IEEE
Professional Communication Society Newsletter

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AdCom Meetings

Since the last issue of this Newsletter was written, PC's Administrative Committee has held two meetings, one on December 12, 1980, at IEEE Headquarters in New York City, and one on February 27, 1981, at the Crystal City Marriott Hotel in Alexandria, Virginia. The most important actions and announcements were as follows:

1. A book, tentatively called *A Guide for Better Technical Papers*, by PC-ers Craig Harkins and Daniel Plung, has been accepted by the IEEE Press. Printing is expected to begin in about six months.
2. An article by Craig Harkins appeared in the February *IEEE Proceedings*, a special issue on Fundamental Limits in Electrical Engineering. Craig's article is "Mathematical Considerations in Seeking Fundamental Limits to Professional Communications Processes and Effects."
3. After discussing the Computer Society's recent proposal that the IEEE should become the IECE (Institute of Electrical and Computer Engineers), AdCom members voted by a count of 4 to 3 to oppose the change.
4. Dan Rosich, Lois Thuss, and Della Whittaker are making arrangements for PC's conference on *The Engineer as Communicator*, to be held in September, 1981, in Alexandria, VA.
5. Ron Blicq has presented his "Technically—Write!" workshop at several engineering companies and university laboratories in the eastern U.S. and has been asked to teach a "class" at the Conference of IEEE's Engineering in Medicine and Biology Society in Houston in May, 1981.
6. Rudy Joenk was selected to receive the Alfred N. Goldsmith Award for 1980. Presentation will be made at PC's Conference next September.
7. PC has a nominal but non-active Editorial Advisory Board that should be helping Rudy Joenk by recommending, evaluating, obtaining, supplying material. Who will help? See separate article for details.
8. IEEE's centennial is 1984. PC should take some part in Institute-wide celebration—special *Transactions*, special articles, special award or activity? Ideas, anyone?
9. A PC Chapter is being formed in the area of Washington (DC) and Northern Virginia. If you're interested, write to PC-er David B. Dobson, McGregor and Werner, 6411 Chillum Place, Washington, D.C. 20012, or to Dr. S. H. Durrani, Chairman of IEEE's Washington Section. Dr. Durrani's address is NASA Headquarters, Code EC, Washington, D.C. 20546.
10. Proposed revisions to PC's Constitution and Bylaws were discussed, including a change in the Society's name and in the number of members on our AdCom. See separate article for details.
11. The following appointments of PC members were announced:

    Rudy Joenk to IEEE/TAB Periodicals Committee
    John Phillips to IEEE/TAB Meetings Committee
    Tom Patterson to IEEE/Division VI Nominating Committee
12. IEEE, through the Educational Activities Board, will be asked to endorse a PCS recommendation to ABET, the Accreditation Board for Engineering and Technology, that a course in Technical Communication be a requirement for accreditation of engineering curricula, and that PCS be delegated responsibility for approving such a requirement.

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 Gerre Jones, President of Gerre Jones Associates, Inc., Design Consultants.

Address inquiries about the conference to:

Dr. Daniel Rosich
University of Connecticut
School of Business Administration
Stamford, Connecticut 06903
(203) 322-1673

Letters from the Editor I

Why don't crowds of young engineers besiege PC's AdCom with offers to "help" and clamor to be on PC's committees? You don't need to be a writer to be active in PC. You just need to be interested in improving your own communication, managerial, or organizational abilities.

PC offers many opportunities for developing personal skills and obtaining professional "exposure," and because it is a small Society, it can make the benefits of these opportunities immediately available. Competition is nonexistent, 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 it are free to take part in Institute affairs, to speak and be heard, to learn by serving on Institute committees. You too 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 as 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 PC-ers are always welcome. It's *your* AdCom, and it offers *you* opportunity.

