



IEEE PROFESSIONAL COMMUNICATION SOCIETY NEWSLETTER

Vol. 21

October 1978

No. 4

Editor--Emily Schlesinger
Baltimore Gas and Electric Co.
P.O. Box 1475
Baltimore, MD 21203

OFFICERS
OF
IEEE/PC

Tom Patterson, President
GTE Labs, 40 Sylvan Rd.
Waltham, MA 02154

Dan Rosich, Secretary
8-9 Granada Crescent
White Plains, NY 10603

John Phillips
RCA, P.O. Box 588
Burlington, MA 01803

AdCom Meeting

The Professional Communication Society's Administrative Committee met on September 15, 1978 at IEEE Headquarters in New York City, with Vice-President Bert Pearlman substituting for President Tom Patterson.

The Society is solvent and membership seems to be increasing slowly, although recent resignations of the following have left four vacancies on the AdCom:

Jane Swanson 1978-80
Bill Bullock 1978-80
Francis Leib 1977-79
Jim Lufkin 1977-79

Craig Harkins was appointed to complete Jane's term; volunteers are being sought to fill the other openings, and especially to replace Francis Leib as chairman of our Awards Committee.

The AdCom was warned to expect a 10% increase in the cost of publishing and distributing Transactions; inquiry has shown that we are now issuing this quarterly as inexpensively as possible. Bert Pearlman agreed to investigate the feasibility of printing a cumulative index to the Transactions from 1957 through 1978.

Announcements about the contents of forthcoming issues of the Transactions, nominations for the AdCom term 1979-81, workshops scheduled by our Education Committee, and the meetings of other communication societies are discussed elsewhere in this newsletter.

PC's AdCom will meet next on Friday, November 10, 1978, at 9AM in IEEE Headquarters, New York City. All members and friends of the Society will be most welcome.

Welcome to PC !

The 180 new members of PC who joined us in July, August, and September live in 18 countries and 33 of the United States. Welcome, all! Please become active new members.

<u>Australia</u> K. J. Brewster L. W. Elliott	<u>Sweden</u> D. Lander	<u>Colorado</u> P. W. Fleming	<u>Michigan</u> L. M. Hideg J. B. Mitchell B. S. Norkus G. W. Ruch T. L. Simonsen R. A. Smith	<u>Ohio</u> M. Christiansen R. J. Haas D. L. Huffman R. J. Medvitz A. J. Mele G. A. Sommerfield F. D. Truban
<u>Austria</u> K. H. Battlogg P. Skritek	<u>Thailand</u> W. Ruksvanichpongs	<u>Connecticut</u> S. Heller K. E. Pitney F. F. Segesman F. A. Wetzler	<u>Minnesota</u> R. O. Esson R. V. Knudsen	<u>Oklahoma</u> R. B. Gastineau L. F. Knight T. T. Reed
<u>Brazil</u> J. C. Jardim P. C. Mulatenho J. C. Oliveira M. O. Tanizaka	<u>Venezuela</u> L. Azvaje	<u>Delaware</u> G. M. Haldeman	<u>Missouri</u> W. K. Y. Tao I. E. Taylor	<u>Oregon</u> L. F. Smith, Jr. M. W. Unger
<u>Canada</u> A. G. Andrews C. Basu K. V. Chadwick R. J. Donaldson F. A. Jost S. R. Kritsch M. Longpre L. Morin C. Moutafis B. Shaub J. R. Steeves G. W. Swift C. T. Tong	<u>United States</u> <u>District of Columbia</u> J. H. Hill W. H. Wilson, Jr.	<u>Florida</u> G. H. K. Barkley R. E. Dryden F. W. Horchler R. J. Olsen N. M. Shah G. W. Tucker	<u>North Carolina</u> M. M. Neiditz	<u>Pennsylvania</u> F. Cox M. E. Kunsman G. Popovich R. W. Smith J. T. Wallace R. E. Wegley, Jr. M. von Zatorski
<u>England</u> W. L. Price	<u>Alabama</u> W. Jui J. H. Williams, Jr.	<u>Georgia</u> R. M. Boan D. D. Miller	<u>New Hampshire</u> J. D. Monk C. Walker	<u>Tennessee</u> P. L. Clemens R. Prichard
<u>France</u> J. H. Miroux	<u>Alaska</u> M. W. Kincheloe	<u>Iowa</u> R. D. Essig	<u>New Jersey</u> D. B. Andrade E. W. Bennett T. M. Brechka J. R. Higgs D. A. McCormick E. E. Roberts, Jr. G. Rockmaker R. R. Tadas M. J. Trujillo C. R. Wischmeyer R. W. Wrigley	<u>Texas</u> R. H. Brandt J. T. Burgess J. L. Crawford G. L. Crow J. E. Kirk W. G. McKeithen R. W. Parker G. F. Paskusz T. F. Ritter J. D. Thomas S. D. Tucker
<u>Greece</u> D. K. Mitrakos	<u>Arkansas</u> J. J. Harton	<u>Illinois</u> J. W. Ahlen J. S. Cherskov E. J. Gross A. C. Krasovec R. J. Marshall W. A. Sliwa L. H. Stanfield	<u>New York</u> G. A. Brown J. A. Dacko C. W. Daly H. C. Dhanda A. F. Elisha S. A. Granek K. A. Griffin G. C. Hauer O. M. Hull A. R. Kroehs J. Loebenstein A. Lukashok H. C. Mar T. Rodriguez M. Sales B. Sherman H. R. Summer	<u>Utah</u> L. M. Clelland
<u>Hong Kong</u> H-M. Fung W. Kong	<u>California</u> R. B. Altermatt T. Burton K. W. Etten C. Foreman D. R. Foyer M. A. Gasiorowski J. J. Geisler G. H. Johnson G. T. Jones J. G. Jung P. Kornstein J. J. Lopez C. H. Luk N. B. North E. B. Smith J. A. Spagon G. Stoepfel E. G. Strong G. D. Townsend D. D. Tribble F. D. Warthman J. B. Woodard, Jr.	<u>Indiana</u> D. E. Rheinheimer D. P. Schrote C. J. Sullivan		<u>Virginia</u> A. O. Aukland A. K. Guthrie
<u>Iran</u> G. P. Gretton -Watson		<u>Louisiana</u> G. W. Flach		<u>Washington</u> R. A. Hammond C. G. Tennis
<u>Israel</u> J. Gindsberg		<u>Massachusetts</u> R. G. Bellaire E. H. Fields, Jr. M. F. Leahy R. W. Sjoberg B. L. Troutman, Jr. C. J. Zagwyn		<u>Wisconsin</u> J. A. Madden S. M. Mastenbrook, Jr.
<u>Korea</u> S. Y. Seung		<u>Maryland</u> W. M. Bassard A. C. Martin J. E. Oliphant R. L. Peeples		
<u>Netherlands</u> J. Krugers				
<u>Norway</u> G. N. Howell				

IEEE Professional Communication Society Newsletter is published quarterly by the Professional Communication Society of the Institute of Electrical and Electronics Engineers, Inc., 345 East 47th Street, New York, NY 10017. Sent automatically and without additional cost to each member of the Professional Communication Society. Printed in U.S.A. Second-class postage paid in New York, NY and at additional mailing offices.

Persons and organizations receiving this Newsletter are welcome to circulate and reprint material from it. Please acknowledge the IEEE Professional Communication Society and the original sources cited.

Personal

Emily Schlesinger recently joined the Editorial Board of the Journal of Technical Writing and Communication.

2.

Nominations for Ad Com Membership



Louis M. Cole

Lou Cole, for 32 years an employee of the Bell System, is Group Supervisor of the BELLPAR and MERCURY Information Projects at the Bell Laboratories Library and Information Systems Center, Murray Hill, New Jersey. Earlier assignments at Bell Labs included four years on the staff of the Bell System Technical Journal.

Lou holds two degrees from Texas Christian University--B.A. in English and M.A. in Mathematics. He was Editor of PC's Transactions in 1967-8, President of PC in 1970, and a member of the Editorial Board of Spectrum in 1973. Also a member of the American Society for Information Science, he edits the Newsletter of the ASIS Central New Jersey Chapter. As a long-time worker in engineering communication, Lou is eligible for election to another term on PC's AdCom.



John C. Phillips

John Phillips recently became Marketing Manager of Proposals at RCA Automated Systems in Burlington, MA. He has worked for RCA since 1962, first as an engineering editor in Astro-Electronics and then on the corporate staff as a developer of technical programs and presentations. Later, as Editor of the RCA Engineer, he was responsible for enhancing the flow of technical information throughout the Corporation.

