

PCS Participates in Soviet Technical Conference: “Information Centers and Technical Libraries: New Problems”

By Ron Blicq

(Four AdCom members attended a Soviet Technical Conference in the Soviet Union in September. These are the observations of Ron Blicq. See related article by Debby Flaberty Kizer on page 6.)

On September 15–16, overnight express train No. 34 from Moscow to Tallinn, Estonia, carried four members of PCS’s Administrative Committee on the first stage of a 12-day visit to the U.S.S.R. Their time was to be divided roughly equally between a technical communication conference in Estonia and visits to technical institutes in Moscow.

As the train drew to a halt in Tallinn station early on a cool, sunny Sunday morning, the four PCS representatives in car 15 had no idea that they were about to participate in a heart-warming exercise in east-west communication.

The Invitation

The invitation came as a July 20 telex addressed to PCS President Dr. Rudy Joenk, in which U.S.S.R. Academician Dr. Yuri Gulyaev, President of the A. S. Popov Society in Moscow, wrote (in part):

According to the IEEE–Popov Society agreement for technical exchange and cooperation, I have the honor by the suggestion of Dr. Henrich Lantsberg, chairman of the Professional Communication Section of the Popov Society, to invite you and three of your colleagues to participate in the conference and workshop on the problems of new information technology mainly discussing the problems of application of personal computers in information systems.

The conference and workshop will take place this September 17–21 near Tallinn (Estonia) with participation of Soviet and foreign specialists.

During your visit we shall organize meetings with prominent Soviet scientists working in the field of professional communication and visits to some all-Union information centers.

In a second telex, responding to an enquiry from Rudy Joenk for more information, Dr. Henrich Lantsberg added:

It is very much desirable that you and your colleagues present papers on the organization and the activity of the IEEE Professional Communication Society and the activity of the field of professional communication in the U.S.A., and the organization of professional communication

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FROM THE EDITOR

by Deborah
Flaherty Kizer

Well, another year draws almost to a close. For PCS, it has been a year of firsts. For the first time, PCS crossed the Atlantic for its yearly conference—IPCC 90 was held in jolly ol' England. And, from all reports, the conference was a resounding success! It was a truly an international experience, with professional communicators from all over the world sharing their concerns and working communications issues. Hats off to John Moffett, Dr. Byford, and the entire conference team for a job well done! Inside this issue you'll find photographs and a summary report.

For those who were unable to cross the Atlantic, IPCC 91 will be held in Orlando, Florida. Dan Plung has assembled a top-notch team to make sure IPCC 91 meets your needs. You'll find the "Call for Papers" in this issue. Our conferences keep getting better and better!

Another first was our voyage to the U.S.S.R. Talk about international communication at work! It was an experience that we will remember for our lifetimes. The feature articles in this issue summarize our trip. Our thanks to Dr. Lantsberg, Vera Burova, Dr. Svetlana Tolbast and the many wonderful colleagues we met who helped make our trip so memorable, meaningful and enjoyable.

Finally, Willie Hardin of IBM will be taking over the reins as *Newsletter* editor in 1991. I've enjoyed working with all of you the past four years—a *Newsletter* is only as good as its contributors! Thanks to all of you for your support—I know you'll continue to provide it to Willie.

Soviet Conference

(continued from page 1)

(at large communication-oriented companies), and any other topics you consider to be interesting from the professional point of view. The working languages of the conference will be Russian and English.

(Dr. Lantsberg is head of the Scientific Information Department of the Institute of Radio Engineering and Electronics, U.S.S.R. Academy of Sciences, a Member of the Central Board of the A. S. Popov Society, and Chairman of the Society's Group on Professional Communication, which is part of the All-Union Science and Engineering Section for Radio, Electronics and Communication.)

I am going to describe the group's experiences during the first half of their visit to the U.S.S.R., while they were in Estonia, and particularly the conference they participated in and the extraordinary level of interpersonal communication that developed between them and the people they met.

The group comprised Rudy Joenk (IBM Corporation, Thornwood, NY), Nancy Corbin (IBM Corporation, Manassas, VA), Debby Flaherty Kizer (AT&T International, Morristown, NJ), and Ron Blicq (The Roning Group Inc., Winnipeg, Manitoba), and was formed hurriedly because the lead-time was extremely short for obtaining visas and making airline reservations.

Our Arrival

Rudy, Nancy, and I travelled directly to London Heathrow from IPCC 90 at Guildford on September 14, where we were joined by Debby (who had flown in from Newark, NJ, earlier in the day). The following morning we boarded British Airways' flight 872, which touched down at Moscow's Sheremetyevo II International Airport at 5 p.m.

