plough on, what was I saying? ah yes, that bar is ten
microns long, now if we turn to the next slide, please, this
is the result of a chemical analysis of the dark region that is
near the centre of that thin section, is it possible to go back
a slide? well not to worry, you can see in the analysis how
dominant—sorry what was that? oh yes, the errors are
plus or minus a percent or so—that's the standard devia-
tion, no it can't be, it must be the standard error of the
mean—oh dear, the chairman says my time is up, can I beg
half a minute—are there any more slides? really? well let's
skip the next two, now this one is pretty important, it
brings together several of the trends that you've probably
been able to discern running through this talk, but rather
than go through it in detail perhaps I should have the lights
and just put up one or two key numbers on the blackboard—the chairman says there's no chalk, well it's
all in the paper I was mentioning anyway perhaps I have
been able to give you the gist of what we've been doing. I guess
that's all I've got time for.”

---Reprinted from Nature (April 27, 1978) via Nuclear and
Plasma Sciences Newsletter (January 1979) and
Engineering Management Society Newsletter
(November/December 1980)

Goofs from the U.K.

The following mangled expressions are reprinted from
The Communicator of Scientific and Technical Informa-
tion (Nov./Dec. 1979), published by the Institute of Sci-
tific and Technical Communicators, Ltd. (sources given
first):

1. Time-dropper—An artist wears open-toed sandals; an author wears
open-toed socks.

2. Audio-Visual—The video format battles seem to be getting worse at
every end of the spectrum.

3. ...buying newer and newer pieces of hardware...
PC Conference

Plan now to attend PC's conference on "The Engineer as Communicator," to be held September 16-18, 1981 at Crystal City Marriott in Arlington, Virginia. Sessions will address particular aspects of the following general topics:

Communication Technologies
Self-protection and Job-preservation
Written Technical Presentations
Oral Technical Presentations

The Keynote Speaker will be Robert Fischell, Assistant Head for Technology Transfer in the Space Department of the Johns Hopkins University Applied Physics Laboratory. The Two Luncheon Speakers will be Dr. Howard E. Clark of the National Bureau of Standards; and George Jones, President of Gerre Jones Associates, Inc., Design Consultants.

Address inquiries about the conference to:
Dr. Daniel Rosen
University of Connecticut
School of Business Administration
Stamford, Connecticut 06903
(203) 322-6703

Letters from the Editor I

Why don't our young engineers be like PC's Ad-Com with offers to "help" and clamor to be on PC's com- mittees? You don't need to be a writer to be active in PC. You just need to be interested. PC is a forum for discussion, for help, for experience, for growth, for fun. It is a way of networking, of providing a service.

PC offers opportunities for developing personal skills and obtaining personal "exposure," and because it is a small society, it can make the benefits of the oppor- tunities immediately available. Competition is non- existent, waiting time is zero.

A young engineer, male or female, need only think of some PC activity that might be either congenial or valuable—some activities may be both. Better yet, attend one or two AdCom meetings and volunteer to do a small job. Take part in the action! Right away, you can begin to work on a Society committee and advance toward a Society office. Along the way, you can be cultivating self-confidence, learning how to manage, talking with "new" engineers and communicators, broadening experience, discovering unsuspected talent.

The next step is action on the Institute level. Because PC has equal standing in IEEE with the larger Societies, those who represent are free to take part in Institute affairs, to speak and be heard, to learn by serving on Institute com- mittees.

You can use PC as a stepping-stone and as a proving ground.

PC is an equal-opportunity "employer," more than willing to accept applicants, give them on-the-job training, and encourage them to advance. Ambition inspires and energy enables. We offer volunteer work that, well done, will further the career of any person, regardless of race, sex, age, color, creed, temperament, profession, specialty, or disposition.

Come to the next AdCom meeting. All PCers are always welcome. It's your AdCom, and it offers you oppor- tunity.

Letter from the Editor II

Why don't corporate officers, engineering managers, and technical supervisors take advantage of the fact that IPC, an organization operated by engineer/communicators for engineers, offers services that can benefit management and opportunities that can benefit employees?

Why don't "bosses"
1. Recognize that active membership in PC can be equally as valuable to individuals personally and professionally, and to their companies organiza- tionally, as members of the society of a partic- ular engineering discipline?
2. Understand that the organizational and commu- nication skills of individuals are important pro- fessional assets for engineers in companies?
3. Encourage staff members to develop organizational and communication skills by taking active part in PC operations, meetings, and conferences?
4. Support PC activities by allowing individuals work-time and travel-money to take part in them?
5. Rest on and consider that it is good business to decide that their personnel conduct meetings efficiently, and prepare immediately understandable documents?
6. Make certain that their engineers either a. are skillful communicators, or b. receive corporate encouragement to improve their communication skills, or c. have professional help—i.e., editors, artists, technologists, etc., when communication skills are needed?

Alfred N. Goldsmith Award for 1979

Professor Eric Oshenbaw Taylor, designated by the Professional Communication Society as the recipient of the 1979 Alfred N. Goldsmith Memorial Award, was presented with the Award on November 12th, 1980. He received a Certificate and an engraved pen and pitcher.

Professor Taylor was the founder-chairman of the first overseas PC Chapter; it is still active within IEEE's United Kingdom and Republic of Ireland Section. The presentation was made by Basil W. Osborne, present Chairman, at a Section meeting held at Imperial College, London, England.

The Award was given for meritorious service, originality, continuity, and outstanding achievement in furthering energy resources, good health—-we must assume the responsibility for directing our research and development efforts towards these ends.

Herein lies the grace of science policy. Herein lies the direc- tion which modern society must move. —Congressman Don Fuqua (D-FL) to AAS Colloquium, Washington, DC. Reprinted From IEEE/IAES Newsletter, September 1980.

Misguided

"Expert Sandy Hill of Amherst, as does of his recent "Gentle Divertences" (IEEE Communications Magazine, July 1980), prints a long list of daily definitions sent to him by Professor S. Fashypathy of the University of Toronto.

The author of these one-liners is unknown. Twenty-five of the total 92 appear below:

Decade counter—the grim reaper
Balanced modulator—mezzo-soprano on a tightrope
Sync period—boat warranty time
Jump instruction—order to paratrooper
Discrete device—little white lie
Lighting arrestor—fast police officer
Square wave—conventional hair style
Hex code—word standards
Fppy disk—tired UPO
Core dump—orchard compost heap
Memory management—brainwashing
Computer—secondary garbage man
Log amplifier—tree fertilizer
Power connection—friend in high places
Power switch—change in government
Most significant bit—president's wife
Screwdriver adjustment—more vodka
Log-term drift—Kon-Tiki expedition
Output-in computer, work stoppage
Dedicated computer—loyal accountant
Semiconductor—part-time railwayman
Subroutine—undersaves macros
Bending wire—cheap wedding ring
Standard cell—ordinary prison accommodation
Truth table—torso damage

Right On!

A cartoon by Stein, reprinted in The Editorial Eye (December 1980) from the Rocky Mountain News, shows two paunchy, raunchy, balding male employees reading a Presidential Order on an "Intra-bureaucratic Static Com- munications Display" (that is, a notice on a company bulletin board). The paper says, "Use Plain English."

"One of the men scratches his head and wonders: "I think he wants us to use the impact system-societal in- terface understandability by easy-modifying our ver- nacular modes, jargomwise. But the way it's written, I can't be sure."