John holds a B.A. degree in mathematics, with honors, from Rutgers University and has done graduate work in communication at Temple University. He was Vice-President of PC in 1971 and President in 1972. He has been our Treasurer since 1973 and was Finance Chairman for the three IEEE/PC Conferences on Scientific Journals (1973, 1975, 1977).

Recipient of PC's Alfred N. Goldsmith Award (1977) for improving the quality of technical communication, John is a member of the IEEE Publications Board and of the Editorial Board of Spectrum. He is eligible for election to a second consecutive term on PC's AdCom.



Irving M. Seideman

Irv Seideman received the B.S. degree in Physics from Carnegie Tech (now Carnegie-Mellon University) in 1941 and took advanced electronics courses at the University of Pennsylvania. He joined RCA in Camden, New Jersey, in 1941 as an engineering writer and, except for several years' work with other companies in industrial advertising and sales, remained in various RCA divisions until his retirement in 1976. At that time, he was Manager of the Publications Group and Technical Publications Administrator for RCA's Astro-Electronics Division. He is now a consultant in technical communication.

Irv has written a style guide for technical writing, published several papers, and lectured on technical writing. A Senior Member of IEEE, he edited PC's Transactions for five years and its Newsletter for three years. He has been a member of PC's AdCom several times in the past and is now eligible to serve another term.



Della A. Whittaker

Della Whittaker edits manuscripts on research in physics, chemistry, mathematics, engineering, and computer science at the U.S. Army's Harry Diamond Laboratories in Adelphi, MD. She also teaches technical writing and speaking at the University of Maryland, from which she holds the PhD degree in English education, and she has lectured in the U.S. Department of Agriculture Graduate School (Washington, DC) as well as at local community colleges.

Della is an active member of IEEE/PC, the Society for Technical Communication, the Association of Teachers of Technical Writing, and Toastmasters International. She has published articles on various aspects of communication and reviews of books on technical writing and illustrating in PC's Transactions, STC's Technical Communication, Teaching English in the Two-Year College, Quality Progress, and The Toastmaster. She has presented papers at annual conventions of the

National Council of Teachers of English and at STC's International Technical Communication Conferences.

A dynamic teaching participant in PC's Practicum on Communication last March (Richmond, VA), Della has been nominated for first-time membership on our AdCom.



Robert M. Woelfle

Bob Woelfle is General Supervisor of Proposal/Presentation Services for the Greenville Division of E-Systems, Inc., Greenville, Texas. He manages the preparation and publication of proposals and other marketing-oriented documents, and also the production of films and other presentations.

Before joining E-Systems, Bob worked for the Bendix Corporation. Holding B.S. and M.S. degrees in electrical engineering, he is a Registered Professional Engineer in the State of Indiana and a Senior Member of both IEEE and the Society for Technical Communication.

At present, Bob is Chairman of IEEE's Membership Development Committee. He has served earlier terms on PC's AdCom and worked on PC's Standing Committees.

For five years, Bob edited The Nucleus for the South Bend--Mishawaka (Indiana) Section of IEEE. He presented papers at several IEEE conventions, prepared a chapter for the Handbook of Technical Writing (1971, Wiley), and edited A Guide to Better Technical Presentations (1975, IEEE Press).

Bob Woelfle is eligible now for re-election to PC's AdCom.

* * * * *

Our sixth nominee was obliged to withdraw at the last minute. Volunteers for membership on PC's AdCom, please send name and brief personal history to Tom Patterson.

ISCAS Conference

IEEE's Circuits and Systems Society will sponsor the 13th International Conference on Circuits and Systems in Houston, April 28-30, 1980. Theory, design, and application will be discussed, with emphasis on micro-electronics. Technical committees of the Society will hold workshops the day before the Conference opens. For further information, contact S. C. Bass, School of Electrical Engineering, Purdue University, W. Lafayette, IN, 47907.

Radar Technology

Dr. Eli Brookner of the Raytheon Company and IEEE's Aerospace and Electronic Systems Society will give a one-day course in Radar Technology on Monday, November 27, 1978, from 8 AM to 9:30 PM, at the Quality Inn in Arlington, VA. Sponsored by the Boston Chapter of AES, the course is based on the book, Radar Technology, edited and largely written by Dr. Brookner but including contributions from 23 other authorities (1977; Artech House, Dedham, MA, 02026; \$35).

Dr. Brookner's book is an outgrowth of four IEEE Radar Lecture Series which he presented in Boston from 1972 to 1978. Video-tapes of these series have been enthusiastically received by audiences of 100 to 350 at various Raytheon facilities, IEEE Chapters, universities, aircraft companies, and radar test ranges.

Radar Technology includes historical introductory information, updates material from the 1972 and 1973 lecture series, contains state-of-the-art surveys, and discusses technological trends. It was designed to instruct engineers and scientists of varying backgrounds and interests--those just learning about radar, those working on special aspects of radar, mathematicians, designers, and managers.

The book is divided into six parts:

1. Fundamentals of radar systems, including photographs, parameters, and miscellaneous information about 96 radars (American, Russian, French, Dutch, and English)
2. Signal waveform design and processing
3. Propagation effects
4. Synthetic aperture radar techniques
5. Radar systems and components, including discussion of tube and solid state transmitters
6. Special topics, such as laser radars, tracking and smoothing, the Kalman filter, and fiber optics

Special features are the "Present and Future" sections of each part which give up-to-date information about memory technology, logic devices, high speed analog-to-digital converters, microprocessors and microcomputers, acousto-electronic and solid-state devices, module technology, and more.

In general, the topics considered in Dr. Brookner's course in Radar Technology are those of his book:

Fundamentals of radar
Signal processing
Solid state technology
Tubes
Tracking, prediction, and smoothing
Detection

The cost of the course is \$95 for IEEE members (\$100 for non-members). It includes the text, Radar Technology described above, plus supplemental notes. Add \$15 for registration after November 18. Obtain further information from Duane Matthiesen by calling (617) 862-5500, ext. 315 or 381.

People don't plan to fail--they just fail to plan.

Action Wanted

Questions on IEEE Policy Statements

On December 10, 1978, IEEE's Board of Directors will vote on Policy Statements concerning the highly controversial subject of the registration of electrical and electronics engineers. Society Presidents have been asked to obtain member opinion "to the greatest extent practicable" on the three items that will be considered.

PC members are urged to respond to the following questions which refer to the Policy items as printed and numbered below. Please mark your choices with a check or X and send the completed questionnaire (or a copy) right away to Tom Patterson. We have been asked to submit a PC "vote"--or set of votes--by November 10. Thank you for cooperating.

-----*-----*-----*-----*-----*-----*-----*-----*-----

IEEE Resolution on Certification Committee and Policy Statements 7.4 and 7.100

Professional Communication Society Questionnaire

1. Do you endorse Item I? ☐ Yes ☐ No
2. Do you endorse Item II? ☐ without the underscored wording?
 ☐ with the underscored wording?
3. Do you endorse Item III? ☐ without marked deletions(///) and additions(____)?
 ☐ with marked deletions(///) and additions(____)?
 ☐ with paragraph C as written separately (Third
 Choice), using unmodified definition?

Send completed questionnaire to Tom Patterson, 40 Sylvan Road, Waltham, MA, 02154, before November 10, 1978. Give your name and address only if you wish.

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The three sets of questions above pertain to the following Proposed Resolution and versions of Policy Statements:

- I. Proposed Resolution--establish a Committee to study and make recommendations on IEEE certification of engineering qualifications.

WHEREAS, the Board of Directors of the IEEE recognizes the need to enhance the public image of the profession of engineering and of those who practice the profession,

BE IT RESOLVED, that a study be undertaken to determine the feasibility of the addition of a new membership grade or designation to be granted to members who have achieved professional licensure, registration, or certification (the latter by either the IEEE or authorized governmental bodies) to be valid for the period of licensure, registration, or certification for which it was awarded, and

BE IT FURTHER RESOLVED, that this study be performed by an Ad Hoc Committee consisting of representatives of the Long Range Planning Committee, the Admission and Advancement Committee, the Educational Activities Board, the Regional Activities Board, the Technical Activities Board, and the United States Activities Board, and that the results of this study be submitted to this Board of Directors within one year.

II. Two versions, IEEE Policy Statement 7.4--

1. At present, with title Registration of Engineers but without underscored wording.
2. Proposed, with title Protection of the Public and with addition of underscored wording.

The IEEE recognizes the obligation of the profession to protect the health, welfare, and safety of the public.

In discharging this obligation, the IEEE urges members of the profession to qualify themselves through appropriate mechanisms such as registration, certification, chartering, or other legal or extra-legal processes, so that the public and the profession may know who has been judged to meet a certain set of minimum standards for the profession.