We were also considerably relieved to see Dr. Lantsberg wearing an enormous IEEE lapel badge and a broad smile on the other side of the

barrier. From that moment on we were in good hands, for he and Vera Burova (who joined us on the train and is head of the Department for International Relations in the A. S. Popov Scientific Technical Society for Radio Engineering, Electronics, and Telecommunication) were to accompany us for the remainder of our visit. Both spoke excellent English.

He whisked us in a small van through Moscow's broad, uncrowded, late-Saturday-afternoon streets to Leningrad Railway Station (one of seven in the city), and into three two-bed compartments of the Moscow-Tallinn express.

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In Estonia our host was Dr. Svetlana Tolbast, who is head of Computer Services for the National Library of Estonia. She arranged overnight accommodation in the Hotel Viru (one of the most modern hotels in the Soviet Union), and then accompanied us on a tour of the very old—and very beautiful—city of Tallinn, which is about 55 miles south of Helsinki across the Gulf of Finland, at the eastern end of the Baltic Sea. We were joined by Svetlana's daughter Maria, a charming 15-year-old who was fluent not only in both Russian and Estonian, but also had a very good command of English and so was able to explain much of Tallinn's history to us. (All four of us were captivated by Maria's friendliness and natural "warmth.")

Conference Set-Up

The conference site was at Kabli, a two-hour bus journey south of Tallinn, in a residential holiday complex built by the largest construction enterprise in the Inter-Collective Farm Building Association (known as "KEK") of Estonia, on the east shore of the Baltic Sea some 24 miles south of Parnu.

The conference room was shaped theatre-style, with three tiers of four-person tables arranged in a semi-circle for the audience. A kitchen behind the audience area provided meals, so that tables in the conference room also served as a dining area. The sea was no more than 50 yards beyond the conference room, so we could see the waves breaking gently on the shore behind the speakers. A network of cables had been stretched along the balcony edges that abutted onto the tables, with pairs of headphones for each participant.

The conference was organized jointly by the Estonian Institute for Information and the Estonian Technical Library, and was attended by participants from Estonia, Latvia, Lithuania, Poland, and East Germany, from cities such as Leningrad and Moscow within Russia itself, and by the four representatives from the U.S. and Canada.

Every participant was given a conference folder and program which had been printed in three languages: Russian, Estonian, and English. The folder contained one-page abstracts of each paper, with all but six printed in Russian using the Cyrillic alphabet—which meant that we would be dependent on the simultaneous translation if we were to understand most of the presentations. (Our abstracts were not among them because the conference organizers had not received our combined resumes and abstracts, which had been mailed in late August.)

*Our progress from
"aloneness" to "integration"
proved to be a remarkable experience
in international
communication.*

The conference opened with a welcoming address by Dr. Ustus Agur, conference president and Director of the Estonian Institute for Scientific and Technical Information. He asked visitors from various countries to stand and identify themselves as he introduced them, and then said he would speak in English to underscore the conference's international make-up.

The "Eastern" Papers

The focus of Dr. Agur's speech was that Estonia—indeed, the whole U.S.S.R.—was entering the information age yet was neither prepared nor had the equipment, technology, or drive to make the transition easily or effectively. Many of the papers presented by following speakers echoed his sentiments, and particularly identified problems faced by people who are engaged in providing information services. For example:

- From the late 1960's through to the mid 1980's, in a drive to form

an information base, much irrelevant and unnecessary data was collected, stored, and referenced. Now it is difficult to identify important or specific information within this resource.

- There used to be 60 to 80 ministries within the U.S.S.R., each with its own information department. Many of these ministries are now being combined with other ministries, or even being eliminated, with the result that there are some incompatibilities between the referencing systems and a very real fear that whole information resources may be lost during the transition.

- There is an acute shortage of computer equipment, particularly personal computers, and very little opportunity for buying equipment because virtually no "hard" (i.e. Western) currency is available. And even when funds can be allocated, the disproportionate rate of exchange between the Russian rouble and Western currencies makes purchasing offshore equipment impossibly expensive. (For example, an average Russian wage is about 500 roubles a month, which at the current rate of exchange of slightly less than 6 roubles to 1 dollar means that the average Russian earns about \$83 a month. However, prices in the U.S.S.R. are very much lower: 5 kopeks (1/20th of a rouble) will buy a ride on the metro; 5 roubles will buy two soft drinks; 14 roubles will buy a pair of gloves or a man's shirt; and 20 roubles will purchase a compact disc or an expensive dinner with vodka and champagne. Hence, a personal computer bought from the U.S. and costing, say, \$2000, would cost a Russian 12,000 roubles, which translates into 24 months' work for an average wage earner.)