Next Slide Please

by David Davies

"I thought that in the eight minutes I've got I'd bring you up to date on what our group has been doing in the last year; in a sense this is a progress report and updates the paper we gave here last year; I won't go over the nomenclature again; could I first slide please—oh, I think you must have someone else's box—mine is the grey one over my name on the top, no, wait a minute, not my name. And those names which you haven't found in the title page, there's a red spot on the top right hand side of each slide that is the slide that becomes the bottom left when you project it OK, you've got it now, let's have a look, no, that's the last slide not the first, yes now you've got the right one but it's on its side, what about the red dot? there are two? well anyway turn it through ninety degrees, no, the other way, yes now we're there, perhaps we could have the lights off, well I've been there are probably too many words on this slide, and the printing is a bit thin: can you read it at the back? you can't; well I'd better read it out; no I won't, it's all in the paper which should be published within a month or so, and anyone who wants I'll give a preprint to afterward; anyway, for those who can read it, this slide is a block diagram of the purification process we used and before I go any further I should mention that there are a couple of mistakes on the third page, fourth box from the left, well of course that's the second box from the right. If you can read any of the other slides that show the system well also you can perhaps see the word membrane, that should of course be membrane; now if I can have a look at the next slide—now which one is this, ah, yes it's the scatter diagram, I haven't marked the quantities but we are plotting concentration against particle size; if I remember rightly this has been normalized; perhaps I could have the lights off, in this yes, yes, we do, well it doesn't actually say—we could work it out but it's probably not worth the time, so if I could have the lights off, let's have a look at the plot; well I think you can see a sort of linear relationship there's a fair bit of scatter, of course, but I think the data are at least suggestive, perhaps if I held up a pointer you could see the relationship more clearly—I expect there's a pointer around somewhere but I won't need the lights, yes here it is, now you can see the trend and there's just the hint of another trend running, superimposed on it through this other cluster of points, you may see that more clearly if I slide the pointer across to the other—no, I wasn't saying next slide, just that I would slide the pointer; anyway now the next slide is up let's keep it on the screen, now this is the sort of evidence on which the data in the last slide was based; this is a thin section—it could take just a bit of focusing—yes, that's better; it's diffi- cult to get the whole slide in focus at once, now the scale is, well there is one micrometer long, hang on what am I saying? it's ten microns long—oh dear, the chairman is giving me the two-minute warning, it's difficult to give you a clear picture of this work in only eight minutes, but let's
In this system, if you aren’t comfortable without a jacket, for example, you know that the temperature is about 10°C. For living in Moscow, Pecs needs recommending adding “bundle up,” “ski clothes,” and “forget it” for -20°, -30°, and -30°.

Readers who don’t want to overhaul their calculators may care to know that Pecs’ ranges, converted, would be 32°, 50°, 68°, 86°, and 104°F.

**Publications by and for PC-ers**

*Report Construction by Mary Fran Bohler*

This self-booted handbook gives easy-to-follow instructions for designing technical reports. Send a check for $2.25 to IEEE/PCs, C/O McGregor and Werner, 6411 Chillum Place, Washington, DC 20012.


This 240-page IEEE Press Book may be obtained from the IEEE Service Center, 445 Hoes Lane, Piscataway, New Jersey 08854. IEEE members should send Member Number and $10.45 for a paperback copy ($15.70 for clothbound); the price to nonmembers is $20.95. The Guide contains 35 reprinted articles on various aspects of preparing technical briefings, explaining proposals, and outlining plans to management.

*Technically-Write* by Ron S. Blizq

The second edition (1981; paperback) is now obtainable from Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632. This text book for "communicating in a technological era" is the basis for a home-study course and a two-day workshop. For more information, get in touch with Ron: Box 381, Station C, Winnipeg, Manitoba, Canada, RM 5M7: 204/632-2272.

**Nothing New**

In a letter to the editor of *Scientific American* (June, 1980), Jean-Pierre Meyer of the Johns Hopkins University comments on the algorithm for finding the square root of a number. In two earlier issues of *SA*, this method had been attributed to Newton, who lived in England around 1700, and to Hero, who lived in Alexandria in the first century AD.

Meyer points out that Mesopotamians of the sixteenth century BC may have understood not only how to extract square roots but also how to use the Pythagorean theorem—1000 years before Pythagoras, 1500 years before Hero, and 2000 years before Newton.

The evidence is a small clay tablet (No. 7289) in the Yale Babylonian Collection that shows a square with diagonals and numbers to indicate how the length of the diagonal can be calculated from the length of the side: multiply by the sexagesimal (base 60) expansion

1 + 24/60 + 45/602 + 39/603

Meyer notes that when the Newtonian method is used to find ±2 with initial guess 1, the fourth approximation is exactly the Babylonian sexagesimal.

Eugene du Fresne of the Jet Propulsion Laboratory (California Institute of Technology) has added to this discussion in a more recent letter to the same editor (February, 1981). He cites other cuneiform evidence to show that the Babylonians "had a much better notion of [the Pythagorean] theorem than did Pythagoras himself."

Du Fresne also notes that the Babylonians "had at least equaled the skill of level represented by Lemma 1 of Proposition 28 in Book X of Euclid's *Elements*;" that "Ar- chimedes used the same procedure;" and that "a variant crops up in Diophantus."

When Newton reinvented the method of taking square roots, he used differentiation, but, du Fresne points out, all that is needed is systematized guesswork—i.e., an averaging of guess and counterguess. The Babylonians certainly knew this method, he says, but the Greeks, with their horror of fractions, could not permit themselves to divide entirely or acknowledge the irrationality of √2.

The implicit problem therefore, according to de Fresne, is not "How could the Babylonians be so clever?" but rather "How could the Greeks be so stupid?"

**The Pursuit of Excellence**

The following guidelines for the pursuit of excellence in technical disciplines were suggested by Harry Sheppard, President of the IEEE Electrical Insulation Society, writing in the *IEEE News* for June 1980:

1. Accept challenges.
2. Build on the work of others, provided that a sound foundation resulted from their earlier work.
3. Look for creative approaches.
4. Work to obtain better results than have ever been achieved before.
5. Undertake engineering developments or designs at costs commensurate with their importance.
6. Remember that we do best those things that we like to do.
7. Discourage projects that were completed once and should not be repeated.
8. Stop when you know that your approach is unproductive.

**Quotable Quote**

Science and technology are neither good nor bad; rather, it is the manner in which men uses science and technology that makes them either good or bad. Thus, we must accept the moral responsibility that accompanies the use and application of scientific research.

If we expect science and technological innovation to thrive in this nation, we must assume more responsibility in creating an atmosphere for the continuous flowering of this research—an atmosphere that is constant, stable, and cooperative.

If we expect science and technology to help solve society’s most basic problems—food supply, adequate

...definite and its usefulness open to question. Through his creative effort and professional ability, however, these Transactions have become an important publication for engineers, scientists, and others who have a professional interest in communicating technical information. In meetings with PC’s Administrative Committee and Editorial Advisory Board, Dr. Joenk established that the Transactions would henceforth be published as a service for engineers: that is, it would:

1. present material for use in improving communication skills
2. discuss new ideas, improve methods, and a wide variety of information pertaining to communication.

In carrying out these aims, Dr. Joenk has in particular printed "how to" articles of many kinds from many sources and organized special issues on such subjects as Patents and Public Speaking. Also, while promoting the use of "art covers," he has written articles and published "meaty" issues regularly.

In short, by his expert acquisition, review, and editing of text and graphics, Dr. Joenk has made the IEEE Transactions on Professional Communications a practical and challenging publication for engineers and technical communicators.

Rudy Joenk holds three degrees in physics; he worked as a physicist for ten years and published 16 papers on ferromagnetism. Since 1962, he has been employed by the International Business Machines Corporation—for seven years as Editor of the IBM Journal of Research and Development in Armonk (NY) and at present as Manager of Information Development in Boulder (CO).

From 1971 through 1974, Rudy served as two-term elected Mayor of Ossining, New York (population 21,000), heading a coalition government that reversed the city’s trend toward physical and economic decay. He has organized and led civic and church groups in Boulder as well as Ossining.

In addition to editing PC’s Transactions for the past four years, Rudy served on IEEE’s Publications Board from 1978 to 1980. He is a member of Sigma Xi, the American Physical Society, the Society for Technical Communication, and the Rocky Mountain Inventors Congress, among other organizations, and is Listed in American Men and Women of Science and Who’s Who in the East.