Furthermore, where legislation, regulations, codes, or customs impact on electrical and electronics engineers, the Institute shall interface whenever and wherever appropriate with legislative and regulatory bodies. In particular, legislation may include the establishment of qualifications of engineers and the registration and/or licensure of engineers. In furtherance of this policy, the IEEE:

- A. Offers advice and assistance to legislative and regulatory entities;
- B. Encourages the establishment of uniform laws as being in the public interest;
- C. Recommends that there be a minimum of restrictions of a legal nature in the functioning of qualified engineers;
- D. Offers advice and assistance to Boards of Engineering Examiners and similar agencies;
- E. Recommends that, upon request, committees of IEEE members cooperate with appropriate agencies in the development of sound registration examinations which will adequately protect the public interest.

III. Three versions, USAB Policy Statement 7.100--

1. At present, without marked deletions (///) and additions (___).
2. Proposed, with marked deletions and additions.
3. Third choice, with paragraph C as shown separately, using unmodified definition of "engineering" as for 1.

(continued on next page)

The IEEE, in furtherance of IEEE Policy 7.4 (Protection of the Public) and IEEE Policy 7.8 (Code of Ethics for Engineers), as they apply to the U.S., recognizes the need for legislation concerning licensure and registration of engineers in order to protect the health, safety, and welfare of the public. In furtherance of this policy, the IEEE:

- A. Urges its members who use the title engineer to be registered in one or more jurisdictions so as to signify to the public and their colleagues that they have met the minimum standards of the profession;
- B. ~~A.~~ Participates actively in the development of sound registration procedures which will adequately protect the public interest while imposing a minimum of restrictions on the practice of qualified engineers;
- C. ~~B.~~ Promotes complete reciprocity through uniform requirements for licensure and registration;
- D. ~~C.~~ Recommends that there be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of, engineering* ~~offered directly/to~~ affecting the public directly;
- E. Urges that the title " _____ engineer" be assigned by industry, government, and private practitioners only to those who hold a baccalaureate or higher degree in engineering or are registered as an engineer in one or more of the several jurisdictions.

Third alternative for D.~~C.~~ above:

As a long-term goal contingent upon progress in A and B above, the IEEE recommends:

- C. That there be a licensed and registered engineer in direct control and personally supervising, or with responsibility for approval of, any engineering* service or product offered to individuals or organizations that are end users of the service or product.

* The ~~science~~ discipline by which the properties of ~~nature~~ matter and sources of energy in nature are made useful to ~~man~~ society in structures, machines and products," ~~as defined in the~~ (modified definition from Merriam-Webster's Third New International Dictionary.)

* Unmodified definition

ICC '79

ICC '79, an International Conference on Communication, will be held June 10-13, 1979, in Boston. Sponsors are three IEEE organizations concerned with the engineering aspects of communication--the

Communications Society
Aerospace and Electronic Systems Society
Geoscience Electronics Group

The Conference will have a strong international flavor and papers "at the leading edge of communication technology" are being asked for. Obtain further information from Dr. John Logan, Bell Laboratories, 1600 Osgood Street, North Andover, MA, 01845.

Society for Scholarly Publishing

Early in 1973, largely through the efforts of Jim Lufkin, George Schindler, and John Phillips, PC sponsored an inter-disciplinary conference in New York City on The Future of Scientific and Technical Journals. The scientists, publishers, librarians, mathematicians, editors, printers, and academicians who attended were so enthusiastic about being able to discuss mutual problems and professional interfaces that they agreed to hold a similar meeting every two years. Papers presented at the Conference were published in a special issue of PC's *Transactions*. Support from E. K. Gannett of IEEE's Publishing Services and from the National Science Foundation made possible the 1975 IEEE Conference on Scientific Journals at Cherry Hill, NJ, and again PC's *Transactions* published the Conference Record.

During and after the Third IEEE Conference on Scientific Journals, in Reston (VA), 1977, discussions were held about broadening the base of these meetings, with the result that the Society for Scholarly Publishing is now being formed and arrangements have been made for a fourth inter-disciplinary conference, this time in Boston, June 4-5, 1979.

The SSP's interim Board of Directors includes three people who were on the planning committees for the three preceding Journal Conferences. They recognize "the importance of maintaining the momentum, continuity, and reputation" already established--that is, of continuing to provide a common meeting ground, where people of all intellectual disciplines and all types of publication activities can interchange ideas. The new Society plans to extend this opportunity for communication to workers in the humanities and related arts as well as to those in the sciences and related techniques.

The SSP really began around 1970, when George Schindler pointed out in a meeting of PC's AdCom that authors, editors, publishers, printers, and users need a way and a place to meet and talk things over. Jim Lufkin turned this idea into a reality by organizing the first journal conference and inventing the Association for Scientific Journals, an "organization" of those present at the conference. He sent conference registrants an ASJ Newsletter (seven issues, from May 1973 through March 1977) which carried this notice over his initials:

The Association for Scientific Journals was founded at the IEEE Conference on the Future of Scientific and Technical Journals in May, 1973. It is an unofficial, unorganized, non-profit, free association of editors, publishers, and users of learned journals. It has no officers, incurs no expenses, and collects no dues. Anyone can join, and anyone who does will get this Newsletter, which will appear whenever there is some news or some letters to print. The purpose of the Newsletter is to promote the exchange of ideas among members. If the Association gets official, or organized, or starts to incur expenses, the editor will resign.

Today, as the Society for Scholarly Publishing grows every week more official and organized, the phantom ASJ is becoming a memory, and Jim Lufkin no longer edits its Newsletter. He did, however, give his mailing list to SSP's Board of Directors.

Membership in the new Society will thus be offered to all former ASJ "members," and its organizers hope that the Society for Scholarly Publishing will embody Jim Lufkin's practical idealism, his breadth of intellectual interest, his enthusiasm for cooperating, and his genius for successful communication.

Film Festival

The American Science Film Association will hold the 1978 sessions of its biennial SCI/COM (Science/Communication) at the Museum of Science and Industry in Chicago, November 7-10. Lectures will be given on the making and uses of audiovisual presentations dealing with energy, preventive medicine, technological advancement, computer animation, and science teaching. Attendees will be able to preview new films and videotapes on science subjects for instruction, entertainment, and research. For more information, contact ASFA, 3624 Market Street, Philadelphia, PA, 19104.

CCS Updates

The Council of Communication Societies (PC is one of the 25 organizational members) will hold a 2-1/2-day conference at the Shoreham-Americana Hotel in Washington, DC, on Thursday through Saturday, December 7-9, 1978.

The program provides for a business meeting (December 7) of the CCS Board; two working breakfasts (December 8 and 9, 8 AM) for Presidents, Executive Directors, and Newsletter Editors; and two lunches (December 8 and 9, 12:15-2:00 PM) with nationally-known speakers.

There will also be three two-hour conference sessions: December 8, 10:15 AM and 2:15 PM; December 9, 10:15 AM. The sessions will be devoted to update presentations on Federal, educational, and research activities related to communication.

Members of CCS member organizations are invited to attend the update presentations (free) and the lunches (\$10 each). Make individual arrangements for hotel accommodations. Send \$10 for each lunch reservation to CCS, P.O. Box 1074, Silver Spring, MD, 20910, before November 15.

26th ITCC

The 26th International Technical Communication Conference, sponsored by the Society for Technical Communication, will be held May 16-19, 1979, at the Marriott Hotel in Los Angeles.

The theme of the Conference is "Technical Communication--Shaping the World We Live In," and the program committee has asked for papers that stress accomplishment--"what works," how problems have been solved, why projects were successful.

Submittals will be grouped in four stems or categories:

Education and Research
Visuals and Audiovisuals
Management and Development
Writing and Editing

PC has been asked to sponsor a session by submitting three related papers on some aspect of our Society's area of interest, but separate papers by PC-ers will be welcome also. Call Dan Rosich (see p. 1) if you want to participate.

Although the STC is an organization of writers, PC engineers find many helpful, useful ideas at its Conferences and in its Proceedings. Get more information from Dan, or write to STC, 1010 Vermont Ave., NW, Washington, DC, 20005.

Headquarters of the 26th ITCC are at 333 N. Santa Anita Ve., Arcadia, CA, 91006.

Graceful Growing

Adeline M. Hoffman, writing "Fulfillment in the Later Years" (Humanitas, Vol. 13, No. 1, February 1977), speaks not only to retired persons but also to those who some day will be retired persons.

"Old age," says Miss Hoffman, "is not a defeat, but a victory; not a punishment, but a privilege." Although we spend one fourth of our lives growing up and three fourths growing old, we pay much attention to the former but very little to the latter. Furthermore, the meaning of "old" is changing as the human life-span increases--"middle age" now reaches into the sixties.

Actress Marie Dressler is reported to have said, "It's not how old you are, but how you are old." Is work your main purpose in life or have you other interests? Are you setting and reaching a variety of goals so that you have feelings of commitment, something to look forward to, and the satisfaction of achievement?