- Attempts have been made to build Russian-made PC-compatibles, but a lack of components and spare parts has inhibited production, and a low level of reliability has frustrated users.

- Attempts have been made to build computer-based information resource centers, but transmission of data between sites is inhibited by

the country's non-digital telephone switching equipment, which is wearing out and frequently breaks down.

- The people themselves are insufficiently computer literate, and to date generally have not demonstrated enough interest in acquiring information to generate a market-driven resource. At the same time, even those who want information traditionally prefer to have a paper printout rather than read it electronically, and they resist change.

PCS's Papers

In introducing Rudy Joenk (who followed immediately after the opening speaker), Dr. Agur said that

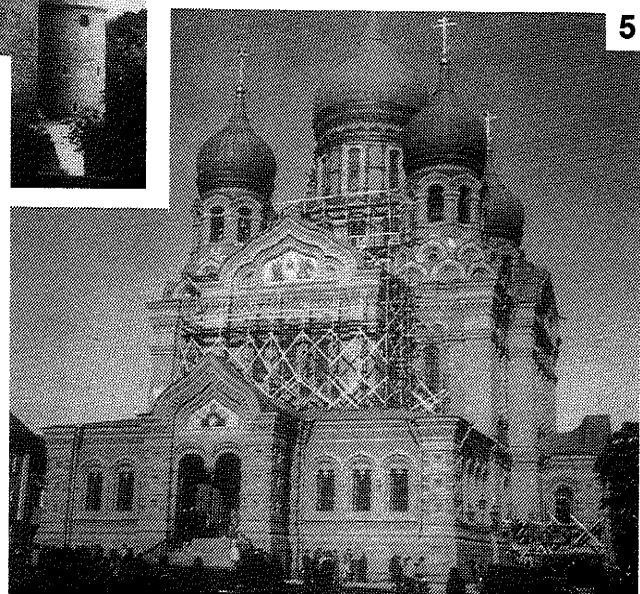
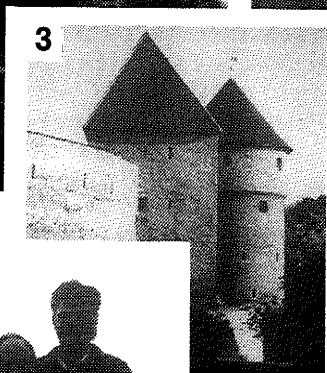
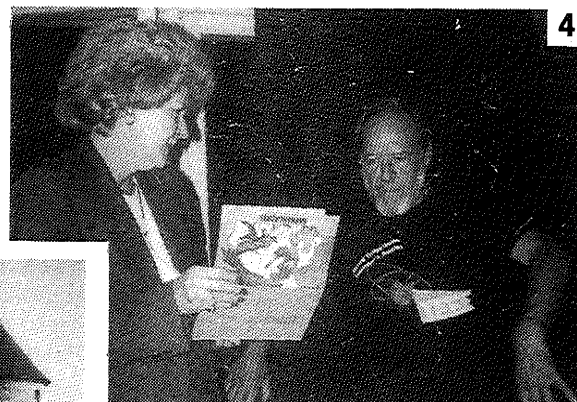
the four representatives from the Professional Communication Society had been invited for two reasons: to foster communication between the peoples of the East and West who are engaged in technical communication and information processing; and to enable the U.S.S.R. delegates to hear what was being done in the U.S., so that they could use our experience to guide them as the U.S.S.R. enters the information age.

Rudy divided his presentation into two parts: a 30-minute description of the Professional Communication Society, its role within the IEEE, its mandate, and its products and services; and then a 30-minute descrip-

tion of the communication technology and information resources provided by IBM Corporation at Thornwood, New York, and how the resources are accessed by engineers throughout IBM.

PCS's remaining three representatives spoke on the following day. Debby Flaherty Kizer described the various types of communications networks including LANS, WANS, and international networks. She provided applications of these networks in retailing, insurance, academia, and within AT&T.

Nancy Corbin discussed the team concept by which engineers, writers, editors, and graphic designers use personal computers to



1. People all over the world love flowers! 2. What an international group! Left to right: Maria, Vera, Nancy, Dr. Lantsberg, Jürgen, Ron and Martin. 3. One of the many striking medieval towers in Estonia. 4. Nancy and Ron demonstrate their expertise in translating. 5. One of the many beautiful churches in Estonia.

develop documentation for new products. She described how processing in parallel ensures that the documentation will be ready by the product's shipping date, and that she had based her presentation on the methods used by IBM's Information Development Organization at Manassas, Virginia.