Letter from the Editor II

Why don't corporate officers, 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"

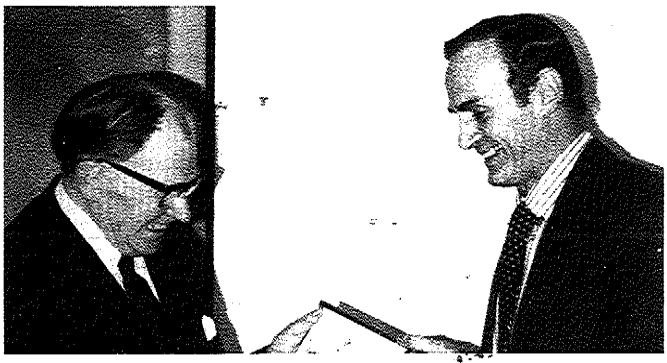
1. Recognize that active membership in PC can be equally as valuable to individuals personally and professionally, and to their companies organizationally, as membership in the society of a particular engineering discipline?
2. Understand that the organizational and communication skills of individuals are important professional assets for enginee 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 training to ensure 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, technicians, etc., when communication skills are needed?

Alfred N. Goldsmith Award for 1979

Professor Eric Openshaw 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 13th, 1980. He received a Certificate and an engraved pewter 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



Presentation of the 1979 Alfred N. Goldsmith Award to Professor Eric Openshaw Taylor by Basil W. Osborne, UKRI 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 University 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 Institution 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 archaeology.

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 AdCom 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 indefinite 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 Advisary 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.*

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.
DeYoung, P. M.
Gawler, 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.
Schwarz, 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. M.
Oksamen, M. I.

Hong Kong
Chan, H-C.
Chewng, L.
Cheung, M-F.
Cheung, P-K.
Chun-Wai, C.
Kai, C. C.
Kwong, C. P.
Lo, D. C-K.
Wong, K-H.

Iceland
Sverrisson, H.

India
Vittal Rao, M. P. R.

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

Japan
Goto, M.
Kambayashi, T.
Shigemitso, T.
Umeda, S.

Korea
Kang, H. I.
Kim, N-N.
Kim, Y. K.
Lee, H. J.
Lee, Y. S.
Shin, J. H.
Shin, Y-S.
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, J.
Perez-Pineda, V. M.
Rebolar, J. M.
Rojas-Aguilas, M.
Salmeron, J. A. L.
Vargas-Sierra, J.
Vireuna-Uilchis, J.

Netherlands
Geels, J.
Joosse, K.

New Zealand
McArdell, P.

Nigeria
Bigbokham, E. S.
Okundren, T. M.
Onyekwe, G. M.

Norway
Kay, J. S.

Peru
Alfonso, S. S.

Philippines
Mandriak, R.

Puerto Rico
Guzman, J.

Russia
Rugyema, A.

Scotland
Wong, K. K.

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

South Africa
Potgieter, C.

Spain
Blanco, J. G.
Fuche, G. A.

Sweden
Dragstedt, C. E.
Jiewertz B.

Switzerland
Kirchhofer, K. H.
Sarkar, S. K.

Thailand
Dejhan, K.

United Arab Emirates
Siddiqi, H. U.

Venezuela
Aranjo, W. S.
Cartolano, J.
Martinez, B. J. A.

West Germany
Klein, G.
Schumacher, H.

Canada

Alberta
Lawson-Williams, K.
Mascinch, L. R. D.
Napier, B. D.
Nijjar, A. S.
Rarog, E. A.
Torsher, L. C.

British Columbia
Cross, W. R.
Mielcarski, R. J.

Manitoba
Bull, J. C.
Saroka, H. G.
Skora, J. U.

New Brunswick
Blue, R. J. A.

Nova Scotia
Cotaras, F. D.
Dempsey, R. I.
Van Audenhove, G. L.

Ontario
Auger, S. O.
Baker, H.
Bhullar, J. R.
Blackburn, J. J.
Buckley, D. C.
Dawson, D. D.
Greggain, L. M.
Jump, L.
Lalonde, W. T.
Lorrain, L.
Makohonink, S. A.
McEachern, J. J.
Mitchell, K. D.
Napier, C. J.
Seebaran, V. A.
Steckley, P. N.
Ta, B. C.
Vanderloo, K. W.

Saskatchewan
Beng, D. D.
Charlton, B. P.
Davis, B. G.

Quebec
Aitken, A.

United States

Alaska
Bains-Jordan, J. W.
Morin, A. E.

Arizona
Cook, R. W.
Holzer, W. H.
Petro, R. M.
Risk, W. P. III
Tymciurak, Y. A.

Arkansas
Allen, J. V.

California
Bayus, J.
Burns, J. J.