Miss Hoffman points out that education does not take place only in school.

The world is an incomparable classroom and life is a memorable teacher. In our intellectual and cultural development and in our knowledge of life, there is no standing still; we move either forward or backward.

During any period of life--infancy, childhood, youth, working years, retirement--we can learn and

grow; for education is not a goal but a journey, and although there are milestones along the way, there is no stopping place. "Go as far as you can see" (the quotation is from Elbert Hubbard) "and when you get there you will see further."

In addition to ongoing interests, Miss Hoffman continues, we need the sense of personal identity and the self-discovery that come with being contributing members of society. Psychic enrichment, moral and spiritual nourishment, the joys of participation and of being needed--all of these are rewards of social or community involvement. Life's greatest burden is to have nothing to carry, and in the words of James Harvey Robinson, "Each of us is great as we perceive and act upon the infinite possibilities that lie all about us undiscovered and unrecognized."

Throughout life, also, we need to cultivate friendships and engage in activities with people of all ages. Despite, or rather because of, the so-called generation gap, we can find different kinds of companionship, enlightenment, and satisfaction with the young, the old, and the middle-aged, whichever group we "belong" to, chronologically, or which we are entering or leaving.

And what of happiness? asks Miss Hoffman. Though we speak of pursuing it, happiness is not a goal but rather a by-product--the enjoyment of advancing toward an objective, working to support an ideal, being thankful instead of worried, taking responsibility, seeing beauty in nature and human nature and human accomplishments, giving and receiving gifts of time, effort, material things, compliments, respect, admiration, affection.

Even our smallest achievements have worth, Miss Hoffman reminds us, but she thinks that most of us ignore what is each one's most important "achievement"--our immeasurable and ever-widening influence on other people and the untold inspiration we give to countless others throughout the years of a lifetime.

In more technological terms, PC-ers--reach out, become involved, and communicate.

Plan and Persevere

"The Two-Hours-A-Week Self-Study Plan," by Edward P. Bartkus (reprinted in the IEEE Engineering Management Review for December 1977 with permission from Continuing Education) points out that self-discipline can help you achieve continuing education objectives in any subject. Work it out like this, he says:

1. Choose a topic, general or specific; obtain (or identify and locate) books and journals; prepare a study-outline and a three-months' schedule.
2. Study honestly for two hours on one night every week, without missing; at the end of three months, take two weeks off and start over on another subject.

You might even organize a two- to eight-man group effort, Bartkus suggests. Plan, schedule, and be conscientious; take turns in leading the sessions; provide hand-outs; serve refreshments; after three months, take two weeks off and start over.

How to Find Films

AdCom member Jack Gold has suggested that PC-ers who work with school, church, civic, social, or professional groups may be interested to know about the Educators Progress Service, Box 97, Randolph, WI, 53959. This organization prints annual Educator's Guides to Free Films, Filmstrips, Tapes, Scripts, and Transcriptions.

The Guides are comprehensive lists which identify sources of materials available to educators, over a large spectrum of subjects at all levels of instruction.

Jack also noted two other sources of information for possible use by program or project chairmen: the Monthly Catalog of U.S. Government Publications, available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC, 20402; and the NICEM Indexes available from the National Information Center for Educational Media, University of Southern California, University Park, Los Angeles, CA, 90007.

NICEM indexes are available for 16mm educational films, 35mm filmstrips, 8mm cartridges, and educational records, audio tapes, and video tapes.

Back and Forth Carefully

It takes two to communicate, and each must both transmit and receive efficiently if the communication is to be effective.

The next time you talk with a supervisor or a subordinate about plans and schedules, make the communication effective by ensuring that both of you understand and use the following techniques:

1. Deal with "sooner" and "better" as trade-offs and talk in terms of honest probability.

Don't say, "Will the project be completed on the scheduled date?" Rather, ask, "What is the probability that you will finish on the scheduled date? that the cost will be as estimated? that the performance will be as specified?"

Don't say, "I'll meet all requirements for this job," knowing that you will run out of time, lose money, or sacrifice quality, but hoping to "make it up" on the next or a concurrent project. Rather, ask, "Shall it be sooner or better; what shall be our balance?"

2. Use simple language in redundant feedback.

Don't give engineering replies to financial statements, or vice versa. Follow up a conversation with a letter or memorandum, send or request a sample to accompany a drawing, ask and answer the questions, "What is your understanding of what I mean?" and "Is such-and-such what you have been saying?"

--Adapted from "Learn to Communicate with Your Engineers," by S. F. Love in Canadian Business, June 1975.

The man who removes a mountain begins by carrying away small stones.

Words from the UK

The following excerpts come from the May and June issues of The Communicator of Scientific and Technical Information, newsletter of the Institute of Scientific and Technical Communicators in England:

[Universities and the professions must realize] that a person does not become a writer by studying science or technology; that someone must teach him how to write, if he is to be an efficient scientist or technologist; and that he must learn an even higher competence if his profession is to be a scientific or technical writer rather than a scientist or technologist.

--David Morgan

* * * * *

Miscellaneous bloopers reported, without comment, from various sources:

Looking back in retrospect . . .
. . . the death of both his parents, in 1885 and 1887 respectively
. . . the English language and it's use
. . . our fiftieth centenary
. . . people with low values of time [i.e., not in a hurry]
. . . in a pressure situation
. . . decrease the time cushion

* * * * *

Neither speech nor writing is an end in itself, but a means to an end, a fact sometimes overlooked.

--H. Dagnall

* * * * *

The "wrongs and longs" in the left-hand lists below were heard on the weekly five-minute British program, WORDS (Radio 3). WORDS should have used the versions at the right. Some of the usage that was

<u>Sloppy</u>	could have been	<u>Neat</u>
pretty minimal		slight
due to the fact that		because
compact in terms of depth		shallow

Other expressions were

<u>Bulky</u>	but might have been	<u>Trim</u>
currently		now
in short supply		scarce
earning situation		job
attempt		try

Some were

<u>Pretentious</u>	rather than	<u>Simple</u>
eventuate		happen
orientate		orient
terminate		end
capability		ability
prior to		before
opt for		choose

But most were foolishly (or ignorantly?)

<u>Repetitious</u>	instead of	<u>Brief</u>
together with		with
basic principle		principle
foot pedal		pedal
wall mural		mural
water hydrant		hydrant
advance warning		warning
prior (or advance)		notice
notice		
past history		history
conversational		dialog (or
dialog		conversation)
joint discussion		discussion
past experience		experience
backward-looking		nostalgia
nostalgia (or		
nostalgia for		
the past)		
entertainment (or		entertainment (or
environmental)		environment)
situation		
put things together		juxtapose
in juxtaposition		

Users of English should cooperate on a joint basis in all medias and collaborate together with regard to the awkward expression situation obtaining currently at this point in time. (You may find eight bloopers in the preceding sentence--your Editor is in a pressure situation due to the fact that her time cushion is out of joint.)

Organizational Communication

Writing on "The Application of Engineering to the Design of Bureaucratic Structures" in the Electron Devices Society Newsletter (June 1978), Frank S. Barnes discusses three types of communication channel:

"Face-to-face communication is probably our broadest-band communication channel because we get both audio and visual signals about the state of the person attempting to communicate with us. It is also to be noted that the more familiar one is with a person, the more efficient the communication channel becomes. Thus, a glance, a single word, or a gesture from someone with whom we have worked closely over a long period of time can convey a great deal of useful information. Additionally, the high-speed feedback processes associated with the interaction of two people can provide for rapid error correction.

"The telephone is probably the next most efficient of our common communication vehicles, as it also provides a relatively wide band of audio information plus rapid feedback of points that may be in dispute or misunderstood.

"Written communications have a slightly different type of error characteristic. The transmitted information, once it leaves the sender, becomes nearly time independent, with only a very slow feedback channel of additional correspondence. For the most part, errors arise in the interpretation of the information supplied, and the probability of an error in interpretation is in some sense measured by the geographical or cultural distance between the sender and receiver."

Barnes is interested in planning for trouble-free exchange of information. The design of communication systems inside an organization, he thinks, should have feedback channels and provide for detecting and cor-

recting errors. "We need efficient algorithms for spotting open and short circuits in organizational communication systems and ways of limiting the number of circuits which are blown by a single incompetent element."

The classic example of a device for obtaining bureaucratic coordination and feedback is the committee, Barnes points out, but he calls parallel communication by this method "an infinite sink for time." His laws of committee operation may be summarized as follows:

"Count the number of people who are to be appointed to the committee, multiply the number by \$25 per hour, and ask if you would pay for them out of your own pocket." Members of the committee should think along similar lines when deciding if what they have to say on each issue is necessary.