Ron Blicq outlined some of the educational courses developed by PCS and the multi-media methods used for presenting them. He demonstrated how student assignments can be transmitted electronically to course instructors and then marked on-line and returned by E-mail. Then he described how the manuscript for a complete textbook can be sent to a publisher on a single 5-1/4 in., 1.2 Mbyte diskette, and then edited on and typeset directly from the diskette.

On the second evening of the conference Nancy and Ron also presented a shortened version of their 1-1/2 hour mini-workshop "Technical Writing and Speaking."

Questions from the audience showed that the conference delegates were particularly interested in the electronic communication techniques used by both IBM and AT&T. They also showed a secondary interest in PCS's education activities, since helping technical business people to write and speak effectively is rarely addressed in Estonia, either as part of a university program or as a post-graduate service.

Conference Wrap-Up

The conference ended with a two-hour round-table discussion chaired by Dr. Agur, who invited Rudy and Debby to join Dr. Lantsberg and four prominent speakers from other sessions, and for all to articulate their views on the problems facing the U.S.S.R. as it enters the information age. Five topics were addressed:

1. What exactly is an "Information Society"?
2. Can an Information Society exist by itself? (Does it need government or commercial support?)

3. Where do we start (to develop an Information Society)?
4. Will we become a telecommunication (paperless) society? (And what effect will this have on libraries?)
5. What social problems are likely to erupt if we evolve into a telecommunication society? (And what do we do about them?)

The conference was organized jointly by the Estonian Institute for Information and the Estonian Technical Library.

The panel members each presented their views, among lively discussion, but no attempt was made to draw definitive conclusions. As Dr. Agur explained, the purpose was to identify possible problems and for the conference participants to hear and think about the different viewpoints that were offered.

"Yuri" The Translator

Yuri unwittingly played an unobtrusive role in establishing personal communication between the PCS contingent and the other delegates. He was an Estonian of about 23, tall, lanky, and a fourth year Computer Science undergraduate in a five-year program at Estonia's Technological University. He was not a professional translator, but had almost perfect command of English.

What we did not realize was that Yuri did not have a perfect command of Russian. His translations into English were generally good—although there were occasional pauses—but his translations from English through Estonian and into Russian were "less than perfect." It was not until after Rudy had presented his paper that Dr. Agur informed us that many English-

language expressions were being lost in Yuri's translation.

Consequently Debby, Nancy and Ron revamped their presentations overnight, planning to use simpler words and a slower delivery. They also went over their slides and key words with Yuri, so that he would not have to cope with unexpected and unfamiliar information. (Nancy even wrote a full script of her presentation, and Ron transcribed the dialogue of a videotape excerpt he planned to demonstrate.)

Throughout, Yuri displayed considerable interest in our information, asked many questions, and injected a wry sense of humor that enlivened our pre-talk discussions. We will remember Yuri with affection.

Real Communication At Work

On the first day of the conference we felt like an isolated little group sitting together at our own table, surrounded by people at other tables who were conversing rapidly. Yet by the third day we could be found sitting at other tables talking individually to many other participants. Our progress from "aleness" to "integration" proved to be a remarkable experience in international communication.

At first we thought that Vera Burova, Yuri, and Drs. Lantsberg and Agur were the only conference participants who could speak English. We were unaware that many others also could speak a small amount but were hesitant to speak to us for fear they would be embarrassed by their supposed ineptness.

It was not until after we had presented our papers that a few came to us with questions (and even then not when we asked the whole audience if they had any questions, but later, privately, one or two at a time.)

This gradual "loosening up" was helped when they saw us working with Yuri to improve translation, and then adjusting the content of

our talks and slowing our delivery speed so they would understand better. And then, when they saw sunshine stream through a skylight and obliterate the screen so that two of us suddenly had to improvise and work without our planned visual aids, they empathized with us as we struggled along.

Social events also helped to bridge the gap. A 50-minute bus ride to the resort town of Parnu, followed by a tour of the beautifully designed town and its green, lavishly treed parks, drew us together even more. So did a social evening in a recreation room, where "scout" Rudy lit a wood fire in the grate, on which enormous field-gathered mushrooms were cooked in a rich sauce and weiner-like sausages were grilled on a spit. Before the evening was over Debby and 15-year-old Maria had jointly sung popular songs, with everybody joining in for the choruses, and Nancy and Ron had demonstrated (accompanied by much laughter) that they could translate and read from a book printed entirely in Estonian.

As the bus drove us back to Tallinn, we each sat in a different part of the bus and chatted with individuals and small groups who, three days before, seemed so remote that neither we nor they had thought we could possibly converse.

And then, when we climbed down from the bus in front of the Hotel Viru, there was much hand clasping and wishing one another well, and even exchanging of small gifts. We were deeply moved by the warmth and sincerity of the farewells, and the knowledge that we had made many friends in Estonia.