**Alfred N. Goldsmith Award for 1980**

Because of his outstanding performance as editor of the *IEEE Transactions on Professional Communication*, Rudolph J. Joenk, Jr., has been selected to receive the PC Society’s Alfred N. Goldsmith Award for 1980.

Dr. Joenk was chosen by unanimous vote of PC’s Ad- Com at its annual meeting last December. The gift and certificate that signify the Award will be presented at the Society’s Conference in September of this year.

In 1977, when Dr. Joenk became editor of PC’s 20-year-old Transactions, the journal was almost a failure. Its pages were few and its issue irregular, its philosophy in
New Members

In the last six months of 1980, a total of 388 IEEE members joined the Professional Communication Society: 249 from the United States and 139 from other countries. Welcome to all!

Australia
Bates, B. C.
Butterworth, J. B.
De'Young, P. M.
Gawler, R. A.
Hayes, T. P.
Neville, D.
Simpson, D. J.
Slater, C. L.
Belgium
Vestmar, B. J. A.
Brazil
Casagrande, P.
Pogon, A.
Kenny, C. W. J.
Schwarz, G.
Suga, N.
China
Chow, P.
Columbia
Castillo-Brazo, R.
Castillo-Bustos, J.
Caycedo-Gonzalez, A.
Chico-Diaz, C.
Danieles-Avila, E.
Martinez-Pena, A. R.
Denmark
Nielsen, J.
Runge, B.
Ecuador
Crespo, B. J.
Egypt
Kapitan, S. H.
El Salvador
Serra, R. A.
England
Al Ahmad, H. A. M.
Lee, J. S.
Morant, A. J.
Nuttall, A. W.
Osborne, B. W.
Porras, E. G.
Finland
Mattila, S. M.
Olkkonen, M. I.
Hong Kong
Chan, H.-C.
Cheung, L.
Cheung, M.-F.
Cheung, P.-K.
Chun-Wai, C.

Kol, C.
Kwong, C. P.
Lo, D. C-K.
Wong, K.-H.
Iceland
Sverrisson, H.
India
Vittal Rao, M. P. R.
Italy
Fiotti, E.
Fondi, C.
Giampaolo, F.
Japan
Gotou, M.
Kambayashi, T.
Shigemitsu, T.
Umeda, S.
Korea
Kang, H. I.
Kim, N-N.
Kim, Y. K.
Lee, H. I.
Lee, Y. S.
Shin, J.
Shin, Y.
Young, L. Y.
Greece
Theodore, K.
Mexico
Beltran-Lopez, L.
Cordero, J. A. R.
Covarrubias, J. M.
Garcia, M. A.
Garza-Rendon, L. D.
Juan, P. T.
Mendez-G.
Perez-Filendia, V. M.
Rebolo, J. M.
Rojas-Aguilas, M.
Salmeron, J. A. L.
Vargas-Sierra, J.
Vireuna-Ulichis, J.
Netherlands
Geels, J.
Joosen, K.
New Zealand
McArrell, P.
New Zealand
Poland
Bichowski, E. S.
Okundren, T. M.
Onyekwe, G. M.
Norway
Kaye, J. S.
Peru
Alfonso, S. S.
Philippines
Manrique, R.
Pepita, T.

Romania
Guzman, J.
Russia
Rugameva, A.
Scotland
Wong, K. K.
Singapore
Sun, N. C.
Yuen, Y. J.
South Africa
Potgieter, C.
Spain
Blanco, J. G.
Gomez, G. A.
Switzerland
Dr�件ton, C.
Jiewertz, B.
Switzerland
Kirchhoffer, K. H.
Sarkar, S. K.
Thailand
Dekhan, J.
United Arab Emirates
Siddiqui, H. U.
Venezuela
Aranjo, W.
Santolano, J.
Martinez, B. J. A.
West Germany
Klein, G.
Schumacher, H.
Canada
Alberta
Lawson-Williams, K.
Mascinch, L. R. D.
Kaplan, D.
Rogers, R. A.
Torscher, L. C.
British Columbia
Cross, W. R.
Mielcairski, R. J.
Manitoba
Bull, J. C.
Saroka, H. G.
Skora, J. U.
New Brunswick
Blue, R. J. A.
Nova Scotia
Coteras, F. D.
Dempsey, R. I.
Vain Adehoven, G. L.
Ontario
Auger, S. O.
Baker, H.
Bluhar, J. R.
Blackburn, J. J.
Buckley, D. C.
Dawson, D. D.
Gregg, L. M.
Jump, L.
Lalonde, W. T.
Lorrain, L.
Makohonin, S. A.
McElchar, J. J.
Mitchell, K. D.
Napier, C. J.
Seebasar, V. A.
Steckley, P. N.
Ta, B. C.
Vanderloo, K. W.
Saskatchewan
Beng, D. D.
Charlton, B. P.
Davis, B. C.
Quebec
Atken, A.
United States
Alaska
Bains-Jordan, J. W.
Morin, A. E.
Arizona
Cook, B. W.
Holzer, W. H.
Petri, R. M.
RISK, W. P.
Tymuchak, Y. A.
Arkansas
Allan, J. V.
California
Bayless, J.
Burns, J. J.
(Summarize your qualifications and experience.)

Why do you want this job?

(Use facts about the company.)

(The author discusses thirty questions-and-answers, including: "What is your hobby?" "Are you interested in this company?" "What is your major interest?" Don't let yourself be typecast, be ready; these are all important questions."

The author discusses thirty questions-and-answers, including: "What is your major interest?" Don't let yourself be typecast, be ready; the answers are all important questions.)

4

GameNet

In the IEEE Communications Magazine for November 1989, Robert W. Lucky predicted that electronic entertainment will eventually include an interactive, computer-mediated person against-person games in nation-wide networks of players. Television screens, he says, will become windows through which you will see other participants in the games as players, and they will in turn see you in their roles. Thus many persons will interact in a new form of social encounter: the GameNet.

You will be able to dial into a bridge game with novices or experts, for example, and may find yourself in a situation like this: "I got up to make a sandwich while you wereummy. I took too long, I guess, because they started a new hand and the computer dealt me out.

You will be able to dial into a bridge game with novices or experts, for example, and may find yourself in a situation like this: "I got up to make a sandwich while you wereummy. I took too long, I guess, because they started a new hand and the computer dealt me out."

How Hot (or Cold) Is It?

Nobel Prize winner Arno Penzias, writing in the IEEE Communications Magazine for July 1980, says he has no trouble at all with the Centigrade scale. Does he multiply Fahrenheit temperatures by 9, divide by 5, and add 32 quickly by "in his head?" Far from it.

"I think of my hand," he says, "I think my thumb is 0 and my pinky 40."

The producer decided that between are 120°, 20°, and 30°, and each digit has a name—overcoat, jacket, shirt, swimming, air-conditioning.

13
High Fly

Television station KPNX in Phoenix (Arizona) owns a jet helicopter equipped with a 46-pound television transmitter and transponder built by Tandy Electronics. The copter can take and send pictures on its own, and at any altitude can relay pictures from other transmitters as far as 65 miles away.

The helicopter of KPNX's rival station can transmit pictures only when flying at certain altitudes over a land unit.

—Abridged from Communication Notes for March, 1980.

Grabbed from Gray

In the July/August (1980) issue of the Newsletter of IEEE's Engineering Management Society, Editor Irwin Gray reviewed two dissimilar books that may be of interest to PC-ers. Dr. Gray's remarks are abridged in the following paragraphs.


Lenihan, a professor of clinical physics at the University of Glasgow, points out that although the human body is made of un lithed materials (girt, glue, jelly, and soup), humans have been unable to ma imize their use of these resources.

Computers can't process data better than the brain. No camera uses automation as successfully as the eye. Bone is stronger (weight for weight) than steel. Skin is a self-sealing shrink-wrap, muscle a linear motor driven by a fuel cell, the liver and kidney unduplicated chemical engineering modules.