Use a large committee to review, edit, and approve, but never to write, legislation.

"Use a committee to disperse responsibility for an unpopular or controversial policy decision; no one has ever been fired for serving on a committee that made a bad decision." Don't give a committee day-to-day administrative responsibilities.

"The chairman of a committee should use the first few minutes of every meeting to review what is to be accomplished during the meeting, what he believes the important issues are, and when the meeting will adjourn."

Any two members, with a minimum of skill, can disrupt a meeting and prevent a committee from accomplishing anything--they need ask an only slightly irrelevant question with broad policy implications.

Remember the Reader

Jim Lufkin, member of PC's AdCom, sends this English version of promotional material published by ACT, the French Association des Communicateurs Techniques:

These incidents could have been avoided:

* A DC 10 disintegrated in flight because the door of the baggage compartment was not securely locked--the attendant had not understood the directions for closing and fastening.

* A whole city was blacked out because operating manuals available at the central generating station were inadequate.

* The introduction of a miracle drug was delayed ten years because the report written by its discoverer was not understandable.

* A new product did not sell because customers were not aware of its technical advantages.

* Certain labor-saving devices were not used to full advantage because house-keepers did not understand the operating instructions.

* A new machine was less rugged in service than expected because the maintenance manuals were inadequate.

* An important contract was lost because the decision-maker did not understand certain material presented in the sales literature.

* A machine-operator was killed: he had not been able to interpret vague safety instructions.

All of these things have happened and similar things will happen in the future. Only clear technical information can prevent them.

What is the cost?

Everyone accepts the idea that it costs money to publish books and journals. Recently, however, some people have considered the cost of finding the right book. More rarely, others have considered the cost of the time spent in preparing the book. But what is the cost of misunderstanding the text?

Users of technical information have begun to recognize that the author, not the reader, is responsible when written words are not comprehended.

What can be done?

In the United States, about 50,000 persons work as technical communicators, and several universities offer curricula, even doctoral programs, in technical communication.

In France, where there is no special curriculum, engineers become professional technical communicators and so do journalists who have had wide scientific and technical experience. Even some students of literature have been recruited.

The background of technical communicators should be comprehensive enough to permit them to ask pertinent questions of experts, and they should be able to present the answers in a form immediately understandable by a well-defined public.

The time spent by one technical writer is time saved by many technical and non-technical readers.



It's easy to find reasons why other folks should be patient.



Plan Ahead

Ken Bramham, PC's Area Representative for France and Holland, sends the following story from Paris but says he can't vouch for the truth of it:

A certain French manufacturer building a new airliner forgot to budget for publications, so when a client asked for a repair manual, meetings were held to "solve the problem." Result: a Frenchman with little knowledge of English was declared a technical writer and given a Lockheed repair manual as a model. He went to work with scissors and typists and soon produced a manual that was promptly printed and put in the mail. Shortly thereafter a note arrived from the client commenting on the fact that, although the airplane they had received had only two engines, the repair manual showed a third engine with a Lockheed part number.

Early Engineering

Engineering education, and therefore engineering as a profession, may be said to have begun formally in the United States on June 9, 1778, while the Continental Army was camped at Valley Forge, Pennsylvania.

On this day, 200 years ago, General George Washington issued a call for a school and students of engineering. His order read as follows:

Three Captains and nine Lieutants are wanted to officer a Company of Sappers: As this Corps will be a school of Engineering it opens a Prospect to such Gentlemen as enter it and will pursue the necessary studies with diligence, of becoming Engineers and rising to the Important Employment attached to that Profession, as the direction of fortified Places, and etc.

The Qualifications required of the Candidates are that they be Natives and have a knowledge of the Mathematicks and drawing or at least be disposed to apply themselves to those studies. They will give in their Names to Head-Quarters.

Can any PC-er tell us about the beginning of engineering education and professionalism in any other country?

Humongous

A new word seems to be entering American English --humongous. Probably a blend of huge + monstrous, it has been used since the early 1950's to indicate immense size and unnatural or overwhelming aspect.

Spelling and pronunciation sometimes make the word humungous, which suggests a large and threatening organic horror--huge and fungus; but this form is less common. Humongous seems to be preferred, with the meaning of "exaggerated out of all proportion to what is expected, usual, or desirable."

Both forms are known and used in speech throughout the U.S. Humongous has appeared occasionally in editorials and free-lance articles but cannot be found in the Oxford English Dictionary, Roget's Thesaurus, Partridge's Dictionary of Slang, or even Webster's "Third International." It may, however, be added when Webster's "Fourth" is printed--G. and C. Merriam, publisher of the Merriam - Webster dictionaries, has a file on it. According to this record, the word was first "recognized" in 1967, as college slang, and first printed in 1973, in the student newspaper of the University of Denver.

Though the origin of humongous is unknown and shadowy, its meaning is clear, vivid, and forceful--"enormous, extravagant, and awesome." It has been the subject of at least two recent articles, one by Robert Kanigel in The (Baltimore) Sun, August 9, 1978; the other by B. B. Olive and C. Revard in Verbatim, May 1978.

Life in the Communication Factory by Chet Sall

The following paragraphs of personal reminiscence are printed here through the courtesy of RCA Engineer, which published them in January, 1978 with this note:

Chet Sall is retiring after thirty-five years with RCA. Most of that time he's been helping engineers get their names in print. He's done it well, but he's had to wear several hats to do it--planner, psychologist, editor, ghost-writer, mediator, wet nurse, administrator, whipping boy, and confidant. This experience has given Chet some unique insights on professional technical communication that we've asked him to share in this guest editorial.

All PC-ers may not recognize the names of all the RCA-ers Chet mentions, but he has written an inspiring article full of good sense. (A TPA is a Technical Publications Administrator.)

It's been a long summer. Thirty-five years ago, on June 18, 1943, when I was still in the school-teaching business, RCA gave me a July-August summer job at the Industry Service Laboratory in New York. Now that long summer is about to end, ironically in cold January rather than in August. Makes me want to sneak off to Florida for a couple of months.

Anyway, my thirty-five year stint with RCA in the technical communication field has given me many a window to look in through and out of--and the scenes in either direction have been interesting, stimulating, and, on occasion, fascinating. Admittedly, most of the windows through which I have viewed the emanations of the paper age have been in the electronics research sector, but in traveling around a bit I've also peered into quite a few product-division windows here and there. Now, as I come to the end of the line, let me share with you some of the sights and insights stemming from my journey.

Have you ever seen a young father gazing in rapture at his first offspring through the window of the newborn-baby nursery? His look of pride and joy is akin to the expression I've often observed on a young engineer's face as he views his first technical article in print. It is a sight to behold, and it runs counter to the moth-eaten notion that scientists and engineers dislike to write or speak. It has been my experience that given the proper vehicle or forum from which to address their peers in the technical world, engineers are usually cooperative and willing to participate. Naturally, oral or written expression comes easier to some than to others, but with a bit of coaxing, encouragement, and incentive, even the shy engineer will try his hand at preparing an article for a journal or a conference (particularly if the conference is in Miami, San Francisco, or Europe). Once he's fallen in love with that first baby, he's ready to repeat the performance, and a seasoned writer is often in the making. One of my great joys has been to witness this metamorphosis from neophyte to pro by many members of our staff, often getting their start in the pages of the *RCA Engineer*. This same experience must also have been shared by my colleague TPAs and Editorial Representatives throughout RCA.

In similar vein, I have also seen the more prolific writer-engineers climb the ladder of success to sometimes spectacular heights. How about these RCA engineers as examples: Zworykin, Engstrom, Brown, Donahue, Hillier, Herold, Williams, Webster, Schade, Goldsmith, Luther, Rose, Rajchman, Sonnenfeldt, Olson, Vollmer, Vonderschmitt, Heilmeier, Powers, and Tietjen! These men not only had something to say, but more important, they said it. And from their saying it, they, and the world, benefited beyond measure.

In the earlier years of my time with RCA, the exciting subjects were transistors, television from black-and-white to full color, 33- and 45-rpm phonograph records, electronic computers, and radar. Now that those areas have become an accepted part of the social scene, new and even more exciting items are emerging--lasers, microprocessors, integrated circuits, fiber optics, CCDs, satellite communications, home video-tape recording, automotive electronics, medical electronics--and still more. What splendid opportunities lie ahead for aspiring engineer authors!

Luckily, this business of technical communications is a two-way deal, looking in and looking out. On looking in, we observe the pulse of our own operations; on looking out, we see what others are doing. There we become part of the IEEE, the AIP, the ACS, the ECS, and the several other science-oriented organizations that look to us for support even as we share in their offerings. By such association, whether through their literature or via the personal relationships that stem from membership and participation, the mutual rewards are great. From my window I've seen much proof of this.