We would very much like to return, so we can meet them all again. ◀

The Adventures Continues . . . PCS in Moscow

by Debby Flaherty Kizer

(Four AdCom members attended a Soviet Technical Conference in the Soviet Union in September. These are the observations of Debby Flaherty Kizer. See related article by Ron Blicq on page one.)

It just seemed like yesterday that we had begun our adventure from Moscow to Tallinn. Now we were again back on the train, but this time Moscow bound. Thanks to our hosts, we once more enjoyed a bounteous feast. Our Tallinn host, Dr. Svetlana Tolbast, sent us on our way with a delightfully delicious celebration cake.

We pull into Leningrad Station in Moscow Saturday morning—September 22nd—where we were met by the driver who had picked us up from the airport seemingly ages ago. Victor, the Popov Society representative, was there to meet us as well. We headed for our hotel—the Hotel Rossia—located right on Red Square. In spite of the dark, rainy day, we were immediately enchanted by the brilliance and beauty of St. Basil's Cathedral, located next to the hotel.

After breakfast, we had time to walk around the city. Nancy and I headed towards St. Basil's. Much to our delight, the steps of the Cathedral were crowded with military bands, having what looked like was some kind of competition. We later discovered that this was part of the Moscow 1990 celebration, commemorating the birthday of the city. We enjoyed the music for some time, returning to meet the Rudy, Ron, and Dr. Lantsberg for a late lunch.

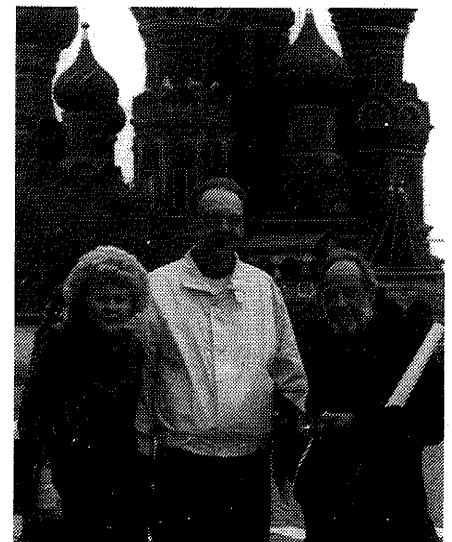
That evening, after purchasing tour tickets for the next day, we "Zoomed to GUM," (pronounced "Goom") the state department store. It is somewhat reminiscent of a mall, with boutique-like shops located throughout the three floors and three aisles per floor. I found the combination of goods in the stores somewhat interesting and eclectic—

the fur shop, for instance, also sold nylons and toothpaste.

Upon returning to the hotel, we were thrilled to see St. Basil's bathed in floodlights. In a continuation of the Moscow 1990 celebration, an outdoor opera was being performed. Again, the military bands were present, and the square was filled with people enjoying the music and singing. Following the performance, there was a one hour fireworks display that was positively breathtaking.

Sunday was our day to "Do Moscow." In the morning, we had a tour of the Kremlin Museums (The Armory Chamber). This provided much insight into the history of Russia and its people. We saw everything from carriages to Faberge eggs to wedding and coronation gowns. My particular favorite was the "tack room," where saddles and equestrian gear from Russia's past were displayed.

After lunch, we toured the U.S.S.R. Diamond Fund (The Treasury). What an assortment of jewels and



Nancy, Rudy and Ron brighten up Red Square in front of St. Basil's Cathedral.

jewelry! In addition to pieces made in this century, there were beautiful creations from Russia's past, such as the Great Imperial Crown, dating from the 18th century.

Dinner on Sunday was not to be missed. It was our first venture dining without our host, who had a well-deserved break at home. Fortunately, our waitress was very good-natured, and we dined quite well, managing with sign language to get through the menu and order with no problem (although we did not always get what we expected). We also learned that dining in the U.S.S.R. takes time.

On Monday, the work began in earnest. Our first visit was to the International Center for Scientific and Technical Information. The center was founded some 22 years ago, with member countries including Bulgaria, Hungary, Rumania, Czechoslovakia, Mongolia, Germany, Vietnam, Cuba, and North Korea. Other countries, including Yugoslavia, China and India, have expressed interest in joining the

center. The main service of the center is to provide access to international networks and develop and/or research new information systems. As such, the center has been self-sufficient since last year, with its revenue coming from the sale of information services. The center's staff numbers 350, which includes about 100 researchers.