Cave, G. J.
Chamberlain, J. A.
Chan, A. S. C.
Cotton, T. T.
Dollinger, J. G.
Dutoff, D. A.
Flynn, J.
Gilmor, T. H.
Goff, N. D.
Hafer, J. W.
Hammell, J. A.
Hassan, A. H.
Konsevich, J. L.
Krippaehne, C. A.
Kuzman, E. J.
Lee, J. T.
Lind, H. V.
Lone, N. N.
Potter, W. J., Jr.
Primich, R. I.
Rastanik, P.
Ready, J. F.
Reed, M. L.
Rios, R. R.
Schooley, L.
Schorum, S. W.
Stern, J. R.
Vanderwilt, J. K.
Werner, G.C.
Wildman, P. G.
Willover, R. G.
Wujek, J. H.

Colorado
Fiasconard, J. S.
Morris, M. H.
Peltier, F. A.
Terpstra, S. J.
Weizman, R. P.

Connecticut
Demaw, M. F.
Ison, W. O.
Jasinski, J. J., Jr.
Lewis, S. M.
Pollack, E.

District of Columbia
Kean, J.

Florida
Bevilacqua, J.
Chun, S.
Contenta, D. A.
Frith, L. O.
Frye, J. L.
Golub, C. N.
Hedges, R. J.
Lybrand, D. P.

Georgia
Gatlin, J. A.
Rodemann, U. P.
Wiencko, T. E.

Hawaii
Gandhi, J. L.
Gouveia, C. L.

Illinois
Colwell, J. C.
Fullerton, T.
Grabacki, T. E.
Koch, P. N.
Mount, R. L.
Oppel, R. D.
Parker, R. L.
Passfield, R.
Pattyn, D. L.
Rokos, G. A.
Wrzesinski, S. A.

Indiana
McManus, L. G.
Tilton, J. C.

Iowa
Quickel, G. S.
Stephenson, D. T.
Youngberg, R. E.

Kansas
Gessler, J. E.
Hahn, C. J. III
Ratliff, N. L.
Vos, L. E.

Maine
Smith, G. R.

Maryland
Barkakati, N.
Butterfield, M. A.
Daley, P. H.
Hom, W. W. L.
Johnson, T. W., Jr.
Jones, W. N.
Mitzel, G. E.
Potocnak, J. J.
Reeder, C.

Massachusetts
Ahlstrand, W. R.
Backus, E. L., Jr.
Baizman, P. H.
Barry, G. S.
Baskerville, E. L.
Berger, E. N.
Bressel, M. B.
Brox, G. G.
Clemence, G. T.
Collins, R. M.
Crocker, D. C.
Kaplan, R. B.
Karazia, R. J.
Kibler, M. B.
Krongelb, H. A.
Meyers, K. J.
Small, R. E.
Walters, J. B., Jr.
Wardle, C. E.

Michigan
Burzynski, W. J.
Darling, G. D.
MacMunn, G. D.
Moravec, K. S.
Nguyen, H. V.
Scully, J. L.
Zayac, S. A.

Minnesota
Bendson, S. A.
Harrison, W. E.
Wulling, T. E.

Mississippi
Koleyni, G.
Murphy, M. J.

Missouri
Bhattacharyya, A. M.
Findling, D.
Kasper, D. E.
Koenig, G. J.
Moore, D. E.
Rath, K. F.
Wittlich, D. P.

Nebraska
Watt, D. A.

Nevada
Sutton, M. C.

New Hampshire
Cormier, A. R.
Hiebert, S.
Jarvis, J. E.
Stockman, G. E.
Whitaker, E. J.
Williamson, R. S.

New Jersey
Brogle, P. M.
Dalen, S. G.
Dixon, D. F.
Engelson, I.
Franz, D. W.
Freund, A.
Levine, R. J.
Lucky, R. W.
Mundy, K. B.
Quast, W. P.
Sedlak, R. J.
Tenzer, M.
Trammel, R. E.
Zukatus, J. J., Jr.

New Mexico
Gebert, M. T.
Kelley, P. M.
Oyer, A. T.