So much for performance. That the design could perhaps be improved is suggested by operating difficulties. The inadequacy of the blood supply to heart muscle leads to coronary thrombosis and a change in the specification for locomotion (from four legs to two) leads to spinal disc trouble. Thirteen drawers show examples of engineering: the forearm as a lever, the skin as packaging, the eye as a camera, and so on.


The authors discuss four "approaches" to decision making:

1. Instinctive—unconscious thought processes; used in emergencies.
2. Traditional—action based on earlier problems and solutions.
3. Commonsense—rational, explainable influences.
4. Scientific—precise analysis.

Chapters cover management by objectives, model-building, use of agendas, identifying possible causes of problems, creative decision making, "systematic subjectivity" in forecasting, and the use of "signaling systems" to warn of the existence of problems.

In the November/December 1980 issue, Dr. Gray discussed two other books. Again, his remarks (abridged) may interest PC-ers.

One on One: Winning the Hiring Decision, by W. Pierson Newall (a pseudonym), Focus Press, Inc., Box 895 Ansonia Station, New York, N.Y. 10023; hard cover, 189 pp., $14.95.

The author points out that the key to getting hired is winning the job interview, and his book tells job-hunters what to say and how to conduct themselves.

Learn all you can about the company to which you are applying; learn as much as possible about the person who will interview you.

Use people to help you get an interview or send your resume a cover letter that "sparkles"—one that says more about the job you want than just the fact that you're applying for it.

Be prepared to answer such questions as Why should I hire you?...
Not satisfied with the new life he has breathed into PC's Transactions section in the past four years, Rudy Boekel has taken to making our journal even more lively. He has suggested new goals as follows:

1. At least one topical issue per year.
2. Increased proportion of original papers.
3. Increased circulation through member subscriptions and single-copy sales.
4. Incorporation of magazine-like features, e.g., regular subject matter, regular authors, columns, and graphics.

If PC-ers want their Transactions to meet these goals, we must begin to support Rudy actively. We must do more than acknowledge four great issues each year with "Isn't it wonderful!" or "Ain't he just grand!" or any other expression for shrugging off responsibility, whether stated in graphics, mathematics, Uteh, Aztec, Bllsabondsm, Modern European, Yoga, Egyptian hieroglyphics, or Oriental characters.

First, we must promote the sale of PC's Transactions inside and outside the IEEE:

—advertise in Spectrum and The Institute,
—notify various newsletters, communication societies and professional organizations, as appropriate, about special issues.

Who will write these pieces? Who will identify promising recipients? Who will make the lists and verify addresses? Who will print copies? Who will address and stamp and mail them?

PC cannot pay for these activities. What can you do, with the help of your company perhaps, volunteer to do in this aspect of promoting quality in communication?

Second, we need more active members on the staff of PC's Transactions:

Associate Editor—to develop regular features, columns, contributors, etc., and to obtain more varied, useful, and original articles.
Book Review Editor—to acquire books and reviewers.
Graphics Editor—to obtain "cover art," to illustrate or improve submitted illustrations, to enhance the journal's visual appeal.

If these jobs sound too big for you, or seem to be out of your "line," why not submit your name as a Second Assistant Editor of one sort or another? Pledge a specific kind of help, make a suggestion, ask for an assignment—and be sure you follow through with definite action.

Or, you might try to interest some more appropriate person—friend, neighbor, relative, professional colleague, or business associate. Appoint yourself a sales force of one, and don't stop encouraging until your prospect has become a PC worker.

Talk about PCs, its purpose, activities, needs, and opportunities. Show copies of our Transactions, Newsletter, and promotional material. Describe our Home-Study Course and Report-Writing Workshop. Stress the importance of PCs continuing effort to improve the quality of technical and engineering communication. Explain our need for help, "new blood," and creative ideas.

Rudy, Bert, Craig, John, and I are waiting anxiously to hear from you. Please don't disappoint us.

PC's Constitution

A committee composed of Eamid Bistirop and Emily Schlesinger presented at the AdCom meeting on February 27 the results of their recent review of PC's Constitution and Bylaws.

The following recommendations were adopted unanimously:
1. Revise the paragraph on Affiliates to include material from the IEEE brochure on Affiliate Members.
2. Revise the list of Standing Committees and the statements of Committee duties.
3. Revise the paragraph on Election of Administrative Committee.
4. Delete certain redundancies and correct typographical errors.

The following recommendations were rejected unanimously:
1. Add a paragraph on "black boxes."
9. Basic education
10. Personal communication

O’Connell warned, however, that to take advantage of these opportunities, communicators must be ‘flexible, bright, and talented.’

John Wilhelm, employment counselor at Ohio University, discussed communication jobs now held by graduates of his institution. Some students are doing work related to radio and TV news broadcasting; some are working as communicators in banks or in corporations like IBM and AT&T; others have staff positions on technical journals or are foreign correspondents.

The college curriculum for students who want jobs like these should be as broad as possible, Wilhelm said. At least one quarter of it should consist of technical studies, and there should be a string of in-approaches to problem solving. Students must be taught basic skills and how to apply them; they should be prepared for on-the-job learning, the need for continuing education, and having to change employers.

Jayne Work, of the National Association of Manufacturers, discussed communication jobs related to legislation. Communication professionals are needed in Washington (DC) and elsewhere, she said to identify and research problems, shape public policy, develop public support, and create new market opportunities. Advocates are also useful in certain aspects of lobbying—to supply information, provide editorial assistance, and give testimony.

To hold such jobs, communicators must be able to write and organize material clearly; they should also be well-informed in special subjects and skilled in managing personal relations.

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Borden called Many Voices “a good text-book, con-"density and well-structured” for courses in global communication. Pertinent technical, political, geographic, and historical information is presented clearly, he said, and the 800-page volume summarize existing problems. In determining who benefits from what is communicated, the ethic of senders must be considered as well as the response of receivers.

Harley pointed out that there is great need for inter-cultural understanding in matters of communication via the mass media of radio, television, and the press. Communication means information to the “West” but power to the “Third World.” The West wants “freedom of the press”; the Third World wants control by the government—a nation must acquire presses before it can free them. The West uses communication to sell products; the Third World needs it for education. Both groups must become more knowledgeable about and sensitive to the “communiques” on which mutually beneficial, practical action can be taken.

James Altas, Dean of Language and Linguistics at Georgetown University, spoke of personal aspects of communication. In particular he stressed the importance of understanding the culture as well as the language of a nation or people. Language is only one aspect of culture, he pointed out, and languages differ not only in words and sound but also in the expectations, attitudes, and perceptions that the words and sound carry with them.

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Failure to understand the messages conveyed through these channels by native speakers of any language can cause foreign speakers of the language to misjudge and be misjudged, with personal or even international results from comedy to tragedy.

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With new communication technologies, information can be gathered and distributed by people in special-interest groups. Hiebert noted the following.

Inexpensive printing has encouraged the establishment of suburban, ethnic, special-language, and professional newspapers. Regional magazines with those that have nation-wide circulation, and there are magazines for children, for adolescents, for men, for women, for people over 50, and for people interested in parlor games and publication as a reprint article. What shall we do with them?

An original article can, perhaps, be "doctored" if it seems to need attention. A previously published article cannot be doctored; it must be reprinted exactly, warts or no warts, or it can be altogether rejected.

The editor of PC’s Transactions is thus constantly tooted about by a very active many-horned dilemma. Try to understand its difficulties. PC-ers: rejoice when he makes "all good" decisions, and know that he too recognizes ones that are, “circumstantial.”

On the other hand, material in PC’s Newsletter is heavily censored, the reprints are not in every case acceptable. The chief problems here are not so much those of ac-cept/reject and how much to edit, but rather those related to sending out regular quarterly issues in which text and headings take up exactly 16 pages minus space for mailing labels.

Be these things as they may, thank you, thank you Bob Winston for your comments. They encourage us to strive hard to hold to high standards that more and more of our readers are learning to recognize poor quality, wherever they find it.