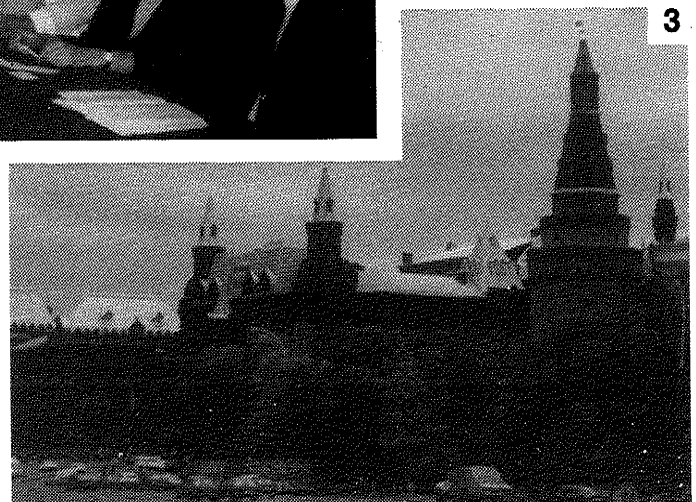
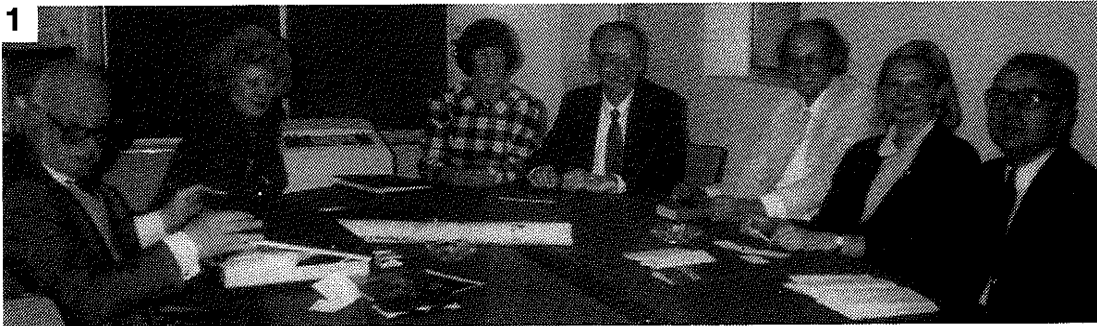
The center publishes journals on information systems, many of which are cooperative publications with our institutes. In addition, the center plays an active role in organizing and hosting workshops, conferences, and symposiums. We were impressed by the conference facilities at this location! Another activity sponsored by the center is customer/user education. To accomplish this, the center receives cooperation and funding from Unesco, Unido, and other international organizations.

The center is faced with several challenges. First is the low capacity of the current hardware. Second is the lack of a telecommunications

infrastructure. They have limited dedicated lines from Moscow. While the center would like to take advantage of EDI and advanced services, the cost is prohibitive. The center does, however, predict a 20% growth for its information services. Perhaps its biggest challenge is to grow the customer base through educating the public about its services.

We then toured the computer area of the center, where we saw modern equipment loaded with familiar software such as WordStar.[®] Many users were linked to universities in the U.S. by electronic mail—a familiar site!

In the afternoon, we visited the Institute for Scientific Information for Social Sciences, Academy of Sciences of the U.S.S.R. Our host was Dr. William Khisamoutdinov, Head of Information Systems Research and Development Department. This library, founded in 1919 by a Lenin decree, contains social sciences information from around the world, and has a staff of some



1. One of the many interesting meetings arranged for us by Dr. Lantsberg. 2. Colorful flags and banners herald the celebration of Moscow Day. 3. A view from outside the Kremlin.

1300. The staff prepares special reports for scientists and publishes abstracts/bibliographical information. The library, containing over 12 million volumes, is the largest social science library in Europe. The library's users are members of other institutes, students on diplomas, and post-graduate students.

The staff inputs information on over 1,000 documents a day! The operation has been computerized since 1986. Remote users can access the catalog/abstract information on-line, as this information is stored in a database. Bulgarian customers are the largest on-line users, accessing the system for about 6 hours a day! To support its customers, the library also runs educational sessions on how to use databases and PCs.

The library is also faced with challenges. It lacks sufficient storage to enlarge the database. In the short term, the library may need to streamline access to the system, or find funding to purchase more drives. While the library is now permitted to buy drives from the U.S., the cost is high. William noted that given the many social and economic issues facing the government, it is increasingly difficult to secure the government's financial support. As such, the library is looking for external support. The library is beginning to charge for its services, and is looking for ways to expand its customer base. Along these lines, the library has signed an agreement with the All-Union Center for Translations to translate key words and abstracts into English by the end of the year. The library has hardware concerns as well—it currently does not have the equipment in place (i.e. light pens, bar codes, etc.) to provide circulation services. This equipment is not available in the U.S.S.R. The lack of a good telecommunications infrastructure was again mentioned as an issue. While various telecommunications options are used—dedicated, switched, and satellite—they are often unreliable.