New York
Amchin, H. K.
Bidstrup, E. L.
Bolman, P. S.
Bresnick, H. L.
Douglas, J.
Fischbein, W. L.
Friend, S., Jr.
Hassib, E. I.
Herz, E.
Janofsky, E. B.
Keighley, J. D. D.
Lanzisero, T.
Larkin, L. I.
Lipson, C. S.
Lowe, G. J.
Lugo, J., Jr.
Mullin, R. J.
Phipps, C. E.
Russell, J. L.
Smith, G. E., III
Stackhouse, D. R.
Streicher, B. L.
Taylor, G. F.
Torok, J. L.
Williams, J. A.
Yellin, J.

Ohio
Heller, H. H
Jones, E. E.
Kiray, J. R.
MacCleary, R. C.
McCormick, J. R.
Rittenhouse, R. J.
Thompson, C. E.
White, D. E.

Oklahoma
Daubert, R. L.
Lankford, C. B.

Oregon
McCollom, A. T.

Pennsylvania
Boose, G. D.
Burns, R. S.
Dakduk, W.
Dunlop, E. A.
Fox, M. S.
King, M. L.
Maziara, M. J.
Morfitt, J. P.
Moyer, H. H.
Rinaldi, V. J.
Truax, R. J.

South Carolina
Fields, J. F., Jr.

Tennessee

Igharas, E.
Riggs, C. M.

Texas
Bruce, J. J.
Cruess, M. W.
Crutcher, W. L.
Dixon, R. J.
Flores, M. V.
Garner, R. D.
Gurrola, E. M.
Horchem, S. D.
Lue, E. H. C.
Miller, T. C.
Page, G. E.
Quarterson, E. A.
Sowers, M. J.
Van Zandt, R. A.
Wayne, G. L.

Utah
Robinson, G. C.
Smith, E. R.

Vermont
Broughton, D. M.

Virginia
Foster, J. J.
Gibbon, J. T.
Jackson, A. M.
Mangum, R. L.
Schuler, J.

Washington
Erickson, J. A.
Konkel, H. E.

West Virginia
Casto, J. G.

Wisconsin
Carlson, D. R.
Chau, K. K.
Cohen, B. A.
Lemieux, J. A.
Meister, D. J.
Merkel, J.
Pankratz, R. E.
Remsha, M.
Schilling, R. D.
Sorenson, J. P.
Stroess, W. L.
Tyborski, M. A.

Mariana Islands
Potter, A. H.

PC's Transactions

Not satisfied with the new life he has breathed into PC's *Transactions* during the past four years, Rudy Joenk 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 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, Uzbek, Aztec, Blissymbology, 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, 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 PC's 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 Esmi Bidstrup and Emily Schlesinger presented to the AdCom meeting on February 27 the results of their recent review of PC's Constitution and Bylaws.

The following recommenations 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. Change the group's name from Professional Communication Society to either Technical Communication Society Engineering Communication Society
2. Reduce the number of AdCom members from 18 to 12.

As required by the Constitution, these proposals for amendment had been sent to all AdCom members for review before the meeting. Comments received by mail agreed with the consensus of the meeting. Although everyone voted against changing PC's name, the general opinion was that we would like to change it but don't know what to change it to. Suggestions will be duly considered.

The revised Constitution and Bylaws will be printed in a forthcoming issue of this Newsletter.

Matthew 7:5

Bob Winton, long-time PC-er and present Secretary-Treasurer of IEEE's Region 8, writes from London to suggest that PC editors should be more careful about material published in our *Transactions* and *Newsletter*. Some of it, he finds, violates the principles of good writing expressed in the "Advice to Author" that appeared on p. 178 of the December (1980) *Transactions*.

He is quite right. We should, like Ceasar's wife, be above reproach, or at least we should try to approach being above reproach. And we should reproach ourselves occasionally, as in the Sermon on the Mount: "Hypocrit! First take the board out of your own eye, and then you will be able to take the sawdust out of your brother's eye."

Bob Winton wants PC's editors to reject material that is not clearly written and publicize our resolve to make such rejections. In fact, we do decline to print articles that we think stylistically and grammatically unsuitable, and we "save" other articles by editorial revision. Perhaps we should be more particular, but perhaps also there are extenuating circumstances.

The content or message of an article may be judged to have great potential value for our readers, or to be of negligible or moderate value. Its style may be too heavy, too frivolous, or just right. Its grammer may be proper, atrocious, or so-so.