Help Wanted

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1. Understands the operations of electronic circuits and systems.
2. is able to communicate such understanding to others.
3. can be responsible for preparing technical manuals vital to the installation, operation, and maintenance of new electronic systems.

College graduates interested in a career in technical writing are welcome to apply, particularly those with a BSEE or equivalent and a minimum of one year’s experience in technical publication.

Send resume, including salary requirements, or call collect (516) 261-7100, Ext. 4029. Hazeltime is an equal op-
portunity employer committed to affirmative action.

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The American University

The 1981 Institute on Federal Databases: Indentification, Evaluation, and Access will be held at The American University in Washington, DC, June 10 and 11. The fee, $100, includes materials and cost of distribution to the lunch. The institute will address such questions as:

- What databases are available, and in what format?
- How can I evaluate the quality and usefulness of federal databases?
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- What is the outlook for improvements in accessibility?
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Access to federally-generated information is the theme of periodic seminar/institutes at The American University. This rich resource of both documentary and statistical information is increasing in both volume and public accessibility.

Obtain further information from Prof. Lowell H. Hattry, Center for Technology and Administration, The American University, Massachusetts and Nebraska Avenues, N.W., Washington, DC 20016, (202) 686-2513.

4th VCC

The 4th Annual Visual Communications Congress will take place Monday, Tuesday, and Wednesday, June 15-17, 1981, at the New York Hilton. Last year 10,000 participants attended the 3rd VCC, which the New York Times described as "a most stimulating event for specialists involved in communication."

The 80 seminar programs and 300-booth Exhibition of 1981 will cover audio-visual, video, film, and photographic technology. The "congress" concept provides opportunities for communication specialists to share experiences and borrow ideas. Past VCCs have also drawn heavily from corporate and institutional management, so that executives will be able to meet producers, examine equipment, and obtain insights into programs for corporate communications, trade conventions, meetings, advertising and marketing, public relations, etc.

For a 24-page descriptive brochure write VCC Conference Management, 300 Summer Street, Stamford, CT 06901.

CSC Seminar

On December 5 and 6, the Council of Communication Seminars held its 1980 seminar at the Crystal City Marriott Hotel, in Arlington, Virginia. Lecture, panel, and small-group discussions concerned today's developments and tomorrow's horizons in communication.

Speakers, moderators, and registrants included representatives of the International Communication Agency, academia, industry, and communication societies, as well as editors, publishers, and consultants. More than 70 people attended.

The Council of Communication Societies is a non-profit consortium of 27 professional groups concerned with various purposes and uses of conveying information. IEE Proceedings: PICS is a Member Society of CCS; so is STC (the Society for Technical Communication); and so are societies of agricultural, business, industrial, and international communication, and societies of educators, film writers, indexers, librarians, and linguists.

CSC's 1980 Seminar, devoted to "New Directions in Communication," opened with a plenary-session address by Frank Norwood of the Joint Council of Education and Telecommunication, an association of societies concerned with teaching, library, and broadcasting policy. He said that visual communication is a noteworthy aspect of communication today, especially of video communication. More types of broadcasting are being used than ever before, and the public has become willing to pay for them.

Norwood discussed details of many of these types of video broadcasting—cable TV, including new programs and premium services like Home Box Office; sports and movies on pay-per-view discs; video-taped pre-recordings; and recording at home.

Educational broadcasts are made by so-called "open universities," singly or in consortia; some groups transmit via satellite. Industrial headquarters use video broadcasts to communicate with regional offices, operate conference networks, and train employees. There are video-educations of technological trade shows.

These activities are possible, Norwood noted, because satellites are not distance-sensitive and because video discs and cassettes break time-barriers.

Ralph Minker of Forward Step, a Washington career consultant, spoke on "The Language of Careers" at the first Conference luncheon. Lack of vocabulary and lack of skill in using words to one's own best advantage in different situations are the two biggest problems in job-hunting, he said.

Minker's advice about writing resumes consists of three main points:

1. Write a first sentence designed to capture the attention of someone whose primary attention is elsewhere—focus on who you are and how you are ready to take action.

2. Present facts to show what you can do and that you can get results—describe character traits, skills, and accomplishments.

3. Explain how you can justify the salary you are asking for and what you want to do for the employer to whom you are applying.

To prepare for writing such a resume, Minker advised, make an extensive and intensive self-inventory. Consider your skills, list them, group and rank them, and describe them briefly as what you have to offer to each particular employer. To begin, classify your skills in these groups:

- adaptive—related to creativity,
- functional—related to types of work
- like planning, marketing, managing technical—related to training, operating.

Then you will see for yourself what you have and what you can develop.

Three persons spoke on the general subject, "Tomorrow's Communication Careers."

Sandra O'Connell of O'Connell Associates, a Washington (DC) consultant in organizational communication, discussed career planning. Six factors now influence the communication job market, she said:

1. Sociologically, the U.S. has become less a manufacturing nation than a knowledge-society nation.

2. The average age of U.S. citizens is now 30, rather than 22; there will be fewer applicants for technical jobs in the 1980's.

3. Professional people who have no knowledge of computers are functional illiterates; many new peripheral support jobs are available in computer companies.

4. The Protestant work ethic social psychology has two beliefs: first, everyone's need to know and tell should be satisfied; and second, everyone is entitled to fun, a full and meaningful life, and a good salary.

5. Changing government regulations are creating demands for technical and communications.

6. The size and number of multinational corporations and associations are increasing rapidly.

These six factors, O'Connell pointed out—the demand for information services; the scarcity of young people; new ethics, knowledge, and regulations; and the growth of multinational organizations—add up to increased opportunities for employment and especially for employment in communications. New groups are being formed, and they need to communicate with each other.

Where will these new communication opportunities be?

O'Connell discussed ten areas:

1. Advertising—specialized marketing
2. Professional relations—every year
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PC's Transactions

Not satisfied with the new life he has breathed into PC's Transactions section in the past four years, Rudy Bent wants to make our journal even more lively. He has suggested new goals as follows:

1. At least one topical issue per year.
2. Increased proportion of original papers.
3. Increased circulation through member subscriptions.
4. Incorporation of magazine-like features, e.g., regular subject matter, relative authors, columns, and graphics.

If PC-ers want their Transactions to meet these goals, we must begin to support Rudy actively. We must do more than acknowledge four great issues each year with "Isn't it wonderful!" or "Ain't he grand!" or any other expression for shirking off responsibility, whether stated in graphics, mathematics, Uzbek, Aztec, Bislamiscaya, Modern European, Yoga, Egyptian hieroglyphics, or Oriental characters.

First, we need to promote the sale of PC's Transactions inside and outside the IEEE—advertise in Spectrum and The Institute, notify various newsletters, communication societies and professional organizations, as appropriate, about special issues. Who will write these pieces? Who will identify promising recipients? Who will make the lists and verify addresses? Who will print copies? Who will address and stamp and mail them? PC cannot pay for these activities. What can you do, with the help of your company perhaps, volunteer to do in this aspect of promoting quality in communication?

Second, we need more active members on the staff of PC's Transactions:

Associate Editor—to develop regular features, columns, contributors, etc., and to obtain more varied, useful, and original articles.

Book Review Editor—to acquire books and reviewers.

Graphics Editor—to obtain "cover art," to illustrate or improve submitted illustrations, to enhance the journal's visual appeal.

If these jobs sound too big for you, or seem to be out of your "line," why not submit your name as a Second Assistant Editor of one sort or another? Pledge a specific kind of help, make a suggestion, ask for an assignment—and be sure you follow through with definite action.

Or, you might try to interest some more appropriate person—friend, neighbor, relative, professional colleague, or business associate. Appoint yourself a sales force of one, and don't drop encouraging until your prospect has become a PC writer.

