of California, Berkeley, discussed *The Frontiers of Surface Science and Surface Technologies: Molecular Chemistry*



Helping Emeritus Professor Ernest B. Yeager (second from right) celebrate the dedication of the Ernest B. Yeager Center for Electrochemical Sciences are (from left) Robert B. Savinell, Antony Champ, Agnar Pytte, and Giles Klopman.

at Solid-Liquid, Solid-Solid, and Solid-Gas Interfaces. W. John Albery, Master of University College, Oxford, spoke on *New Electrochemical Sensors for Medicine and Biology*. Rudolph A. Marcus, Professor of Chemistry at California Institute of Technology and 1992 Nobel Prize winner, discussed *Electron Transfers in Solution in Proteins and at Interfaces*.

Ernest B. Yeager was born in 1924 in Orange, NJ. He attended Montclair State College where he graduated summa cum laude in 1945 with a B.A. in mathematics and chemistry. He enrolled as a graduate

student in chemistry at Case in 1945 and did his graduate work under Prof. Frank Hovorka. After earning his Ph.D. in 1948, he joined the faculty of the Department of Chemistry, where he has served ever since. He was Chairman of the Department (1969-1972) and Chairman of the University Faculty Senate (1972 and 1973). In 1990, Prof. Yeager retired from teaching as the Frank Hovorka Professor Emeritus of Chemistry.

Internationally known for his contributions to the development of fuel cell and battery technology through work in oxygen electrochemistry, electrocatalysis, and carbon electrochemistry, Yeager has received numerous awards over the years, including The ECS' Edward Goodrich Acheson Award (1982) and Vittorio de Nora Award (1992). He served as Society President from 1965 to 1966 and was made an ECS Honorary Member in 1977.

It is indeed fitting that the Case Center for Electrochemical Sciences which Prof. Yeager founded be renamed the Ernest B. Yeager Center for Electrochemical Sciences in recognition of Dr. Yeager's outstanding contributions to Case Western Reserve University. ■

An Invited Guest Column

Divisional Recycling

A few months ago I got a note soliciting my opinion about the possibility of creating a new Group that will concentrate on environmental electrochemistry. This solicitation was partly in response to my previous column in which I argued that the disposal part of a product's life-cycle will play a role with increasing importance in the evolution of the Society in the next century. My own active involvement in the Society can be traced to the creation of the Energy Technology Division that was created (as a Group) partly in response to the oil crises in the 1970s. This issue of adding structural units in response to changing needs is, of course, a very healthy trend. The problem is that the dynamics that we are familiar with, much like in the rest of the Society, is the dynamics of building but not the dynamics of replacing.

The question of an adaptive organizational structure is not an easy one. It is questionable if the present structure, based on the Divisional infrastructure and officers at-large, is adaptive enough. Adaptive systems require a dynamic hierarchy that changes in response to external stimuli.

Our present Divisional structure consists of an untangled web of personal and theatrical territorialism. Among its positive attributes is its success in engaging a relatively large number of members in active participation in the Society's affairs and providing disciplinary focal points through which activity takes place. The drawbacks mainly result from the governance structure, in which the areas of activity are constitutionalized and thus provide one-scale graining of the Society that is highly resistive to change and under which the most convenient way for adaptation is to add grains.

Let us try and imagine the Society without Divisions: A typical agenda of an executive committee meeting includes: Call to Order, Minutes of the previous meeting, Treasurer's Report, Symposia Plans, and New Business, which often includes deliberation on the divisional prize and nomination of new officers for the Division. At least in the cases that I am familiar with, the nomination for the new slate of officers is tantamount to election because the "election" takes place at the yearly Divisional lunch in which people really come to eat and be informed rather than engage in a meaningful debate. The worthy divisional prizes can be easily converted into named prizes, probably increasing their prestige and making solicitation of endowments much easier. Most of the time is spent on suggesting symposia lists.