We have promised four regular issues a year and a minimum number of pages—to fellow PC-ers, libraries, the IEEE, our consciences, and the United States Post Office.

We have limited time and knowledge. We are sensitively aware that "good writing" is more than the result of obedience to rules. We know that all "rules" for good writing are conventions to respond to, even circus wires to balance on, rather than statutes to enforce and follow.

We have been reminded by our colleague Mary Fran Buehler that there are at least nine "Levels of Edit."

Now, here are a few pages about some aspect of writing or speaking on technical subjects. They may have been submitted by an author for publication as an original article; they may have been suggested or discovered for 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 tossed about by a very active many-horned dilemma. Try to understand his difficulties. PC-ers: rejoice when he makes "all good" decisions, and know that he too recognizes ones that are "circumstanced."

On the other hand, material in PC's Newsletter is heavily edited—rewritten, summarized, curtailed, or adopted. The chief problems here are not so much those of accept/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 label.

Be these things as they may, thank you, thank you Bob Winton for you comments. They encourage us to strive harder for high quality in PC's publications and to hope that more and more of our readers are learning to recognize poor quality, wherever they find it.

Help Wanted

Hazeltine Corporation in Greenlawn (Huntington) New York 11740 is looking for a Technical Publications Engineer who

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. Hazeltine is an equal opportunity employer committed to affirmative action.

28th ITCC

The 28th International Technical Communication Conference of the Society for Technical Communication will be held May 20–23, 1981, at the William Penn Hotel in Pittsburgh.

Four communicators who belong to PC as well as to STC have been preparing for the Conference since last summer: Della Whittaker is Program Chairman, and Lois Thuss is Chairman of the Writing and Editing Stem, with Lacy Martin as her Deputy and Dave Dobson as Moderator of a session devoted to Magazines and Newspapers.

Other Writing and Editing sessions will be held on

Advertising and Public Relations
Documentation of Computer Software
Engineering Communication
Journals and Tradepress
Legal Communication
Medical Communication
Movies and Audiovisuals
Scientific Communication

The session on Engineering will focus on documenting three aspects of technology—project management, operating procedures, and the development and operation of electronic components.

The Scientific session will concern the process of communicating scientific and technical information.

The Writing and Editing Stem is only one of four being planned for the Conference. The others will be devoted to

Automated Composition
Education and Research
Graphics and Production

Other features of the 28th ITCC will include workshops devoted to

Plain English
Corporate Communications and the Press
Proposal Writing

There will also be a panel presentation of the views of technical students, a poster session on writer-illustrator cooperation, and a demonstration (with participation by the audience) of exercises for relieving writer's cramp and backache.

For more information, write to STC Headquarters, 815 15th Street, N.W., Washington, DC 20005.

SSP

At its third annual meeting, to be held June 1-3 in San Francisco, the Society for Scholarly Publishing will present SSP3, a conference on "Bridging the Gaps."

In the tradition of the two successful previous SSP conferences—"Scholarly Publishing Today—Taking Stock" and "Scholarly Publishing in an Era of Change"—this also will provide a forum for the presentation of invited and contributed papers. The subject of the papers will again concern the relationships and interaction between and among editorial and production departments, publishers and libraries, books and journals, science and humanities, East and West. Sessions will focus on analyzing problems and sharing solutions. Topics to be discussed include promotion, spiraling costs, acquisition and appraisal, quality control, levels of editing, and copyright clearances.

For further information about SSP3, write or telephone SSP Executive Director, Elizabeth C. Fake, Society for Scholarly Publishing, 2000 Florida Avenue N.W., Washington, DC 20009; 202/638-5970.

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, $190, includes materials to be distributed and box lunches.

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?
—What are the means of access?
—What is the outlook for improvements in accessibility?
—What changes are in process in the technology of federal database access? What is the outlook?
—How can I use the intermediary information industry effectively and economically to access federal databases?

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. Hattery, 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, training and education, meetings, advertising and marketing, public relations, etc.

For a 24-page descriptive brochure write VCC Conference Management, 500 Summer Street, Stamford, CT. 06901.

CCS Seminar

On December 5 and 6, the Council of Communication Societies 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 UNESCO, the International Communication Agency, academia, industry, and communication societies, as well as editors, publishers, and consultants. About 75 people attended.