Talk about PCS, its purpose, activities, needs, and opportunities. Show copies of our Transactions, Newsletter, and promotional material. Describe our Home-Study Course and Report-Writing Workshop. Stress the importance of PCS in continuing our effort to improve the quality of technical and engineering communication. Explain our need for help, "new blood," and creative ideas.

Rudy, Bert, Craig, John, and I are waiting anxiously to hear from you. Please don't disappoint us.

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2. Revise the list of Standing Committees and the statements of Committee duties.
3. Revise the paragraph on Election of Administrative Committee.
4. Delete certain redundancies and correct typographical errors.

The following recommendations were rejected unanimously:

Puzzles, words, various sports, various "rights," various sciences, various causes.

"Notices" in local news sheets have proliferated past belief. For example, at the University of Maryland in 1968 there was the newspaper—the student Diamondback. In 1980, on the same campus, almost every nameable group put out an outfit—"the administration, the faculty, fraternities, the black, Jews, communists, dormitories, individual colleges, and departments.

Network television is still a national medium, but deregulation and the growth of cable broadcasting have made specialized programs more possible. Network news has become narrow-cast local news. Programs for special groups are becoming more and more popular—for children, for retired persons, for those who want special education, and so on.

Movies made by small companies for special groups are being shown in small theaters. More specialized books are being published by "custom" methods—authors set themselves apart from word processors and can make a profit on runs of 300 to 1000 copies.

Is this new kind of specialized communication good or bad? The more "democratic" media certainly offer more varied information to choose from, encourage cultural variety, and make intercultural understanding more possible. On the other hand, they may bring about fragmentation and tribalization, disunity, and erosion of the national will and spirit.

As public communication becomes personalized, will it divide or unify the U.S.? Halsey's answer is that public communication will begin to serve general as well as specialized interests effectively as more citizens come to understand how, in all media, "broadcasting" and "narrowcasting" can be used together for the good of individuals as well as nations.

Documents for Technology

In the issue of this Newsletter for July 1980 appeared an article by PC-er Ray Stephenson on the construction and use of mini-computers "Calculators? Chips? Microprocessors?" This issue is an article by PC-er Marvin Neiditz, who points out that there is a need to supply some sort of documentation—"he uses the word description—for the "black boxes" that mini- and micro-computers are to many people.

Read the article, PC-ers—engineers as well as communicators. Do you agree? Can you comment? Have you any suggestions? Use this Newsletter as a forum for exchange of ideas, or communicate directly with Marvin Neiditz, Western Electric Company 7013, P.O. Box 20046, Greensboro, NC 27406. (919) 697-3818.

Marvin M. Neiditz

Abstract

The use of microprocessors in military and commercial systems has created a need for describing the functions and modes of operation of these devices in Operations and Maintenance Manuals prepared for the overall systems. Suggested is the use of "software descriptions" and the need for formal requirements is stated.

Introduction

The use of "top-down" design, modular design, and high-level languages has helped to simplify the traditional task of documenting computer software—that is, writing word-and-symbol descriptions that can be used to maintain computer programs.

Another development, the increased use of mini- and micro-computers in many commercial and military devices (such as ovens, telephone and fire-alarm systems, etc.) has created a need for documentation at a different level—that is, descriptions of how these small "black box" computers operate.

In the first case, the software repair technician—the programmer—needs documentation so that he can maintain the program. In the second case, the hardware repair technician—the field-service representative or maintenance technician—needs a description so that he can understand the whole operation of the larger system he is repairing.

Opinion

Programmers and engineers, in general, seem to think that descriptions of software are not needed in Operation and Maintenance (O&M) Manuals. Some of their comments are as follows:

"The software's in permanent ROM (Read Only Memory) anyway."

"The field technician couldn't understand the control algorithm."

"He's not going to fix it or program a new chip, so why does he need to know about it?"

Civilian and military technicians, however, are asking for information:

"I'd like to know more about the system."

"Of course we're not going to burn a new Programable ROM, but we still need to know about the program."

"There are a lot of 'black boxes' that we don't repair, only replace, but we want to know what they do."

Well-prepared technical manuals contain signal, control, power, and other flowcharts, but the flowcharts for many modern systems contain blocks or areas labeled "in proc.," "micro," or "microprocessors"—with no further information. Technicians can understand the whole system.
**New Members**

In the last six months of 1980, a total of 388 IEEE members joined the Professional Communication Society: 249 from the United States and 139 from other countries. Welcome to all!

**Australia**
- Bates, B. C.
- Butterworth, J. B.
- De'Young, P. M.
- Gowler, R. A.
- Hayes, T. P.
- Neville, D.
- Simpson, D. J.
- Slater, L. C.

**Belgium**
- Vestmar, B. J. A.

**Brazil**
- Casagrande, P.
- Kogan, A.
- Penny, C. W. J.
- Schwartz, G.
- Suga, N.
- China
- Chow, P.
- **Columbia**
- Castillo-Brazo, R.
- Castillo-Bustos, J.
- Caycedo-Gonzalez, A.
- Chico-Diaz, C.
- Daniels-Avila, E.
- Martinez-Pena, A. R.

**Denmark**
- Nielsen, J.
- Runge, B.
- Ecuador
- Crespo, B. J.

**Egypt**
- Kaptan, S. H.
- El Salvador
- Serra, R. A.

**England**
- Al Ahmad, H. A. M.
- Lee, J. S.
- Morant, A. J.
- Nuttall, A. W.
- Osborne, B. W.
- Porras, E. G.

**Finland**
- Mattila, S.
- Oksanen, M. I.
- Hong Kong
- Chan, H-C.
- Cheung, L.
- Cheung, M-F.
- Cheung, P-K.
- Chun-Wai, C.

**Karl**, C.
**Kwong**, C. P.
**Lo**, D. C-K.
Wong, K-H.
**Iceland**
- **Sverrisson**, H.

**India**
- Vital Rao, M. P. R.

**Italy**
- **Fiori**, E.
- Fondi, C.
- Giampaolo, F.

**Japan**
- Goto, M.
- Kambayashi, T.
- Shigemitsu, T.
- Umeda, S.
- Korea
- Kang, H. I.
- Kim, N-N.
- Kim, Y. K.
- Lee, H. I.
- Lee, Y. S.
- Shin, J. H.
- Shin, Y. S.
- Young, L. Y.

**Greece**
- Theodore, K.

**Mexico**
- Beltran-Lepez, L.
- Cordero, J. A. R.
- Covarrubias, J. M.
- Garcia, M. A.
- Garza-Rendon, L. D.
- Juan, P. T.
- Mendes-G.
- Perez-Finola, V. M.
- Rebolar, J. M.
- Rojas-Aguilas, M.
- Salmeron, J. A. L.
- Vargas-Sierra, J.
- Vireuna-Ulchis, J.

**Netherlands**
- Geels, J.
- Joosse, K.

**New Zealand**
- McArvell, P.

**Nigeria**
- Bighosham, E. S.
- Okundere, T. M.
- Oyekwe, G. M.

**Norway**
- Bull, J. C.
- Saroka, H. G.
- Skora, J. U.

**Philippines**
- Mandizar, R.
- Pimentel, D. G.

**Poland**
- Guzman, J.

**Russia**
- Ryugkya, A.

**Scotland**
- Gong, K. K.

**Singapore**
- Sum, N. C.
- Yuen, Y. J.

**South Africa**
- Potgieter, C.

**Spain**
- Blanco, J. G.
- Fuchs, G. A.
- Sweden
- Dragstedt, C. G.
- Jiewetz, M.

**Switzerland**
- Kirchhoffer, K. H.
- Sarkar, S. K.

**Thailand**
- Dejhan, J.

**United Arab Emirates**
- Siddigii, H. U.

**Venezuela**
- Arano, W. S.
- Cartolano, J.
- Martinez, B. J. A.

**West Germany**
- Klein, G.

**Yugoslavia**
- Vukomanovic, H.

**United States**
- Bains-Jordan, J. W.
- Morin, A. E.
- Arizona
- Cook, R. W.
- Holzer, W. H.
- Petri, R. M.
- Risk, W. P. III
- Tymchurak, V. A.
- Arkansas
- Allen, J. V.
- California
- Bayless, J.
- Burns, J. J.

