#### Credit where due

I read with great interest "The anonymity of mice and men" (Spectral lines, Feb., p. 29). I wholeheartedly feel that we undersell the proper recognition of the design engineer. It has been my experience that when recognition is given it goes to the upper level; to the managers and not to the engineers who did the work. I feel IEEE should start a policy of providing proper recognition in articles that appear in its publications.

A case in point: "Design case history: Singer's electronic sewing machine" (Feb., p. 40); only one individual was mentioned —a manager and vice president. It was a great article, but why not give some credit to the others who I am sure did a great deal of work

When we criticize others for not giving, and then fail to give credit ourselves, our criticism is a tinkling symbol.

Lee R. Watkins Littleton, Colo.

i hasten to applaud "The anonymity of mice and men." Aside from your perceptive juxtaposition of topics from the public press, your article places in sharp outline one of our greatest problems of benign neglect.

Of course, we always want to know "Whose Fault Is It?" Well, it is our own fault. Engineers, as a community, do not properly acknowledge the contributions of pioneers, predecessors or colleagues. They rapidly move proper names into lower-case letters in all of their publications lest recognition of contributions be perpetuated. We reference inadequately in texts and articles. Many years ago I had a hard time identifying Hall of "Hall-effect" fame, and a similar experience almost occurred for both Gunn and Josephson. We are too eager to forget the origins of important developments.

But again, we do not get much help from the media because engineers are engineers and they are not eager to discuss technical topics with the layman, who usually has an inadequate vocabulary. We need more patience and a better sense of history.

Hansford W. Farris College of Engineering The University of Michigan Ann Arbor, Mich.

I presume your words "...surely NIH pervades the medical profession and the sciences as much as it does engineering (Spectral lines, Feb., p. 29), were designed to illustrate two points central to your thesis: (1) that inappropriate use of an acronym can lead to confusion, albeit create an excellent pun, and (2) the proper means by which quiet engineers using soft understatements can retailate against some of

their more name-conscious colleagues (e.g., the medical profession).

Charles W. Garrett Alexandria, Va.

The uninitiated should be informed that NIH can be interpreted either "not invented here" or "National Institutes of Health." Reader Garrett points out its ambiguity in the specific context cited.

—Ed.

### INPO and the utilities

I wish to take the strongest possible exception to a statement in an article titled "INPO: utilities create their own policeman" printed in the March Issue of Spectrum (p. 58). The statement reads as follows:

"When Spectrum checked with the eight utilities evaluated, they readily acknowledged that they had been inspected and showed no reluctance to discuss the matter."

In the case of the Donald C. Cook Nuclear Plant, that is, at best, inaccurate, as I have stated to you on at least two occasions. Let me repeat again the content of the inquiry that was made by your staff member, Thomas G. Lombardo:

Mr. Lombardo contacted me by telephone on Jan. 21. He said Spectrum planned a story on what the nuclear industry had done in improving its operations since the incident at Three Mile Island. He said he wanted to interview someone knowledgeable about the Donald C. Cook Nuclear Plant to learn about activities there. We discussed the availability of three persons within the AEP organization who could be the most helpful.

Then, he casually asked, almost as if it were a throw-away question, whether we planned to make public the INPO evaluation report of the Cook plant. I asked about his awareness of such an evaluation and he said he had seen the Cook plant's name on a list of plants being evaluated.

I said I was not aware that INPO had sent us a draft report to which we could respond. Since we had not seen it, we could not offer further comment. He thanked me and quickly ended the conversation.

Anyone first reading your story's narrative and my summary of the Lombardo conversation will quickly see the obvious discrepancies. Anyone doing so is free to draw conclusions about motivation.

This has been a saddening experience to us. But, we have learned.

William G. Loftus AEP Service Corp. Columbus, Ohio

Mr. Loftus, senior vice president, Public Affairs, for AEP Service Corp., was Indsed contacted by *Spectrum* Associate Editor Tom Lombardo. Mr. Lombardo was doing

research for his article, "TMI plus 2," published in the April Issue (p. 28). Meanwhile, Spectrum Associate Editor Tekia Perry was completing work on a separate article, "IN-PO: utilitles create their own policeman," published in the March Issue (p. 58). During the course of her work, Ms. Perry was twice offered the list of eight plants evaluated by iNPO up to that time. INPO had promised utilities that this information would not be released without each individual utility's permission.

In the course of checking with each utility on the list, Ms. Perry has already contacted an official (not Mr. Loftus) representing AEP's Donald C. Cook nuclear plant. This spokesman had told Ms. Perry that the utility "probably would" release the INPO report when it was finalized. Thus, when Ms. Perry wrote the sentence referred to by Mr. Loftus, she was accurately describing the fruits of her own research.