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

CCS'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 variety is the most 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 prerecorded 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-editions 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, adaptability, activity
functional—related to types of work like planning, marketing, managing
technical—related to training, operating, communicating.

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-services 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 has eroded. The new 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 people and communicators.
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 knowledge, ethics, and regulations; and the growth of multinational organizations—add up to increased opportunities for employment and especially for employment in communication. 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. Public relations—75,000 new jobs per year
3. Communication within individual businesses
4. Broadcasting and cable TV
5. Journalism—very little growth; skills should be reapplied to internal use for corporations (see item 3)
6. Books—little growth
7. Teaching—little growth in colleges, except in computer departments; more in elementary and high schools
8. Computer industry—software and programmers badly needed, also other technical personnel

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 work as 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 training 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 Maufacturers, 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 legislative initiative. Communicators 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.

Several aspects of intercultural communication were discussed by two sets of panelists on the last day of the Conference.

William Harley, of the U.S. National Commission for UNESCO, and George Borden, Professor of Communications at the University of Delaware, spoke about communication issues considered at the recently ended 21st UNESCO General Conference held in Belgrade. The book, *Many Voices, One World* (also known as the McBride Report), is the official account of the UNESCO deliberations.

Borden called *Many Voices* "a good text-book, condensed and well-structured" for courses in global communication. Pertinent technical, political, geographic, and historical information is presented clearly, he said, and the 80 recommendations 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 intercultural 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 make money; the Third World needs it for education. Both groups must become more knowledgeable about and sensitive to the "commonalities" on which mutually beneficial, practical action can be taken.

James Alatis, 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.

The ways in which languages are spoken differ also—the associated semiotics, or general behavior of speakers. Alatis discussed the five kinds of semiotics, which are actually channels of nonverbal communication:

kinesics (body movements)
proxemics (interpersonal distance)
chronemics (timing)
oculesics (eye-contact)
haptics (touching)

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.

Ray Hiebert, Dean of Journalism at the University of Maryland, discussed the variety and diversity that exist today in the United States in all aspects of communication. In the 1960's, he pointed out, there was concern that cultural groups were becoming too completely absorbed, with ethnic values and societal heritage blurred or discarded altogether.

In 1980, however, there exists just the opposite concern: Is the nation divided by cultural diversity and lack of common goals, interests, and commitments?

Hiebert suggested that technological changes may have been one cause of this social fragmentation. The U.S. has become an information-handling rather than a manufacturing nation; its strategic resource is no longer money but rather knowledge.

With new communication technologies, information can be and is both directed to and received 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 are competing 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

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

Newsletters and local news sheets have proliferated past belief. For example, at the University of Maryland in 1968 there was one newspaper—the student *Diamondback*. In 1980, on the same campus, almost every nameable group has an outlet—the administration, the faculty, fraternities, blacks, Jews, commuters, dormitories, individual colleges, and departments.

Network television is still a national medium, but deregulation and the growth of cable broadcasting are making specialized programs more possible. Network news has become narrow-casted 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 type themselves on word processors and can make a profit on runs of 500 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 diversity, 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.? Hiebert's answer is that public communication will begin to serve general as well as special 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 Stephon on the construction and use of mini-computers "Calculators? Chips? Microprocessors?"

In 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 27420; (919) 697-3518.

Documentation for Microprocessors

by

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. Suggestions are made for organizing such "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, of 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 Programmable 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 labelled "in proc," "micro," or "microprocessor" with no further information. Technicians can understand the whole system

better if they have some knowledge of what activities these areas represent. A description of the software that operates at such places in a system can be as helpful as input/output (I/O) parameters, schematics, or any other traditional tech manual matter.

Suggestions

Requirements for the contents of O&M Manuals are stated fairly clearly in Military Specifications and industry Standards, but very little has been written about the type of documentation proposed here—that is, descriptions of the functions and modes of operation of microprocessors. I suggest, therefore, that there should be requirements for describing their type, architecture, and function:

Type—specify "straight-line," "cyclic," "start on interrupt," or particular combination of operating modes; include flow diagrams of major functions, not necessarily in terms used for traditional software documentation.

Architecture—specify changes caused by dynamic (event) or operator (control) input; I/O procedures, protocalls, standards, etc., under program control; use, reuse, and non-use of sub-programs.