**Manitoba**
- Kay, J. C.

**Peru**
- Alfonso, S. S.

**Philippines**
- Mandizar, R.
- Pimentel, D. G.

**Spain**
- Blanco, J. G.
- Fuchs, G. A.
- Sweden
- Dragstedt, C. G.
- Jiewetz, M.

**Switzerland**
- Kirchhoffer, K. H.
- Sarkar, S. K.

**Thailand**
- Dejhan, J.

**United Arab Emirates**
- Siddigii, H. U.

**Venezuela**
- Arano, W. S.
- Cartolano, J.
- Martinez, B. J. A.

**West Germany**
- Klein, G.

**Yugoslavia**
- Vukomanovic, H.
In this system, if you aren’t comfortable without a jacket, for example, you know that the temperature is about 10°C. For living in Moscow, Perutz recommends adding “bundle up,” “ski clothes,” and “Torqite it for-20°, -20°, and -30°.”

Readers who don’t want to overhear their calculators may care to know that Perutz’s fingers, converted, would be 32°, 50°, 68°, and 104°F.

PUBLICATIONS BY AND FOR PC-ERS

Report Construction by Mary Fran Boehler

This softbound handbook gives easy-to-follow instructions for designing technical reports. Send a check for $2.25 to IEEE/PCs, C/O McGregor and Werner, 6411 Chillum Place, Washington, DC 20012.


This 240-page IEEE Press Book may be obtained from the IEEE Service Center, 445 Hoes Lane, Piscataway, New Jersey 08854. IEEE members should send Member Number and $10.45 for a paperback copy ($15.70 for clothbound); the price to nonmembers is $20.95. The Guide contains 35 reprinted articles on various aspects of presenting technical briefings, explaining proposals, and outlining plans to management.

Technically Write by Ron S. Bliq

The second edition (1981; paperback) is now obtainable from Prentice-Hall, Inc., Englewood Cliffs, New Jersey 07632. This text book for "communicating in a technological era" is the basis for a home-study course and a two-day workshop. For more information, get in touch with Ron: Box 381, Station C, Winnipeg, Manitoba, Canada, RM 357, 204/632-2287.

NOTHING NEW

In a letter to the editor of Scientific American (June, 1980), Jean-Pierre Meyer of the Johns Hopkins University comments on the algorithm for finding the square root of a number. In two earlier issues of SA, this method had been attributed to Newton, who lived in England around 1700, and to Hero, who lived in Alexandria in the first century AD.

Meyer points out that Mesopotamians of the sixteenth century BC may have understood not only how to extract square roots but also how to use the Pythagorean theorem—1000 years before Pythagoras, 1500 years before Hero, and 2000 years before Newton. The evidence is a small clay tablet (No. 7289) in the Yale Babylonian Collection. That shows a square with diagonals and numbers to indicate how the length of the diagonal can be calculated from the length of the side: multiply by the sexagesimal (base 60) expansion

\[ 1 + \frac{24}{60} + \frac{1}{60^2} + \frac{3}{60^3} \]

Meyer notes that when the Newtonian method is used to find \( \sqrt{2} \) with initial guess 1, the fourth approximation is exactly the Babylonian sexagesimal.

Eugene Du Fresne of the Jet Propulsion Laboratory (California Institute of Technology) has added to this discussion in a more recent letter to the same editor (February, 1981). He cites other cuneiform evidence to show that the Babylonians "had a much better notion of [the Pythagorean] theorem than did Pythagoras himself.

Du Fresne also notes that the Babylonians "had at least equalled the skill of Pythagoras represented by Lemma 1 of Proposition 28 in Book X of Euclid’s Elements"; that "Archimedes used the same procedure"; and that "a variant crops up in Diophantus."

When Newton reinvented the method of taking square roots, he used differentiation, but, du Fresne points out, all that is needed is systematized guesswork—i.e., an averaging of guess and counterguess. The Babylonians certainly knew this method; he says, but the Greeks, with their horror of fractions, could not permit themselves to divide unity or acknowledge the irrationality of \( \sqrt{2} \).

The implicit problem therefore, according to de Fresne, is not "How could the Babylonians be so clever?" but rather "How could the Greeks be so stupid?"

THE PURSUIT OF EXCELLENCE

The following guidelines for the pursuit of excellence in technical disciplines were suggested by Harry Sheppard, President of the IEEE Electrical Insulation Society, writing in the IEEE News for June 1980:

1. Accept challenges.
2. Build on the work of others, provided that a sound foundation resulted from their earlier work.
3. Look for creative approaches.
4. Work to obtain better results than have ever been achieved before.
5. Undertake engineering developments or designs at costs commensurate with their importance.
6. Remember that we do best those things that we like to do.
7. Discourage projects that were completed once and should not be repeated.
8. Stop when you know that your approach is unproductive.

QUOTEABLE QUOTE

Science and technology are neither good nor bad; rather, it is the manner in which man uses science and technology that makes them either good or bad. Thus, we must accept the moral responsibility that accompanies the use and application of scientific research.

If we expect science and technological innovation to thrive in this nation, we must assume more responsibility in creating an atmosphere for the continuous flowering of this research—an atmosphere that is constant, stable, and cooperative.

If we expect science and technology to help solve society’s most basic problems—food supply, adequate
definite and its usefulness open to question. Through his creative effort and professional ability, however, these Transactions have become an authoritative publication for engineers, scientists, and others who have a professional interest in communicating technical information.

In meetings with PC’s Administrative Committee and Editorial Advisory Board, Dr. Joenk established that the Transactions would henceforth be published as a service for engineers: that is, it would

1. present material for use in improving communication skills
2. discuss new ideas, improve methods, and a wide variety of information pertaining to communication

In carrying out these aims, Dr. Joenk has in particular printed "how to" articles of many kinds from many sources and organized special issues on such subjects as Patents and Public Speaking. Also, while promoting the use of "art covers," he has written articles and published "neatly" issues regularly.

In short, by his expert acquisition, review, and editing of text and graphics, Dr. Joenk has made the IEEE Transactions on Professional Communications a practical and challenging publication for engineers and technical communicators.

Rudy Joenk holds three degrees in physics; he worked as a physicist for ten years and published 16 papers on ferromagnetism. Since 1962, he has been employed by the International Business Machines Corporation—for seven years as Editor of the IBM Journal of Research and Development in Armonk (NY) and as present as Manager of Information Development in Boulder (CO).

From 1971 through 1974, Rudy served as two-term elected Mayor of Ossining, New York (population 21,000), heading a coalition government that reversed the city's trend toward physical and economic decay. He has organized and led civic and church groups in Boulder as well as Ossining.

In addition to editing PC's Transactions for the past four years, Rudy served on IEEE's Publications Board from 1978 to 1980. He is a member of Sigma Xi, the American Physical Society, the Society for Technical Communication, and the Rocky Mountain Inventors Congress, among other organizations, and is Listed in American Men and Women of Science and Who's Who in the East.

Alfred N. Goldsmith Award for 1980

Presentation of the 1979 Alfred N. Goldsmith Award to Professor Eric Olesen

Hawley W. Osborne, UKR Section Chairman and PC Chapter Chairman.

The aims of the Society.

Professor Taylor, a native of Yorkshire, studied at the University of London (Imperial College) and the Université of Grenoble, France. He later became Professor and Head of the Department of Electrical Engineering at Heriot-Watt University in Edinburgh, from which he retired in 1969. Throughout his professional career he has been active in the Institute of Electrical Engineers (U.K.) and the IEEE (U.S.).

Among Professor Taylor's publications are four books on electric machines and power. Among his hobbies are tennis, gardening, hill-walking, and industrial archeology.