The library's services are certainly well-used and needed. When the Chernobyl incident occurred, the

library was the only source for some 1600 related abstracts!

After our busy day, we were all looking forward to the evening's excursion. We attended the Stanislavsky Nemizovich-Danchenko ballet at the Moscow Musical Arts Theater! The theater's museum displayed photographs from the early days of the theater, and was a delight to wander through during the intermission.

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Three ballets were performed, each one in a different style, but all superbly danced. After the performance, Svetlana, Dr. Lantsberg's daughter, and her guest Boris took us on a Moscow Metro tour. The stations are almost like art museums—each one of a different design and spotless clean. One station contained beautiful marble columns and another had striking mosaics on the ceiling. After the metro tour, we rode the electric trolley back to the hotel, where we bade Svetlana and Boris good night.

Tuesday was our last full day in Moscow. Our morning visit was to the All-Union Scientific-Technical Information Center. This center receives and stores documents that are not widely published and distributes them (paper copies or magnetic mechanisms) to its users. The primary users are scientific research institutes, academic institutions, and industry. Upon request, the center provides analytical reviews.

Most servicing is done in an on-line mode, with most requests made via electronic mail. The network connects Moscow to some 151 cities in the U.S.S.R. using various communications channels. Foreign customers are served as well, with the Institute for Automated Systems

serving as the intermediary to the different public networks.

This center faces challenges similar to those of the other institutes we visited. The telecommunications infrastructure needed to provide the center with packet switching does not exist and telecommunications costs keep rising. The center is also grappling with how much it should charge for its services without suffering a decline in customer growth rate. Thus, ongoing financing is of major concern.

The center's director noted that there are four levels in the state information system: the All-Union Information Institutes, branches of sciences represented by various ministries, the regional institutes, and the information centers at various organizations (i.e. the Popov Society library). He stated that there is much competition between the higher and lower levels, with the second level receiving the most pressure.

On Tuesday afternoon, we visited the All-Union Institute for Automated Systems. For us, the name is somewhat misleading—the emphasis here is providing other institutes with telecommunications services, not robotics. The mood here was very upbeat and enthusiastic—everyone we met seemed genuinely happy with their work.

The charter of this Institute is the creation of a national network based on the public network. To carry out its charter, this Institute works with international organizations such as Unido and Unesco. The Institute operates a data packet switching network, along with an electronic mail network, which is connected to some 80 international networks (i.e. Tymenet, Dialog, CompuServe, etc.). In order to carry out its mission, the Institute has several joint ventures with foreign telecommunications carriers to provide services. Along with providing telecommunications services, the Institute also offers training. It is a commercial organization, and as such charges for its services. One of its challenges is to expand the scope of its activities.

We were given a demonstration of the electronic mail capabilities at the Institute. Rudy was invited to send an E-mail greeting to someone in the U.S., and choose (a surprised) PCS vice president Richie Robinson in Long Island, N.Y.

We also met with Dr. Vladimir E. Teremetsky, the General Director of Sovam Teleport, the Soviet-American joint venture for the provision of telecommunications services. Sovam Teleport currently has about 100 customers in the U.S.S.R. Sovam currently uses Intelsat to a teleport in New York, fiber to a TRT node in New York, and dedicated fiber to Palo Alto. Sovam is working towards extending its service to Europe via a dedicated link.

On Tuesday evening, we treated our hosts to dinner. Luckily, Victor volunteered to make reservations and order for us. The restaurant was a small, out-of-the-way place frequented by Soviet actors. A piano was available for impromptu music-making. Of course, with our entertainment background from Kabli, we were ready to roll. Nancy played, and Debby led the chorus with people from other tables coming up to join in. We even took requests from the floor! A wonderful time was had by all.

Wednesday, our last day in the U.S.S.R., dawned much too early! We met for breakfast and then Dr. Lantsberg took us to visit his Institute, the Institute of Radio Engineering and Electronics. We were amazed by the Institute's scope of activity—from optoelectronics to the physics of semiconductors to planetary investigation. After our visit, we walked back to the hotel, stopping in the various shops along the way.

By this time, we had become quite comfortable in Moscow, managing to find our way in the various "undergrounds" and handling shopping with ease, even without knowing the language. In fact, we had become so "Soviet" that at lunch Dr. Lantsberg initially mistook me for his daughter, Svetlana!