As witnessed by Mr. Lombardo's April, 17-page special report on changes in the nuclear industry since the TMI accident, Mr. Lombardo had good reason to be asking Mr. Loftus about AEP's view of the Donald C. Cook evaluation report. It was not to trap him, as he apparently believes, but simply to add to Mr. Lombardo's research on changes in management attitude, a major part of his special report. After Ms. Perry's receiving frank responses from utility spokesmen on the same matter, Mr. Lombardo was not prepared for Mr. Loftus' reluctant reaction. Yet, Mr. Lombardo accepted Mr. Loftus' statement that he did not wish to comment on something that he had not seen.

Considering INPO's avowed policy not to release the names of those utilities evaluated without utility agreement, and since Mr. Loftus could not have known about Ms. Perry's findings, it may not be surprising that he was taken off guard by Mr. Lombardo's question. It may even be understandable that he would conclude that Mr. Lombardo was trying to confirm something not previously confirmed by other sources. What does seem unusual is that Mr. Loftus has widely circulated the letter published above even though the events were explained to him by telephone prior to his writing the letter. And it now seems inarguable that, while one spokesman for the utility had no qualms about acknowledging the existence of the INPO report, a public relations official at the AEP Service Corp.

In view of the sensitivity of nuclear power as a public issue, a defensive posture on the part of a nuclear utility's public relations staff may be understandable. However, such a posture may only exacerbate public uneasiness about nuclear power.

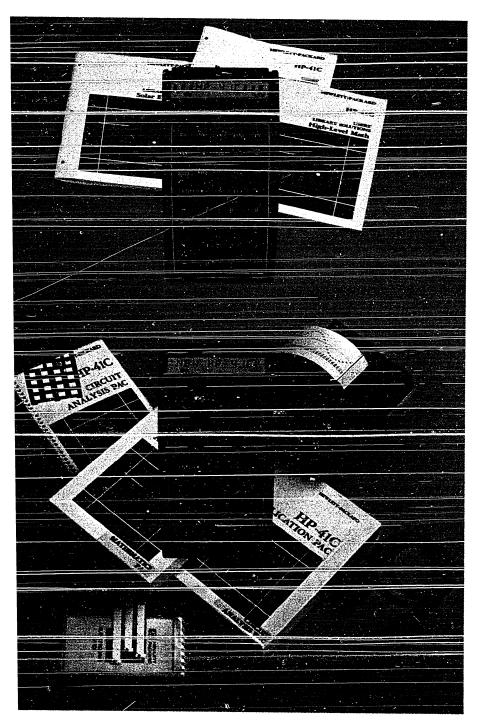
—Ed.

#### Small expectations

With reference to The engineer at large (Jan., p. 26) regarding engineers' salaries, I was particularly intrigued by the figures given in Table II which showed the effect of inflation on the average engineer's salary from starting date to 1980. Since I started in 1970 with my present employer, the 10-year experience figures were especially of erest. The data indicated that the average gross salary had increased 173 per cent, while an inflation adjustment revealed a

Readers are invited to comment in this department on material previously published in *IEEE Spectrum*; on the policies and operations of the IEEE; and on technical, economic, or social matters of interest to the electrical and electronics engineering profession. Short, concise letters are preferred. The Editor reserves the right to limit debate on controversial issues.

# The Professional Alternatives: The HP-41C And The NEW HP-41CV.



HP-41C, \$250; HP-41CV, \$325; Optical Wand, \$125; Printer/Plotter, \$385; Plug-in Card Reader, \$215; Quad Memory Module (brings HP-41CV memory capacity), \$95; Memory Module, \$30; Application Pacs, most are \$30; Solution Books, \$12.50.

Prices are suggested retail excluding applicable state and local taxes - Continental U.S.A., Alaska and Hawaii.

Now Hewlett-Packard offers you a choice in full performance alphanumeric calculators. The new HP-41CV has five times more built-in memory than the HP-41C. Both calculators are powerful vet easy to use. You can communicate with words as well as numbers. For example, label and call up programs by name and receive meaningful prompts while executing programs. Continuous Memory retains programs and data even while the machines are off. Need lots of memory? Choose the HP-41CV. If your needs are more modest, select the HP-41C. The HP-41C can grow with you by adding memory modules.

