



It's called the new Beckman E-3 Glass Electrode. It provides multi-purpose pH measurement. It offers wide temperature application in the 0-100° C range. It measures accurately over the entire 0 to 14 pH scale with low sodium error. It maintains high sensitivity to the sample in the presence of corrosive action.

For accurate pH sensing under almost any condition and the latest in electrode technology, look to the recognized leader in pH . . . Beckman.

For additional information on the new E-3 Glass Electrode, or other Beckman electrodes, contact your local Beckman Sales Office. Or write for Data File LpH-466-15.

Beckman

INSTRUMENTS, INC.
SCIENTIFIC AND PROCESS
INSTRUMENTS DIVISION
FULLERTON, CALIFORNIA • 92634

INTERNATIONAL SUBSIDIARIES: GENEVA; MUNICH;
GLENROTHES, SCOTLAND; TOKYO; PARIS; CAPE TOWN; LONDON

sibility would be for agencies to add a fixed percentage to each grant, similar to the overhead allowance, for direct support of computer facilities. A third possibility would be to include computing facilities directly in overhead and increase the overhead rate accordingly. For those who believe that computing centers should be considered a necessary campus-wide service, analogous to libraries, this last solution seems logical.

ANTHONY RALSTON
*Computing Center, State University
of New York, Buffalo*

Krebiozen and Faith

The Krebiozen case (News and Comment, 4 Mar., p. 1061) illustrates both the benefits and the hazards of human faith. When people in distress have a tremendous need to believe in something or somebody, then the forces of society seem powerless to effect an unmasking of the inconsistencies involved in that faith. Such vigor of faith no doubt is a necessity to many people in their times of crisis. When a truly effective anticancer agent is developed, Krebiozen will be instantly forgotten.

One of the collorary hazards of faith is that constant repetition of unsubstantiated statements eventually produces the appearance of truth. The history of science is cluttered with unsubstantiated "truths," and some professional reputations rest more upon brashness and persistence in repeating such statements than upon brains and the careful pursuit of knowledge. . . .

JOHN T. FLYNN
*Beekman-Downtown Hospital,
170 William Street, New York 10038*

Lesson of Pittsburgh

I am inclined, from *Science's* recent account of developments at the University of Pittsburgh (News and Comment, 4, 11, and 18 Feb.), to regard ex-Chancellor Litchfield with far more esteem than I did. . . . Speaking as an administrator, I should like to say that the role is an unenviable one. One is a servant to those one administers as well as to those one has to account to. One doesn't take such a job out of altruism, but perhaps the chief reward is the achievement of goals that one believes one has a particular capacity to push

through. I use the verb "push," because the administrator must have and maintain authority to enable him to do his job.

The era of Litchfield may be over for Pitt. It would be well, however, for the community and the trustees to recognize the debt they owe him, as brought out in the *Science* account. One aspect of Pitt's situation not brought out in that account is the proximity of Carnegie Tech, a strong academic institution to try to compete with. Yet Litchfield did so successfully, instilling an *esprit de corps* at the university that is not easily come by.

This is my expression of thanks to him for what he tried to do to strengthen higher education in one small sector of our country. I do not view the debacle that resulted as his personal failure, but as a lesson to us all in the requirements for establishing and operating a major academic institution. May we learn and benefit from it.

ROWENA W. SWANSON
*505 Seward Square SE,
Washington, D.C. 20003*

Samuel Johnson on Dermo-optical Perception

Readers of Martin Gardner's article on dermo-optical perception (11 Feb. p. 654) may be interested in how Johnson dismissed the matter. In the 19 April 1772 entry in *Boswell for the Defense* [W. K. Wimsatt, Jr., and F. A. Pottle, Eds. (Heinemann, London, 1960), p. 134], Boswell records:

We talked of the blind being able to distinguish colours by the touch. Mr. Johnson said that the great Saunderson mentions his having attempted to do it; but that he found he was aiming at an impossibility. That, to be sure, a difference in the surface makes the difference of colours. "But that difference," observed Mr. Johnson, "is so fine that it is not sensible to the touch." The General [Pasquale de Paoli] mentioned gamesters and jugglers who could know cards by the touch. Mr. Johnson said that those cards must not have been so well polished as ours are.

The editors add in a footnote:

Nicholas Saunderson, blinded by smallpox at the age of twelve months, became in 1711 fourth Lucasian Professor of Mathematics at Cambridge. His *Elements of Algebra*, 1740, contains the disclaimer to which Johnson refers.

F. A. BREWER
*Department of Radio and Television,
Indiana University, Bloomington*