Because of his outstanding performance as editor of the IEEE Transactions on Professional Communication, Rudolph J. Joenk, Jr., has been selected to receive the PC Society's Alfred N. Goldsmith Award for 1980.

Dr. Joenk was chosen by unanimous vote of PC's Ad-Com at its annual meeting last December. The gift and certificate that signify the Award will be presented at the Society's Conference in September of this year.

In 1977, when Dr. Joenk became editor of PC's 20-year old Transactions, the journal was almost a failure. Its pages were few and its issue irregular, its philosophy in
PC Conference

Plan now to attend PC's conference on "The Engineer as Communicator," to be held September 16-18, 1981 at Crysta1 City Marriott in Arlington, Virginia. Sessions will address particular aspects of the following general topics:

1. Communication Technologies
2. Self-protection and Job-preservation
3. Written Technical Presentations
4. Oral Techniques

The Keynote Speaker will be Robert Fischel, Assistant Head for Technology Transfer in the Space Department of the Johns Hopkins University Applied Physics Laboratory. The Two Luncheon Speakers will be Dr. Howard E. Clark of the National Bureau of Standards; and Gerre Jones, President of Gerre Jones Associates, Inc., Design Consultants.

Address inquiries about the conference to:

Dr. Daniel Rosen
University of Connecticut
School of Business Administration
Stamford, Connecticut 06903
(203) 322-1003

Letters from the Editor I

Why don't your coworkers, engineering managers, and technical supervisors take advantage of the fact that PC, an organization operated by engineer/communicators for engineers, offers services that can benefit management and opportunities that can benefit employees?

Why don't "bosses"

1. Recognize that active membership in PC can be equally as valuable to individuals personally and professionally, and to their companies organizationally, as membership in the society of a particular engineering discipline?
2. Understand that the organizational and communication skills of individuals are important professional assets for engineers' ring companies?
3. Encourage staff members to develop organizational and communication skills by taking active part in PC operations, meetings, and conferences?
4. Support PC activities by allowing individuals work-time and travel-money to take part in them?
5. Insist on and recommend that companies consider: that their personnel conduct meetings efficiency, and prepare immediately understandable documents?
6. Make certain that their engineers either
   - be skilled communicators, or
   - be professional helping—i.e., editors, artists, technical writers, etc., when communication skills are needed?

Alfred N. Goldsmith Award for 1979

Professor Eric Oenshaw Taylor, designated by the Professional Communication Society as the recipient of the 1979 Alfred N. Goldsmith Memorial Award, was presented with the Award on November 12th, 1980. He received a Censor and an engraved pen pitcher.

Professor Taylor was the founder-chairman of the first overseas PC Chapter; it is still active within IEEE's United Kingdom and Republic of Ireland Section. The presentation was made by Basil W. Osborne, present Chapter Chairman, at a Section meeting held at Imperial College, London, England.

The Award was given for meritorious service, originality, continuity, and outstanding achievement in furthering energy resources, good health—we must assume the responsibility for directing our research and development efforts towards those ends.

Herein lies the great science policy. Herein lies the direction in which modern society must move.


Misguided

"Professor Sandy Hill of Amherst, as one of his recent "Gentle Divertences" (IEEE Communications Magazine, July 1980), prints a long long list of daily definitions sent to him by Professor S. Pasupathy of the University of Toronto.

The author of these one-liners is unknown. Twenty-five of the total 92 appear below:

Decade counter—the grim reaper
Balanced modulator—mezzo-soprano on a tightrope
Sync period—boat warranty time
Junk instruction—order to paratrooper
Discrete device—little white lie
Lightning arrester—fast police officer
Square wave—conventional hair style
Hex code—written standards
Foppy disk—tired UFO
Core dump—orchestra compost heap
Memory management—brainwashing
Computer—magazine for garbage man
Log amplifier—tree fertilizer
Power connection—friend in high places
Power switch—change in government
Most significant bit—president's wife
Scrivener adjustment—more vodka
Long-term drift—Kon-Tiki expedition
Outfit in the work stoppage
Dedicated computer—local accountant
Semiconductor—part-time railwayman
Subroutine—underscores maneuvers
Bonding wire—cheap wedding ring
Standard cell—ordinary prison accommodation
Truth table—torso rage

Right On!

A cartoon by Stein, reprinted in The Editorial Edge (December 1980) from the Rocky Mountain News, shows two paunchy, raunchy, balding male employees reading a Presidential Order on an "Intra-bureaucratic Static Communications Display" (that is, a notice on a company bulletin board). The paper says, "Use Plain English."

One of the men scratches his head and wonders: "I think he wants us to use the impact synergetic-societal interface understandability by easy-modifying our vernacular modes, jargonistically. But the way it's written, I can't be sure."

Next Slide Please

by David Davies

"I thought that in the eighties I've got I'd bring you up to date on what our group has been doing in the last year; in a sense this is a progress report and updates the paper we gave here last year; I won't go over the nomenclature again; could I have first slide please—oh, I think you have someone else's box—ine the grey thing on my name on the top, no, wait a minute, no, my name, that name was John Seng?; oh; there's a red spot on the top right hand side of each slide that is the side that becomes the bottom left when you project it, OK, you've got it now, let's have a look, no, that's the last slide not the first, yes you now you've got the right one but it's on its side, what about the red dot? there are two? well anyway turn it through ninety degrees, no, the other way, yes now we're there, perhaps we could have the lights off, well I'm sorry there are probably too many words on this slide, and the printing is a bit thin: can you read it at the back? you can't; well I'd better read it out; no I won't, it's all in the paper which should be published within a month or two, and anyone who wants I'll give a preprint to afterwards; anyway, for those who can read it, this slide is a block diagram of the purification process we used and before I go any further I should mention that there are a couple of misprints: on the third row, fourth box from the left, well of course that's the second box from the right, if you can read now, it says also; there also you can perhaps see the word memranbe, that should of course be membrane, now if I can have a look at the next slide—now which one is that? oh, yes, it's the scatter diagram, I haven't marked the quantities but we are plotting concentration against particle size; if I remember rightly this has been normalized: perhaps I could have the lights on, again, in the output, yes, maybe we are, well it doesn't actually say—we could work it out but it's probably not worth the time, so if I could have the lights off, let's have a look at the plot; well I think you can see a sort of linear relationship—there's a fair bit of scatter, of course, but I think the data are at least suggestive; perhaps if I held up a pointer you could see the relationship more clearly—I expect there's a pointer around somewhere a pointer around some; if I don't want the lights, yes here it is, now you can see the trend and there's just the hint of another trend running subparallel to it through this other cluster of points, you may see that more clearly if I slide the pointer across to the other—no, I wasn't saying next slide, just I would slide the pointer; anyway now the next slide is up let's keep it on the screen, now this is the sort of evidence on which the data in the last slide was based; this is a thin section—it could take just a bit of focusing—yes, that's better, it's difficult to get the whole slide in focus at once, now the scale is, well what is one micron long, hang on what am I saying? it's ten microns long—oh dear, the chairman is giving me the two-minute warning, it's difficult to give you a clear picture of this work in only eight minutes, but let's
plough on, what was I saying? ah yes, that bar is ten 
microns long, now if we turn to the next slide, please, this is 
the result of a chemical analysis of the dark region that is 
ear the centre of that thin section, is it possible to go back 
a slide? well not to worry, you can see in the analysis how 
dominant—sorry what was that? oh yes, the errors are 
plus or minus a percent or so—that's the standard devia-
tion, no it can't be, it must be the standard error of the 
mean—oh dear, the chairman says my time is up, can I beg 
half a minute—are there any more slides? really? well let's 
skip the next two, now this one is pretty important, it 
brings together several of the trends that you've probably 
been able to discern running through this talk, but rather 
than go through it in detail perhaps I should have the lights 
and just put up one or two key numbers on the 
blackboard—the chairman says there's no chalk, well it's 
all in the paper I was mentioning anyway perhaps I have 
been able to give you the gist of what we've been doing. I guess 
that's all I've got time for."