## BOTH OFFER CONTINUAL GROWTH POTENTIAL

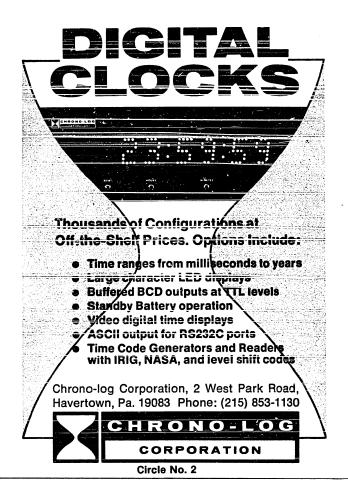
By themselves the HP-41C and HP-41CV may be all the calculator you'll ever need. But if you need more capability, you can expand your calculator into a complete computational system. Each calculator has four ports which allow you to plug in a Printer/Plotter, an "Extra Smart" Card Reader or an Optical Wand for reading bar codes. Application Pacs and Solution Books offering complete solutions are also available. And now, HP offers a new service: Custom Modules (ROM's) from your software for high volume, unique problem-solving needs. Costs are reasonable. Call us.

#### ONLY FROM HEWLETT-PACKARD

Powerful yet easy to use calculators. A full line of peripherals and software. A time-proven logic system-RPN. No equals key. Less keystrokes. Computation is displayed as you proceed. The new HP-41CV and the HP-41C are available now, with new low prices. For details and address of nearest dealer, CALL TOLL-FREE 800-547-3400, Dept. 206Q; except Hawaii/ Alaska. In Oregon, 758-1010. Or write Hewlett-Packard, Corvallis, OR 97330, Dept. 206Q.

611/07





ATGEGT

ITALIAN DESIGN

GERMAN ENGINEERING

AMERICAN INGENUITY

YOUR ADVANTAGE.

You can assemble the Aztec 7 from our complete kit. It's the alternative to expensive imports and sports cars. Gull wing doors, louvered rear deck and a rustproof body with the efficiency of a VW engine. 40+ MPG! Put together the car you want—other engine options are available.

Call Toll-Free for Information Fast! 1-800-328-5671

must be filled out completely to receive information.
Name Age
Address
CityStateZip
Home Phone ( )
Business Phone ( )
Account
No
Expiration Date

"true" increase of 28 per cent. Based upon a study I made regarding my own salary history, I would suggest that "Mr. Average" did not fare so well.

To compute the adjusted net curve, I started with the gross figure, subtracted FiGA and withholding tax (W-2 figures) and adjusted the net for a 1970 year-end dollar. I obtained cost-of-living indices (which are baced on a 1987 dollar) from the local Chamber of Commerce. As is readily apparent, my gross has increased 132 per cent, as compared with the 173 per cent figure given in the Engineering Commission report. Over the same period, my adjusted net has increased only 0.55 per cent as compared to the reported average of 28 per cent.

I would like to offer some refined adjustments to the Commission's report. In 1970, "Mr. Average" paid \$405.60 in FICA deductions. In 1980, he paid \$1587.67, an increase of 291 per cent. Withholding tax for "Mr. Average" would have been approximately \$1425 in 1970. In 1980, withhholding tax would have been in the neighborhood of \$5840. Thus, in 1970, "Mr. Average" would have netted \$8669 as compared with \$10 500 gross. In 1980, he would have netted \$21 222 with a gross of \$28 650; therefore, instead of a percentage increase of 173 percent, his paycheck showed something like 145 percent. Adjusted for the increased cost-of-living (based on a 1967 dollar), when "Mr. Average" got to the grocery store, his 1970 check shrunk to \$7454. In 1980, he had \$8571. Thus, instead of a 28 percent increase, "Mr. Average" actually realized an increase of 15 percent.

My own curve shows a significantly lower adjusted net increase because I hired in with my Ph.D. and eight years experience and, thus, I was in the exponential region of the tax curve. It is my suggestion that salary survey studies should present a composite picture, as I believe my study does. Specifically, it shows that munificent salary increases are not as beneficial as they may appear. Salary surveys could better serve the profession by showing the devastating effects of inflation and escalating taxes. Perhaps it would invite employers to provide some form of tax sheltered benefits in lieu of salary increases.

Richard Johnson San Antonio, Texas

It is interesting to note that the ratio of endof-career salaries to starting salaries in real dollars are approximately 1.8 to 2 regardless of economic boom or recession, war or peace, or other political factors.

This low level of expectation from a learned profession contributes more to the seasonal shortage (if shortage there is) and to the migration of capable engineers out of the profession than any other factors.

Michael Benedek Bronx, N.Y.

#### Geography lesson II

In the April issue (p. 10), Vance Fagan wrote that Barry M. Goldwater Jr. is a Republican of Arizona, not California as indicated in the November 1980 issue, p. 5. Mr. Fagan, however, seems to have overlooked the "Jr." Sen. Barry M. Goldwater is from Arizona; his son, Barry M. Goldwater Jr., is a Representative from California.