Let us imagine that we nominate 10 people (to serve for one or two meetings) who in turn will select a few colleagues (including a "deputy") who will meet on Monday evening of each meeting in ten separate groups. The groups will be named after their respective chairpersons and will be charged to create the first draft of a symposia list for say the next three symposia following the one for which the Call for Papers is due. These "ten wise men" (TWM) will also constitute the symposia committee to be chaired, as presently, by a Vice President of the Society. If a member wishes to organize a symposium, he or she will fill out an information form indicating the title, expected attendance, possible chair and vice-chair, desire to publish a proceedings, etc. This information form will be sent to one of the TWM. It will be understood that the TWM will be recruited to cover most of the areas of interest in the Society; however, their interest areas will not be constitutionalized and it will not make much difference to which TWM the proposal is sent as long as the overlap will be sufficient to make a recommendation about the appropriateness of the request. It will become part of the meeting's tradition that on Monday evening interested people are invited to defend or modify their proposals. The suggestions for the various symposia will then move to the symposia committee where duplications will be eliminated, conflicts resolved, publication of proceedings decided, and the overall nature of future meetings will take shape. This will be the committee with the real power to shape future meetings. Once symposia are decided by the committee they are no longer associated with an individual TWM. The machinery for a follow-up needs to be established but the ultimate responsibility will rest with the executive committee of the Society and their designees.

I am sure that it will not be very difficult to shake up the scenario that I have laid here and find much unwanted debris falling down. It was presented without much thought about possible consequences but as a balancing element to a feel that an elastomer is needed in the present governance of the Society.

Micha Tomkiewicz
Brooklyn College of CUNY

Interface Editor Call for Nominations

The *Journal of The Electrochemical Society* has a new Editor. Effective January 1, 1995, Paul Kohl, a Professor at Georgia Tech and the current Editor of *Interface*, will take over as *Journal* Editor.

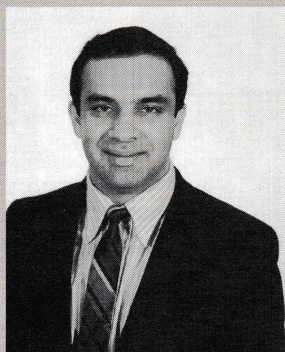
Dr. Kohl will be replaced as *Interface* Editor by the Publication Committee Chairman, Lee P. Hunt, who will act as the interim Editor until a new *Interface* Editor is named at the Spring Society Meeting in Reno, Nevada (May 22-27, 1995).

As such, the Society has retained the services of the Search Committee which served in the search for a *Journal* Editor to conduct a search for a new *Interface* Editor. This Committee, composed of Immediate Past President Robert P. Frankenthal, Past Presidents Jerry M. Woodall, Larry R. Faulkner, and Wayne L. Worrell, and chaired by the Publication Committee Chairman Lee P. Hunt, is now actively seeking nominations for candidates to be considered for the *Interface* Editorship from all Society members. Any nominee should have the following qualifications: leadership, technical breadth, time commitment, creativity, and motivation.

The Search Committee, after consideration of all nominees and in consultation with the Executive Committee, shall recommend a name to the Publication Committee for approval. If approved, the name shall be recommended to the Board of Directors for its approval at the 1995 Spring Meeting of the Society in Reno, Nevada.

The deadline for receipt of nominations is Jan. 15, 1995. Please mail or e-mail all nominations to L.P. Hunt, Hunt Associates, 2315 Ivy Wood Rd., Edmond, OK 73013; e-mail: leehunt@sns.snsnet.com.

Apte and West Named 1993 Young Author Award Winners



Pushkar P. Apte received a B.Tech. degree in ceramic engineering from the Institute of Technology, Banaras Hindu University, in Varanasi, India, in 1987 and his M.S. and Ph.D. degrees in materials science and electrical engineering from Stanford University in 1989 and 1993, respectively. His Ph.D. thesis focused on ultrathin dielectric films for integrated circuits.

Dr. Apte developed a new physical-damage model for the electrical breakdown of ultrathin dielectric films under high-field stress. He also led the development of a prototype, flexible, single-wafer equipment—the Rapid Thermal Multiprocessor—that was used to grow dielectric films with superior reliability. Concurrently, he has worked on *in situ* film thickness sensors, and novel *in situ* precleaning techniques. Dr. Apte received the Graduate Student Award of MRS in 1993, when he was cited for outstanding performance in the pursuit of research. Since August 1993, he has been working for Texas Instruments building process models to enable high-value, fast-cycle R&D. Dr. Apte has authored or co-authored 14 technical presentations and publications, and is a member of MRS and IEEE as well as the ECS.