Function—specify the activities performed as part of the operation of the overall system.

Together, these three sets of descriptive material will expand the familiar block diagrams that now appear labelled only "mini-computer" or "microprocessor," in O&M Manuals for functional systems. Such descriptions are needed not for changing or maintaining programs but for understanding the systems that depend on the operation of "computers on a chip." Formal requirements are needed to specify the level, structure, and content of these descriptions.

High Fly

Television station KPNX in Phoenix (Arizona) owns a jet helicopter equipped with a 46-pound television transmitter and transponder built by Tayburn 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.

Human Engineering: The Body Re-Examined, by John Lenihan. George Braziller, Inc., One Park Avenue, New York, NY 10016; 207 pp., 1975; hardcover, $7.95; paperbound, $4.95.

Lenihan, a professor of clinical physics at the University of Glasgow, points out that although the human body is made of unlikely materials (grit, glue, jelly, and soup), humans have been unable to match its design and performance.

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 drawings show examples of engineering: the forearm as a lever, the skin as packaging, the eye as a camera, and so on.

Who will enjoy this book? Those interested in human factors engineering, sports, physiology, or good writing.

A Basic Approach to Executive Decision Making, by Oxenfeldt, Miller, and Dickerson. Amacom, 135 W. 50th Street, New York, NY 10020; 228 pp., 1978; $12.95.

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:

1. Learn all you can about the company to which you are applying; learn as much as possible about the person who will interview you.
2. Use people to help you get an interview or send with 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.
3. Be prepared to answer such questions as Why should I hire you?

(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 primary interest?" Don't let yourself be type-cast, he advises; say that you are interested in learning, broadening experience, and developing skills, as well as in being paid.)

4. Be aware of problems and pitfalls related to dress, age, and attitudes [full discussion here].
5. Be careful about "little things"—rehearse your "speeches," have up-to-date information about the company, be on time for the interview, be courteous to receptionists, secretaries, assistants.
6. Be enthusiastic—your attitude will get you hired. Want the job. Tell the truth. If the truth may put you in an unfavorable light, accompany it with a compensating, favorable truth.
7. Be prepared to defend yourself in case of stress or attack during the interview—be open and honest, ask for redefinition or rephrasing, keep cool through cheap tricks like wobbly chairs and stupid questions, use silence to your own advantage, be able to restore continuity if the interview is interrupted.
8. Know when to stop talking; don't damage yourself or be negative. Let the interviewer talk—you may learn something.
9. Know the key questions you must ask to become certain that you want to take the job if it's offered: Why wasn't someone hired from "inside"? What exactly will you be expected to accomplish?
10. Be prepared to discuss truthfully and carefully why you were fired or why you want a new job, what you're looking for, how soon you can start, what if your present company makes a counteroffer, etc.
11. Know how to evaluate the interview and your chances of being hired, how to write thank-you letters and persevere in job-hunting.
12. Be ready to work at being a success in your new job.

The author devotes a chapter to each of these suggestions, discussing them in helpful, easy-to-follow detail.

Small Time Operator (How to Start Your Own Small Business, Keep Your Books, Pay Your Taxes, and Stay Out of Trouble), by Bernard Kameroff. Bell Springs Publishing Company, P.O. Box 322, Laytonville, CA 95454; 1980; paperback (1½" × 11"), 192 pp., $7.95.

This book explains accounting and bookkeeping for small businesses. It enumerates the forms and ledgers needed, providing blank sheets and giving instructions for using them. It tells about financing and choosing a name (indicate type of work but don't limit possible expansion). It discusses state and federal regulations, insurance, initial cash outlays, bank accounts, profit-and-loss statements, incorporation, and taxes.

If you're starting a small business, you will probably want to consult an accountant and an attorney. Consult Author Kamoroff also.

GameNet

In the IEEE *Communications Magazine* for November 1979, Robert W. Lucky predicted that electronic entertainment will eventually include 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 their roles as game players, while they in turn will see you in other roles. Thus many persons will interact in a new form of social encounter, the GameNet.

You will be the star of the drama that unfolds as you manipulate controls to determine your position and action—flying a plane in the Battle of Britain, marching with Caesar, playing Monopoly or soccer, and so on.