## in research

Apple personal computer systems help you collect, store and analyze data as fast as you can load a disk and execute a program. Because more than 100 companies offer software for Apple, you have the largest program library for manipulating your data in the personal computing world. Need special programs? Use any of Apple's development languages — BASIC, FORTRAN, Pascal.

## In engineering

Apple personal computer systems let vou define models.

make trade-offs and refine prototypes. Want to study cause and effect of several variables? Apple computes new results instantly and displays them

in colorful, easy-toread graphs, charts or plots on a video monitor.

In production management

Apple personal computer systems make it easy to gather data, analyze productivity, measure vields and facilitate all phases of production control. Want to speed up repetitive tasks?

Rely on Apple's word processing capabilities to write, edit and print your reports.

Apples grow

Whichever system you pick, Apple never locks vou into a single configuration. You can use up to four or eight I/O accessory expansion slots to add an IEEE bus, Apple's Silentype printer, a modem or a graphics tablet. Add memory up to 64K bytes or 128K bytes. Add up

> to four or six 51/4" disk drives without adding any overhead.

For support, service and the best extended warranty in the industry — Apple is the answer.

questions about why Apple is the pick for professionals in engineering, see your

nearest **Apple** computer dealer or

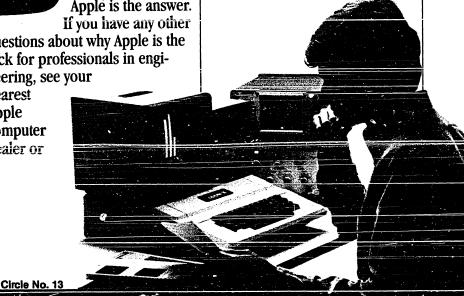
Maximum Memory Size 64K bytes 128K bytes Screen Display 40 column (80 column with 80 column 24 Lines Upper Case/Lower Case Upper Case 280 x 192 560 x 192 Screen Resolution (B&W) 140 x 192 (6 colors) 280 x 192 (16 colors) Screen Resolution (Color) Keyboard Fixed Programmable **Numeric Key Pad** Accessory Built-in Input/Output 8 expansion slots 4 expansion slots disk interface RS-232 interface Silentype™ printe One drive built-in, plus interface to support three more drives Disk Drives Add-on one to six drives Enhanced BASIC Fortran 77 Languages Pascal Assembly Pilot Pascal Assembly CPU, 48K RAM, single disk drive, B&W Monitor (9"), CPU, 96K RAM, integrated disk drive, B&W Monitor (12"), Silentype\*\* Silentype™ printer, and BASIC, \$3250.00\* printer, SOS, Enhanced BASIC, \$4865.00 \* Suggested retail price

Apple II

Apple III

call **800-538-9696**. In California, **800-662-9238**. Or write: Apple Computer, 10260 Bandley Drive, Cupertino, CA 95014.





See us at NCC, Booth 626

## Colleges shouldn't have to choose between lighting their buildings and enlightening their students. Thomas Edison

There's nothing more frustrating for a scientist than to be on the verge of a great discovery and not be able to afford the equipment he needs. I know

When I was a boy. I had to work overtime to ge the money I needed for equipment. But somehow I eventually got what I had to have for my experiments.

Today there's a real danger that Inflation is eating into college budgets to a dangerous degree. More and more of the money that used to go for microscopes, lab equipment and library books is now being consumed by basic necessities such as heating and maintenance. And, of course. my specialty -lighting

What is most frightening is that this squeeze is coming at a time when we need all the trained minds we can get. So that we can all work more effectively towards the realization of pressing goals: manageable inflation. revitalized industry, and plentiful supplies of energy coursing through the arteries of this country.

With today's problems America-simply cannot afford have second-best education. So please give generously to the college of your choice

Necessity may be the mother of invention but she needs a great deal of help if she's going to bear children.

Heln Give to the college of your choice.

and The Advertising Council

Council for Financial Aid to Education In 680 Fifth Avenue, New York, N.Y. 1001

0



At last we can see the earth as it really is. This small, pale ball floating in the vastness of space. Clearly with limits. Vulnerable, fragile.

For almost 100 years the Sierra Club has been fighting to protect the earth's fragile systems. We have successfully lobbied for laws to limit air and water pollution and to regulate poisonous toxic chemicals. We have won protection for swamps and meadows, rivers and mountains, deserts and prairies . . . those natural places which permit the earth to heal and renew itself. We have consistently been an effective voice for a world healthful for all its inhabitants.

The unique power of the Sierra Club springs from our active grass roots membership . . . volunteers who give freely of their time and expertise. If you want to participate in this work, or share in the satisfaction of it through a supporting membership, contact Kim Martin-Carroll, Sierra Club, 530 Bush St., San Francisco, CA 94108.