My personal reward over the past third of a century has been the pleasure of my association with so many of RCA's dedicated scientists and engineers, and as TPA, of having had some small part in helping to get their fruits of tongue and pen distributed to a waiting society. Corollary to this activity has been a most rewarding association with the professional communications people of RCA who, for the past 20-odd years, have met regularly six or more times each year to review and plan, and often to meditate on, the outpourings that will bring yet new scientific information to man, and possible fame to the authors.

Yes, indeed, it's been a long, great summer!

English vs. American

Robert Winton, member of PC's UK Chapter and Secretary-Treasurer of IEEE's Region 8, sends an article by John Ezard from *The Guardian* (June 28, 1978). The horrendous title is "Worrying ongoing language rift situation." The sober message concerns an alarm from Robert Burchfield, chief editor of the Oxford English Dictionary.

Burchfield, at a press conference in Chicago, pointed out that British English and American English have been drifting apart since the late eighteenth century--the time of the thirteen colonies' political and economic rebellion. The two languages are now becoming so dissimilar so rapidly, he thinks, that within 200 years people of the two nations will no longer be able to understand each other, and the term "English-speaking" will have to be qualified.

Differences occur in every-day usage and spelling. For example, presently means soon in the US but at once in the UK. Lift (UK) and elevator (US) refer to the same apparatus. Along New York streets are curbs and sidewalks--along London streets, kerbs and pavement. New Yorkers write checks for theater tickers, Londoners write cheques for theatre tickets. Motor cars have fenders and bonnets in the UK, automobiles have bumpers and hoods in the US. British lorries deliver biscuits, American trucks deliver cookies--same vehicle, same foodstuff.

The false dignity of superfluous generic nouns may be another point of separation. An American [but no PC-er, we hope] might write

The two forms of English are in a state of dissimilarity which should lead to a condition of unintelligibility, given another 200 years,

rather than

The two forms of English are now so dissimilar that they will be mutually unintelligible within 200 years.

Perhaps this drifting apart can be slowed by travel and a new kind of bi-lingualism--the conscious effort of people in both countries, UK and US, to learn "the other kind of English" as an easily assimilated second language. Why not? Getting better acquainted with the fine points of another system of English vocabulary, pronunciation, inflection, and spelling might help each group better understand and value its own system.

Computers for Humanists

Some engineers and technologists may not be aware that the computer is being used for the arts as well as for the sciences. The August 1978 issue of Computer, monthly magazine of IEEE's Computer Society, features four invited articles on "Computers and the Humanities," pointing out, however, that this small number of papers does not adequately represent the size of this interdisciplinary field, the amount of activity in it, or the enthusiasm and accomplishments of devoted workers.

The main journal in the field is Computers and the Humanities, published at Queens College of the City University of New York. The Association for Literary and Linguistic Computing (England) publishes a Bulletin, and the Association for Computing Machinery's Special Interest Group on Language Analysis and Studies in the Humanities publishes a Newsletter. Other related special-interest groups exist also, and those who work in this field have held national and international conferences since the 1950's.

The four papers in the August Computer discuss particular types of investigation as follows:

"Computation in History--how interactive computing and file management systems help the historian function as collector, critic, and interpreter of documents

"The Computer in Choreography"--how ballet is being influenced by use of the computer to provide visualizations of body movement

"Computer-aided Study of Literary Language"--how work in artificial intelligence and the speed and flexibility of electronic storage help in solving linguistic problems

"Computer Music Composition"--how an interactive computer system enables a composer to design, modify, and synthesize polyphonic musical expression

Joseph Henry

The Newsletter (September 1978) of the Aerospace and Electronic Systems Society recalls for us this bit of engineering history:

The metric unit for electrical inductance was named in honor of Joseph Henry (1797-1878), an American physicist whose research with electromagnets led to the discovery of the principles of electrical induction. Henry was apprenticed at the age of 13 to a

Solving Problems

E. F. Schumacher, advocate of the "new economics," died in September, 1977. He was President of Britain's oldest organic farming society, a student of Gandhian non-violence, and author of the book Small is Beautiful - Economics as if People Mattered (1973), which questions Western economic theory, especially in relation to its intensive use of energy.

Several months before his death, Schumacher spoke at the University of Kansas. His address was recorded, edited, published by the Missouri Solar Energy Society, and later (June 1978) reprinted in a shortened version in the Newsletter of IEEE's Engineering in Medicine and Biology Society. The following is a summary of the Newsletter article, "Small is Still Beautiful":

Schumacher opposes big technology, big corporations, big cities, and long-distance transport of products. He advocates a search for simple solutions to economic problems, the use of small-scale equipment, the return of industrial production to small towns and villages, and the development of small, non-violent, capital-cheap technology.

How can such a neo-radical reform be brought about? How can even its best features be adopted? By an approach which uses together the four main forces of society, Schumacher says, in the "ABCD Combination."

A stands for Administrators, the people in government, who have organizational intelligence. B stands for Businessmen, who have the intelligence of viability--of how to make enterprises pay profits.

C stands for Communicators, people of academia and laboratories, whose concern is with words and ideas and who have the intelligence of problem-solving. D stands for Democratic Forces, the people of such groups as labor unions and organizations of citizens, women, volunteers, etc.

And how will this ABCD Combination work? Like this, says Schumacher:

From each of these four groups, one wants to quite consciously draw people, and then compose working groups where these four forces are represented. And then you can really go anywhere in society with any problem, because somebody will say, "Ah, yes, I know the university or the corporation most suitable for dealing with this," or, "I know with whom to talk in government," or, "I can mobilize substantial 'troops' to get the thing done." With this formula, you can then really make things happen.

It would seem that an ABCD Working Group, if well-chosen, well-intentioned, and well-managed, might be successful in solving almost any problem. But see the article about committees elsewhere in this Newsletter.

watchmaker and silversmith but continued in school until he was 15. Although he did not like to study, he enjoyed debating and dramatics so much that he acted, wrote two plays, and produced ingenious stage effects.

In 1846 Henry became the first director of the Smithsonian Institution in Washington, DC, where he established the National Museum and the U.S. Weather Bureau.

Talking Computer

A blind Boston psychologist and mathematician, Peter Duran, has developed a computer that talks. It is small and portable--about the size of a rather wide tape recorder--and can be hooked up to almost any kind of office equipment such as a typewriter.

When it is attached to a typewriter the computer pronounces each letter as the typewriter keys are struck. For teaching at the elementary and pre-elementary levels, the computer can be programmed to pronounce words after the student types them in. Thus, even very young blind children are able to learn how to write and how to spell.

It is not simply a teaching tool, however; it can also be used in business and industrial applications to help blind workers use typewriters and other office equipment with more skill, accuracy, and confidence.

The computer was developed by Mr. Duran's firm, ARTS Associates, over the past five years. By using the newer and smaller computers currently available the price has been brought down to \$1,000.

--From the Baltimore Sun via Communication Notes (July 1978)

Translation Services

The Carnegie-Mellon University in Pittsburgh has a Translation and English Language Center which provides training in technical translation, offers translation services to the university and to industry, and prepares international students to enter U.S. universities.

The Center offers a B.S. degree in technical translation and technical writing, and also a graduate-level certificate in technical translation. International students may obtain a pre-B.S. translation certificate or enroll in a college preparatory or intensive English language program.

For more information, write to Dr. C. C. Greenfield, Translation and English Language Center, Carnegie-Mellon University, Schenley Park, Pittsburgh, PA, 15213.

--From Communication Notes, December 1977

Survey of PhD's

The National Research Council has released statistics derived from a sample survey of 79,400 (out of a total 375,000) PhD scientists, engineers, and humanists in the US in 1977. Those questioned received their degrees between January 1934 and July 1976.

Of the total scientists-engineer population, 10% were women and 6% belonged to racial minorities; for the humanities population, the corresponding figures were 22% and 3%.

Responses showed that science/engineering PhDs were employed as follows: about 24% in life sciences, 23% in physical sciences, 15% in engineering, 22% in social sciences and psychology, 7% in mathematics and computer sciences, 8% in other fields. Of the humani-

ties PhDs, about 32% worked in language and literature, 32% in history and social sciences, 36% in philosophy, music, and other fields. About 93% of the scientists and engineers were full-time employees, about 91% of the humanists.

Educational institutions employed 56% of the working doctoral scientists and engineers, 88% of the humanists. Only about one-third of the former but two-thirds of the latter were teachers.

The median annual salary for full-time scientists and engineers was \$25,600; men received \$26,000 and women \$20,700.

In the humanities, the median annual salary was \$21,000--\$22,100 for men and \$18,300 for women.

