Voices and Images from the Past

Preparing for the ECS centennial has turned into a veritable archaeological expedition, with a good deal of time spent delving into past issues of the *Journal*. The following selection of "artifacts"—excerpts of editorials and articles—offer us a unique glimpse into the minds and attitudes of the people who have helped shape the Society.

The editorials are remarkably prescient and speak volumes on their own. Several remind us that many of our current issues and concerns are not really new after all. Perhaps the most striking example of this concerns the recent clarion call from the U.S. government (see "U.S. Is Tightening Rules on Keeping Scientific Secrets," *The New York Times*, February 17, 2002) to clamp down on the flow of scientific information on several fronts. While this is undoubtedly prompted by the need to keep chemical, biological, and nuclear weapons of mass destruction from terrorist and rogue nations' hands, it has been argued by the scientific community that such a move would rip apart the whole foundation of scientific endeavor. This very debate appears in an editorial ("Our Dangerous Secrecy Policy") back in December 1948 in a climate following WWII and the Manhattan Project. In fact, the veil of secrecy continued well past that period into the Cold War era of the 60s and 70s.

The pages of the *Journal* are not without their share of humor. Past president Lash Miller and his cohorts may have invented Society humor (see the year 1910 and "Section Q" on page 24), with their mock police raids, bagpiper-led processions, and carborundum arrowheads, but they never published pictures of mice or elephants on the pages of the *Journal*.

Read on for a different view of the usually serious, but oftentimes fun, ECS.

Our Dangerous Secrecy Policy

There can be no doubt that free communication of ideas is essential to effective scientific research. Science can thrive only in an atmosphere of free inquiry where there is opportunity for full discussion and criticism of new results and new ideas. No responsible scientist or group of scientists proposes under present world conditions to disclose the applications of scientific knowledge to the design of military weapons or of the plants in which they are produced. What is insisted is that rigid top secrecy requirements not be imposed in such a way as to prevent broad discussion of new and original scientific ideas by other competent scientists.

The present unwise restrictions have arisen probably from a lack of appreciation on the part of the public of the distinction between fundamental scientific information and technological "know-how." It is but another symptom of that lack of understanding which attributes all new discovery and invention to "flashes of genius"...

We chemists and engineers can do much in our own communities to explain the nature and requirements of scientific research and in that way aid in bringing about a more intelligent national security policy.

Robert M. Burns, Vol. 94, No. 6 (December 1948)

"Give Me Liberty—"

Wherein lies security? Not in money—not in philosophies of government—not in science itself—but in the hearts and minds of men. Every worthwhile and lasting effort of men so far has been the result of clear thinking in this respect.

In the same sense, the security of The Electrochemical Society lies in its members. A member who joins only to get out of the Society what he can has little faith in a way of life that holds privilege undivorced from responsibility...

In the long run, to accept privilege is to accept corresponding responsibility. If ones seeks to gain for himself by avoiding responsibility, the gain, if made at all, is at the expense of privilege or liberty.

To men of vision, liberty is priceless. Accepting any commodity or promise in exchange is to move backwards in the scale of human progress and to renounce a fundamental struggle since early dawn for increasing freedom. For with greater freedom, men contribute in greater abundance, not only the necessities of life, but also beyond such needs, making possible the effective advance of science and the arts. A free society of responsible citizens can offer to everyone a wealth and security that dictators and bureaucrats are powerless to provide.

Herbert H. Uhlig, Vol. 95, No. 4 (April 1949)

"The Case for Going to the Moon"

Ask many people at random what benefits may come from U.S.-sponsored space exploration, and you may be sure of a wide variety of answers. Some will no doubt profess ignorance of any such efforts, or recall vaguely that two mean flew around the earth. Others may say that Government must spend money to give men jobs and let them earn a living. Some of the more thoughtful will take the attitude which seems to be promoted most by Government: if satellites or space stations or moon stations can be used to control, defend or threaten the earth's surface, we must not allow another nation to gain superiority in space.

Still others will stress the "fallout" or "utilization of transfer" of technology or improvements in state-of-the-art to private industry; NASA has a Technology Utilization staff with the duty of disseminating information which may be useful in other areas. And we like the answer given at press confer-

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ences by Col. John H. Glenn, first American to orbit the earth (in 1962): "To me, the big thing I keep coming back to is the exploration. That is the important part of it."

Cecil V. King, Vol. 112, No. 9 (September 1965)

The Case for Going to the Moon?

No, the question is not "is there a case for going to the moon?" The real question is—"is the case for going to the moon so strong that it should divert our talent, time and money from the other problems that confront us? That we should be using our young scientists and engineers in space-oriented research and development rather than in solving the problems of over-population, air and water pollution, and food production—to name only a few which are clearly capable of being attacked by those trained in the physical sciences?"