Alan West received a B.S. degree in chemical engineering from Case Western Reserve University (1985) and a Ph.D. in chemical engineering from the University of California, Berkeley (1989) where he worked with Professor John Newman. He subsequently attended the Ecole Polytechnique Fédérale de Lausanne for postdoctoral studies with Professor Dieter Landolt in the

laboratory of chemical metallurgy. Since January 1992 Dr. West has been an assistant professor in the Department of Chemical Engineering, Materials Science, and Mining Engineering at Columbia University in New York City. In 1993, he received the NSF Young Investigator Award.

Professor West's research interests lie primarily in the experimental characterization and numerical simulation of transport phenomena of significance to electrochemical systems. He is currently working with graduate students in the areas of electropolishing and electrochemical etching, electroless deposition, and the influence of fluid flow on the design of electroplating cells. Applications are mainly in manufacturing of electronic and magnetic materials and devices.

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he developed and improved (such as potential modulation methods), laid the foundation of kinetics in modern electrochemistry. His work in electrode kinetics, which has strongly influenced our present understanding of the topic, quickly found recognition in the scientific world. It was not surprising then that in 1953 he and Vetter were awarded the newly established Bodenstein Prize of the Deutsche Bunsen-Gesellschaft.

He became a senior research fellow of the Max-Planck-Institut für Metal Research in Stuttgart in 1954 and a Scientific Member of this institute in 1960. He was also appointed as lecturer at the Technical University of Stuttgart.

In 1962 he accepted an offer of the Technical University of Munich to become associate professor of electrochemistry. In 1964, he was appointed professor of physical chemistry and director of the institute of physical chemistry and electrochemistry at the same university. From 1970 until 1987, he was director of the Fritz Haber Institute of the Max Planck Society in Berlin (the former Kaiser Wilhelm Institute of Physical Chemistry and Electrochemistry) and since 1970 was honorary

professor in physical chemistry at the Technical University and the Free University of Berlin. After his retirement in 1987, he became a Scientific Member Emeritus of the Fritz Haber Institute.

In his research, he published more than 300 papers on problems of electrochemical kinetics, fast reactions in solution and at electrodes, electrocatalysis, metal deposition and corrosion, semiconductor electrochemistry, and photoelectrochemistry. He was Editor of "Advances in Electrochemistry and Electrochemical Engineering" (Wiley-Interscience, New York) with Charles Tobias (1977-1984), Editor of "Advances in Electrochemical Science and Engineering" (VCH, Weinheim) with Charles Tobias since 1990, and Associate Editor of *Electrochimica Acta*.

Several times he spent periods of two to six months at universities in the United States as a visiting professor or research fellow (1967-1968 and 1987-1988 at the University of California, Berkeley; 1973 at the University of Gainesville, Florida; 1977-1978 at the California Institute of Technology, Pasadena; 1990 and 1991 at the University of Texas, Austin).

Dr. Gerischer has been honored by a great many awards for his many achievements over the years. In addition to the Bodenstein Prize of the

Deutsche Bunsen-Gesellschaft (1953) already mentioned, he received the "Bunsen-Denkmuze" of the Deutsche Bunsen-Gesellschaft (1976), the Palladium Medal of The Electrochemical Society (1977), the DECHEMA Medal (1982), the Fiorino d'Oro of the City of Florence (1985), and the Electrochemistry Group Medal of the Royal Society of Chemistry (1987). He was president of the International Society of Electrochemistry (1971-1972) and at the same time president of the Deutsche Bunsen-Gesellschaft. He also received honorary degrees from the Universities of Southampton, Erlangen-Nürnberg, and Berlin.

Heinz Gerischer, the scientist, is only one aspect of the man. Despite his tremendous commitment to his scientific work, he found time to pursue his many nonscientific interests. He read widely and prolifically. He was an engaging conversationalist with a keen sense of humor. He enjoyed his flute playing and was a passionate dancer, and until recently an avid downhill skier. He was married in 1948 to Renate (nee Gersdorf) Gerischer, and they have four daughters and six grandchildren.

All his impressive achievements over the years will associate his name with electrochemistry for generations to come. ■