Full-time, full-year median salaries were higher for all technical PhDs than for any humanists--above \$28,000 for engineers and medical scientists, close to \$24,000 for others. The lower salaries of the humanists ranged from nearly \$22,000 in the fields of speech and history to about \$19,000 in classics.

J I R

Gems from a recent issue (Vol. 24/1, 1978) of the Journal of Irreproducible Results, official organ of the Society for Basic Irreproducible Research:

1. G. A. Zack (University of New Mexico), in "To Throughput or Not to Thruput," expresses a preference for the form thruput as being shorter and "more up-to-date" than throughput. He defines thruput as "the midpoint between input and output, give or take a little," remarking that, "There is little use for thruput if we are unsure of what we would like for output, or if there is little or no input."

Zack notes that thruput may exist not only as a simple noun but also as an "advanced noun"--

Does it really have thruputability?
Thruputification is a science in itself.
 I've had enough of this thruputting.

Topics and information may of course be thru-
putable, and one may, thruputably speaking, insist
that higher quality input will result in more depen-
dable output.

Zack shows a line of "heiroglyphics" in which, he says, the verb to thruput refers to pyramid-building; he mentions Druid thruputters; and he gives three obsolete medieval spellings--schroughput, trueput, throoput.

Perhaps his most significant contribution is the paragraph on gender. When all the members of a committee are men, Zack says, they may be called de (dee) thruputtees. When all are women, they may be called da (dah) thruputtas. A mixed membership will consist of dæ (dye) thruputtæes, and a mixed-up committee will be der &%\$#@.

2. "House Plants and How to Stop Them," by Calvin Tomkins (reprinted from the New York Botanical Garden's Garden magazine) discusses "the pathological spread of the house plant industry...the most serious case of ecological backlash yet uncovered."

Tomkins says that he has asked for Congressional action to meet the foliage threat, but he suggests interim measures that concerned citizens may take as individuals. For example, surreptitiously pinch

back new growth; apply cigar ash, alcoholic beverages, or dichlorobenzene (labelled 6-12 at drugstores and supermarkets--it attracts aphids, mealybugs, mites, scale, thrips, etc., in large numbers).

More subtle is the indirect approach, to "sow small seeds of discontent." In communications of this type, one might, for example, hint that music of the owner's favorite composer is "bad" for plants, or imply that a friend has "invested far too heavily in yesterday's plants, thus missing out on Peaflor jimmiana and other trendy new species."

Even more upsetting to a plant owner would be the following: "Pinch up a little soil from around his most luxuriant Bostonia strangulus, sniff it, hold it close to your ear while rubbing it between thumb and forefinger, wash your hands, and leave hurriedly."

3. E. N. Gilbert, (Whippany, NJ) describes an experiment aimed at "Finding the Lost Chord." His method was to play successive chords systematically, hoping to recognize in one of them the harmony described a century ago by Miss Adelaide Procter. In her poem, "A Lost Chord," Miss Procter wrote that, late one afternoon, her fingers, wandering idly over the keys of an organ, "struck one chord of music like the sound of a great Amen." When Sir Arthur Sullivan set the poem to music in 1877, "The Lost Chord" became immensely popular in England and America.

In Gilbert's experiment, a panel of young girls, "weary and ill at ease," as Miss Procter described herself, judged 352 "inequivalent chords" of from 0 to 12 notes each, in close harmony (i.e., with all notes in a single octave). The chords were played "at twilight" on a specially designed organ.

Surprisingly, the highest-scoring chord was one with no notes at all--perfect silence. But even this was thought not to have all the characteristics mentioned by Miss Procter.

Among other attributes, silence "linked all perplexed meanings into one perfect peace" and gave a feeling of "infinite calm," but it did not "tremble away" and it did not "sound like a great Amen." The experimenters were forced to agree with Miss Procter--the Lost Chord may be "only in Heaven."

4. The Organization of Undetected Consumer Hazards advises that about 20 ml (.67 oz) of gasoline are spilled each time an automobile gas tank is filled to the top. Statisticians for the society claim that more than 270 million gallons of gas per year end up on the ground or on the sides of automobiles, at a total cost of some \$189,000,000. Next time, they suggest, don't say, "Fill 'er up!"

5. W. C. Miller (Detroit, MI) thinks that increased enthusiasm and support for education can be obtained by adopting the sexual symbolism and imagistic language that gained such overwhelming endorsement for the U.S. Space Program. All we need to do, he says, is to build tall, pointed schools and call them learning vehicles.

Study cadets will ride in transport pads to these learning vehicles. They will blast off from the launch pad (kindergarten) into Stages I, II, III, etc. In special modules, they will study knowledge printouts specified by the flight plan. After occasional debriefing sessions, they will take home status feedbacks prepared by their instructors. Those who have a successful splash-down will be congratulated by the Captain (principal) in his Command Module and

receive citations from the General (Superintendent of Schools) and Mission Control (Board of Education).

6. Dinesh Mohan (University of Michigan) establishes an equation which may be used to define a locus for a moustache profile, optimized for lip size and for the flavor and radius of curvature of ice cream in a cone. Barbers and individuals can use the equation to make templates that will prevent the interaction of moustache and ice cream.

7. A letter to the editor from misguided N. Ronis, M.D. deserves to be quoted at length:

"It is clear to me that the editors of JIR cant spel. How else would one account for the appearance of so many glaring errors throughout most issues?....

"Space does not permit a complete listing of all the errors I see, but a few will illustrate my point. How did 'ultimate' slip in, when anyone knows its 'ultimate'? And 'supervisor' instead of the correct 'superviser'? Not omitting the erroneous double 'l' in 'installed.'

"And what of some of the more technical words? Why must we readers be assaulted with 'extensions' rather than 'extentions'? How do you account for 'resources' instead of 'resourses'?

"We can't even get to the end of the article to find relief. Instead, we have to put up with 'relief.' I wish your editorial staff, and especially the proofreaders, would get their spelling straightened out. I know George Bernard Shaw dyed for our sins, so let's make sure he didn't dye in vein.

"P.S. It's at least reassuring to note that you properly have an Editor for Preventative Medicine rather than using the less acceptable 'preventive.'"

More Workers, Lower Taxes

In "Algorithm for Domestic Tranquility" (Technology and Society, March 1978), John S. Jackson of the College of Engineering, University of Kentucky, derives a mathematical relationship between three economic variables--

T = Time (length of workweek in hours)

U = Unemployment (fraction of work-eligible population)

R = Rate of taxation (federal tax level expressed as fraction of Gross National Product).

This algorithm is called the access equation:

$$T = \frac{20}{1-U-1.3R}$$

Jackson points out two features of an industrial society: the high average level of affluence and the large number of unemployed, dependent citizens. Giving the latter "easy access to the economic mainstream," he maintains, can reduce crime and promote domestic tranquility.

With the access equation, three bases of political economy can be explored by considering each of the variables in turn to be fixed at an appropriate level.

For example, if length of workweek is held constant at 40 hours, it appears that unemployment can be

reduced only by increasing taxes. On the other hand, holding unemployment at 8%, the tax rate will decline if the workweek is shortened; and similarly, holding the tax rate at 32%, unemployment will decline if the workweek is shortened.

Jackson is thus suggesting that if employers would hire and schedule for a less-than-forty-hour workweek, more people could have jobs and crime would decrease along with tax rates.

Sound - Alikes

Fill in the blanks with words that rhyme or almost rhyme (number of missing letters in parentheses):

1. (4) is the price of this (4) hour meter?
2. A mega (4) gives a (4) like a lightning (4).
3. (5) sections are for mathematicians; (5) barriers are for aeronautical engineers.
4. The (3) (unit of electrical resistance) is at (4) in (4).
5. The wind blew away Aunt (4)'s TV (7).
6. Don't pour water from a (5) flask into a hi-fi (7) or an electric service (5).
7. Designers must consider many (7) when planning nuclear (8).
8. Pierre's (9) (grandfather) couldn't define an (6) (unit of electric current).
9. A (9) is a curve; a (9) is an exaggeration.
10. The (5) didn't help us move the car one (5) (unit of length).
11. The (6) cracker didn't weigh a (4).
12. Don't have (9) (a fit of screaming) if your transformers have (10) (residual magnetism).

Mr. Nobody

The following is adapted from "Open Letter to the Editor" which appeared in the June/July, 1978 issue of the Blue Pencil, Newsletter of the Boston Chapter, Society for Technical Communication:

I'm a member of STC--the Boston Chapter. Have been for seven or eight years now! See, it's right here on my resumé. Am I active? Well, I pay my dues every year. Read the Blue Pencil sometimes, too.

Attend meetings? Oh, let's see. Last year I went to that demonstration over at Kodak. They had a free dinner, you know.

Any others? Well, no, they're really not of any interest to me, and they're never on a convenient night.