If we don't solve those problems, we'll have to go to the moon: the earth will be uninhabitable.

F. A. Lowenheim, Vol. 112, No. 12 (December 1965)

Our Society's Name

Society members as well as nonmembers attending our National Meetings have questioned whether our name, The Electrochemical Society, truly reflects the current broad interests of the Society in areas beyond classical electrochemistry. Electronics, electronic materials, metallurgy for example—and in general the solid state sciences—are not commonly considered branches of electrochemistry. It is likely that many who follow and participate in our Society's activities remain nonmembers as they do not identify themselves as electrochemists and fear that Society work in nonelectrochemical areas is only transient.

The question is controversial... Numerous discussions within various Society Committees, and elsewhere, have made quite clear that any name change of permanence should consider honoring the name of a renowned scientist whose distinction lies within the areas of Society technical involvement...

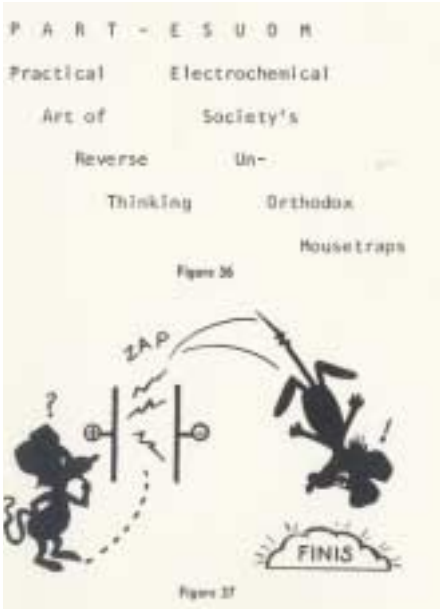
Nearly all discussions have concluded that the scientist most closely fulfilling our special requirements is *J. Willard Gibbs* (see the year 1967 on page 31). It is hardly necessary to justify such a conclusion or to attempt to show how the teachings of *J. Willard Gibbs* do cut across all past, present, and likely future technical activities of our Society.

Harry C. Gatos, Vol. 114, No. 7 (July 1967)

Elephants and Mice in the Journal

Our eye has also been caught, while perusing past issues of the *Journal*, by some departures from the usual figure illustrations. We reproduce some of the best examples here, in the hopes that it may inspire others to follow in the footsteps of MacMullin and Deal in the use of getting one's point across creatively.

The following two figures were the grand finale to "Building a Better Electrochemical Mousetrap," an article written by **ROBERT BURNS MACMULLAN** as his Electrochemical Engineering and Technology Award Address. In it, MacMullin reminisced about a number of "unexpected and rather startling developments" during his lifetime of work. Along the way, he proposed to show what he meant by innovation, using the "better mousetrap" as his theme. The article appeared in the November 1976 issue of the *Journal* (Vol. 123, No. 11).



One of the Society's most prominent figures from the solid-state side of the house, **BRUCE E. DEAL**, is perhaps best known for the famous theory of the thermal oxidation of silicon that he and Andy Grove proposed in 1957. Deal also contributed greatly to the development of the Society's solid-state activities: he was president of the Society from 1988-89, named a Fellow in 1991, and received the Society's Solid-State Science and Technology Award in 1993. Although the Society cannot claim publication of the Deal-Grove theory (it appeared in the *Journal of Applied Physics*), ECS does have the honor of publishing many of Deal's articles, including one that was the first *Journal* article ever to use an elephant as one of its illustrations (Vol. 121, No. 6). ■

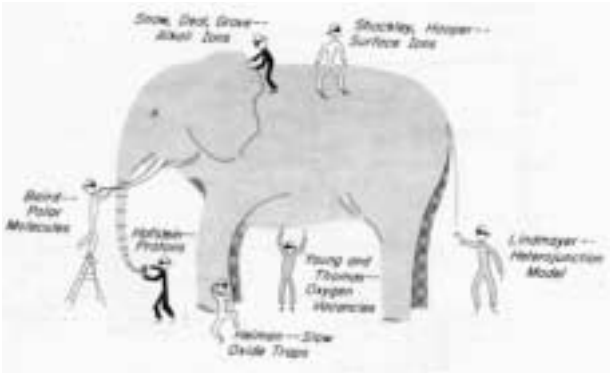


FIG. 4. Indication of early confusion regarding source of MOS instability as representated by Donovon's "blind men and the elephant" drawing. (Courtesy of R. P. Donovon, Research Triangle Institute, RTI Park, North Carolina.)