The attractions of GameNet, in addition to participating entertainment, are the opportunities it will present for living vicariously, for forming personal yet anonymous pools of like-minded and like-talented companions—instantly available.

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 I was dummy. I took too long, I guess, because they started a new hand and the computer dealt me out."

Or you may dial in to drive a car in the Grand Prix race at Monte Carlo: You go into a spin and a driver in a purple car hits you broadside. There is a crunching sound and the screen goes black—you've been disconnected. When you dial back immediately for another race, you find that you can't get in because you've been listed as dead for a two-week period.

Or your twelve-year-old may get on a spaceship and decide to explore the planet Merdith. With his light gun he kills a Mersaurus. He seeks but fails to find any Yttrons or Drnoids, and then makes contact with an Andromedan ship, the Marauder, registered to someone in Atlantic City.

The pictures of GameNet actions will be in color, with some sound, and will be cartoons rather than photographs. This kind of "science fiction" is already achievable, Dr. Lucky tells us, but at a cost more than most people would be willing to pay. He says, however, that within a few years, such arm-chair adventuring will be quite affordable.

How Hot (or Cold) Is It?

Nobel Prizewinner 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 "in his head"? Far from it.

"I think of my hand," he says. "I think my thumb is 0 and my pinky 40°." The fingers between are 10°, 20°, and 30°, and each digit has a name—overcoat, jacket, shirt, swimming, air-conditioning.

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, Penzias recommends adding "bundle up," "ski clothes," and "forget it" for-10°, -20°, and -30°.

Readers who don't want to overheat their calculators may care to know that Penzias' fingers, converted, would be 32°, 50°, 68°, 86°, and 104°F.

Publications by and for PC-ers

Report Construction by Mary Fran Buehler

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.

A Guide for Better Technical Presentations by Robert M. Woelfle

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 paperbound copy ($15.70 for clothbound); the price to nonmembers is $20.95. The *Guide* contains 35 re-printed articles on various aspects of presenting technical briefings, explaining proposals, and outlining plans to management.

Technically-Write! by Ron S. Blicq

The second edition (1981; paperbound) is now obtainable for $11.95 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 181, Station C, Winnipeg, Manitoba, Canada, R3M 3S7; 204/632-2292.

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

$$1 + 24/60 + 51/(60)^2 + 10/(60)^3$$

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 level of skill 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 EIS Newsletter 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 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

energy resources, good health—we must assume the responsibility for directing our research and development efforts toward these goals.

Herein lie the guts of science policy. Herein lies the direction in which modern society must move.

—Congressman Don Fuqua (D-FL) to AAAS Colloquium, Washington, DC. Reprinted from IEEE/AESS Newsletter, September 1980.

Misguided

Professor Sandy Hill of Amherst, as one of his recent "Gentle Diversions" (IEEE *Communications Magaine*, July 1980), prints a long long list of daffy 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
Jump instruction—order to paratrooper
Discrete device—little white lie
Lightning arrestor—fast police officer
Square wave—conventional hair style
Hex code—witchcraft standards
Floppy disk—tired UFO
Core dump—orchard compost heap
Memory management—brainwashing
Common collector—ordinary 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
Long-term drift—Kon-Tiki expedition
Output impedance—work stoppage
Dedicated computer—loyal accountant
Semiconductor—part-time railwayman
Subroutine—undersea maneuvers
Bonding wire—cheap wedding ring
Standard cell—ordinary prison accommodation
Truth table—torture rack

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 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 maximize the impacted systemic-societal interface understandability by easy-modifying our vernacular modes, jargonwise. 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 have the first slide please—oh, I think you must have someone else's box—mine is the grey one with my name on the top, no, wait a minute, not my name, whose name was it now? ah yes, you've found it; 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 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 so, 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 it, it says alkaline, now that should be acidic; also you can perhaps see the word mebmrane, 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 for a moment to check in the text, yes, here 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, no 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 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 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 difficult to get the whole slide in focus at once, now the scale is, well what bar 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 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 deviation, 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've 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 Information* (Nov./Dec. 1979), published by the Institute of Scientific and Technical Communicators, Ltd. (sources given first):

Eavesdropper—

An artist wears open-toed sandals; an author wears open-toed socks.

Audio-Visual—

The video format battles seem to be getting worse at every end of the spectrum.

...buying newer and newer pieces of hardware...