What would I like to see done in terms of meetings? Oh, I don't know, just something more interesting.

Plan one? Are you serious? Where would I find the time to do that? And what subject would I choose?

Who's the Chairman this year? Who knows! They keep on putting up the same old names. No contest even.

Do I vote? Why bother, when it's not competitive!

Ever run for office? Heck no! Wouldn't have a prayer of a chance against them. Nominating committee called me last year--said they'd like me to run for Council. I said, "No way!" I'm not going to run against them. Who'd vote for me? And if I lost, they'd probably expect me to help out or even chair some committee.

Who are they? Oh, you know. Same people who've been running the Chapter for years.

Why do I belong? Well--it does look good on my resumé.

Who, Sir? Me, Sir?
Yes, Sir. You, Sir.
No, Sir! Not I, Sir!
Who then, Sir?

Available through PC

Guide for Better Technical Presentations, by Robert M. Woelfle, may be obtained from

IEEE Press
345 E. 47th Street
New York, NY 10017

Prices are as follows: Paperbound, \$7.95, to IEEE members only; clothbound, \$11.95 to IEEE members, \$15.95 to others. Send check with order.

This is an excellent collection of reprinted articles about how to present technical material to an audience--planning for effectiveness, perfecting delivery, using visual aids, etc.

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Report Construction, by Mary Fran Buehler, may be obtained from

IEEE--PC
6411 Chillum Place, N.W.
Washington, D.C. 20012

Prices are as follows: 1 to 10 copies, \$2.00 each; 11 to 25 copies, \$1.90 each; 26 or more, \$1.75 each. Send check with order.

This is a clear, concise, practical guide--not on how to write, but on how to "build" a structure for conveying technical information.

* * * * *

"Technically--Write!" is a Home-Study Course offered by IEEE's Educational Activities Board and the Professional Communication Society. It features personal interaction. Mail completed assignments to your individual instructor, who will appraise the work and return practical comments. Specific attention and easy-paced teaching will help you advance from a par-

tial grasp to confident control of writing techniques.

Eleven "packages" cover such topics as occurrence and field-trip reports, letter writing, job descriptions, resumés, and technical articles. You will learn how to recognize communications that may be ignored or misinterpreted, and you will learn how to write messages that will get the attention and action you desire. The course can be completed in about 3-1/2 months.

IEEE members may enroll for \$80 (give membership number), non-IEEE members, for \$105. Include \$2 for handling and delivery. Send inquiry or check to V. J. Giardina, IEEE Continuing Education, 445 Hoes Lane, Piscataway, NJ, 08854.

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"Communication and Report Writing"

This workshop is given to groups of 16 to 25 persons. It can be scheduled by a company or other organization for two consecutive days (four 3-1/2-hour sessions), two single days two or three weeks apart, or four half-days one week apart.

Participants work under instruction on communication problems frequently encountered by scientists, engineers, technicians, and their managers. Pre-workshop reading and writing are assigned in addition to the exercises and evaluations which are part of the course.

A copy of the prescribed text, Technically--Write!, is included in the cost of tuition, which is \$125 for IEEE members and \$160 for non-members. Major topics considered are as follows:

First Day

Sharpening Writing Style

- Differentiating between "tell" and "sell"
- Identifying the main message
- Placing the message where it will be seen
- Choosing the right words
- Cutting out "chaff"
- Knowing when to stop

Organizing the Writing Task

- Identifying the reader and his or her needs
- Homing in on the facts
- Building an outline
- Writing creatively
- Reading objectively
- Revising one's own words

Writing Technical and Business Correspondence

- Clarity
- Brevity
- Sincerity
- Format

Writing Short Informal Reports

- Occurrence reports
- Field trip and progress reports
- Inspection reports

Second Day

Taking and Writing Minutes of Meetings

Writing Long Informal Reports

- Investigation and evaluation reports
- Feasibility studies and proposals

Writing Formal Reports

- Six basic parts
- Seven subsidiary parts
- Standard format
- Alternative format
- Discussion: chronological, subject, and concept arrangements

Writing Other Technical Documents*

- Requests and suggestions
- Procedures and instructions
- Job descriptions
- Performance appraisals
- Speakers' notes (for a technical briefing)

Reading and Revising (Editing)*

Handling the Mechanics of Technical Writing*

- Headings and paragraph numbering
- Abbreviations and numbers in narrative
- Setting up the printing area
- Inserting illustrations and diagrams
- Working with typists

* Only some of these topics are covered, depending on participants' needs and the time available.

To schedule a workshop for your company, get the names of 20 prospective participants and write to Ron Blicq, Box 181, Station C, Winnipeg, Manitoba, Canada, R3M 3S7.

Electricity in America

Turning Points in American Electrical History--ed. James E. Brittain. New York: IEEE Press, 1977, about 400 pp., index; clothbound, \$19.45 to IEEE members, \$25.95 to non-members; paperbound, \$12.95, available only to IEEE members and for educational purposes.

Turning Points contains 64 complete and partial reprints of original journal articles, with historical comments; bibliographic notes, and brief author biographies by the editor. The volume is thus a history told by those who made the history. Included are state-of-the-art summaries, discussions of engineering economics, considerations of the social and professional aspects of engineering, and historical surveys, written at various stages of the development of electricity and electronics in the United States. The years covered stretch from the 1740's to 1976.

Although the first reprint in Turning Points describes the work of an American, it was written by the 18th-century British authority, William Watson. It is "An Account of Mr. Benjamin Franklin's Treatise, lately published, intituled Experiments and Observations on Electricity, made at Philadelphia in America."

Watson read his review of Franklin's book to the Royal Society on June 6, 1751. "This ingenious author," he said, "from a great variety of curious and well-adapted experiments, is of opinion that the electrical matter consists of particles extremely subtle, since it can permeate...even the densest metals."

Furthermore, Watson continues,

if anyone should doubt whether the electrical matter passes through the substance of bodies, or only over and along their surfaces, a shock

from an electrified large glass jar, taken through his own body, will probably convince him.

After Watson on Franklin, in Turning Points, comes J. F. Dana on the electric battery. Dana, an early 19th-century physician and professor of physics, introduced both Samuel Morse and Joseph Henry to electromagnetism. In 1819, he designed and described a "powerful, cheap, and easily constructed" electrical battery --not a voltaic cell but a set of glass plates alternating with sheets of tinfoil to replace the "battery" of foil-lined Leyden jars then used to accumulate and store electric charges.

When a person is always right, there is something wrong.

A man is as little as the things that annoy him.

Politeness: good nature regulated by good sense.

We are all manufacturers of some sort--making good, making trouble, or making excuses.

Famous Names

The entries below were selected from "The Robert French Encyclopaedia," "monumental" entry in a contest sponsored by the Information Theory Group Newsletter (June 1978). Contestant R. H. French of District Heights, MD, may know personally all of these famous people, and most PC-ers probably know them also.

Al-Fahbet--An Arabian of old, who made a name for himself by always spelling things out.

Al G. O'Rhythm--An Irishman with quite a knack for finding many new ways of doing things.

A. Rohr--This unfortunate chap always was making mistakes.

Aunt Enna--The family outcast, she often was found sitting on the roof.

Cal Q. Later--A whiz-kid very adept at figuring.

Chris Tall--Clearly, he was a precise and stable fellow.

C. Quential--A man with a one-track mind, he could never do more than one thing at a time.

D. Laye--Rather infamous for always being late for everything.

D. Lee Shunn--This typist had a habit of leaving out letters every now and then.

Lynn E. Ahr--She always walked the straight and narrow.

Mem O'Rhee--This Irish lad had unusual retention powers.

Perry O'Dick--The moods of this Irishman were quite cyclic.

P. Robbie Bilty--This fellow was never quite sure of himself.

Q. Ing--This fellow set the record for standing in line.

Reed N. Dancy--As a stockroom clerk he was a failure, because he kept putting extras into every order he filled.

Rhee Seeever--This knowledge-hungry student was always on the getting end of every conversation.

Rhee Sister--This obstinate fellow never wanted to go along with anything.

Si Klik--this guy was always running around in circles.

Simm Boll--An excellent pantomimist, he could represent almost anything.

Yn terLaast--This Dutchman always was getting himself intertwined in all sorts of interesting affairs.

Another information theorist, J. H. Sangster of Short Hills, NJ, submitted in the same contest the name of Anne Tropee, noted for poor housekeeping--her home is always in great disorder.

Awnsers to Sound-Alikes

1. what, watt	1. factors, reactors
2. volt, jolt, bolt	2. grandpere, ampere
3. conic, sonic	3. hyperbola, hyperbole
4. ohm, home, Rome	4. winch, inch
5. Anna's, antenna	5. Graham, gram
6. litre, tweeter, meter	6. hysterics, hysterisis