After lunch, our bulging bags were loaded onto the bus, and we said

our good-byes to Svetlana, who most graciously took time out of her busy day to see us off. Before we knew it, we were on our way to Moscow's Sheremetyevo II International Airport. At the airport, we bade farewell to Dr. Lantsberg and Vera Burova (who had accompanied us to Estonia). While we were excited at the thought of returning to our friends and family back home to share our experiences in the U.S.S.R., we felt sad at leaving behind our good friends, who two weeks before were just names on paper for most of us. We will remember their kindness, friendship, generosity and warmth for a lifetime. ◀

IEEE Plans Conversion to Electronic Publishing

According to Wallace Behnke, Chairman of the TAB Periodical Council, and Friedolf Smits, Chairman of the TAB Publications Products Council, IEEE is getting serious about implementing electronic publishing in the IEEE Publishing Services organization. To obtain input from editors of the many different IEEE publications, a workshop was held on June 11 in New York.

The workshop was to address two major objectives in the presentations and discussions of an all-day and evening meeting. The primary objective of the deliberations was to define the input formats which need to be accepted by Publishing Services in order for electronic publishing to become effective. A secondary objective was to discuss the approach planned by the staff organization, particularly as it relates to the handling of embedded equations, non-ASCII characters, and complex tables.

A follow-up article on electronic publishing will appear in a future issue of the *Newsletter* as additional information from Publishing Services is available. ◀

Herb Michaelson Given Goldsmith Award in London

At IPCC 90, a committee made up of previous Goldsmith awardees announced this year's Goldsmith award with the following citation:

"The IEEE Professional Communication Society is honored to present the 1990 Alfred N. Goldsmith Award for outstanding achievement in technical communication to Herbert B. Michaelson.

"In Japan, it is common to give the title of 'national treasures' to persons who have achieved an extraordinary degree of skill in a particular craft or art form, and who have given time and attention to training others in their arts. In this activity (as in many others), we would do well to emulate the Japanese. By so honoring those who excel in traditional Japanese functions, they elevate the function as well as the person. They encourage others to study and practice and reach for excellence. They keep the flame alive.

"Herb Michaelson has not only had a career of achievement and innovation at IBM, he has published books for the guidance of those who came—and are still coming—after him. He has worked through this Society to elevate the profession. He is what we all want to be when we grow up: a supremely capable practitioner in this difficult and specialized field, a gentleman who is respected by his colleagues and associates, and a generous teacher and leader to us all. In honoring Herb, we are saying, 'This is the standard of excellence in engineering communication.'

"He is indeed a national, professional treasure. All of us who are privileged to know him treasure that association, and take great pleasure in giving him the recognition he so richly deserves." ◀

PRESIDENT'S MESSAGE



by Rudy Joenk

The events of September 1990 were a twofold bellwether for the Professional Communication Society:

(1) Our PCS conference in England and our participation in the Estonian information-center conference, along with visits to information centers in Tallinn and Moscow, demonstrated our commitment to being an international (or transnational as the IEEE says) organization. (2) We now have opportunity and impetus to expand—consistent with our constitution—our mainstream topics to include information resources: capture, storage, retrieval, and dissemination.

Our trip to the U.K. and the U.S.S.R. was a great experience for me—I'd gladly return. Not least among the contributing factors were the graciousness and concern of our English-speaking hosts (none of us knows Russian) and the compatibility and complementarity of our team.

Elsewhere in this issue Nancy Corbin writes about the Guildford conference; Ron Blicq, about the Estonian portion of the trip; and Debby Kizer, about the Moscow visits.

I can easily identify five major benefits to PCS:

1. PCS can legitimately claim international presence and activity, much more so than in the past, more so than other communication societies, more akin to other IEEE Societies who had already

- crossed the Atlantic Ocean to Region 8.
2. A PCS Chapter in Moscow seems likely. It would be headed by the host of our U.S.S.R. visit, Dr. Henrich Lantsberg. This follows the approved formation of an IEEE Moscow Section in August.
3. There is high interest among the Russian and Estonian information centers for a PCS mini-conference in Moscow in early October 1991 as part of the IEEE Technical Activities Board's Region 8 Colloquium.
4. We will have a Russian keynote speaker, Dr. Lantsberg, at IPCC 91 in Orlando, Florida.
5. Numerous Soviets expressed interest in PCS products such as Ron Blicq's technical writing workshop not only to improve their writing ability but also to improve their knowledge of English.

The high point of this trip for me occurred at the All Union Research Institute for Automated Systems. On a personal computer they called up an extensive menu of bulletin-board systems and E-mail services, and there was CompuServe. I quickly signed on and sent a greeting to vice president Richie Robinson from Moscow to Long Island! Truly, communication is bridging the world. ◀

Not Ready for Prime Time

by Robert W. Lucky

I was to be the last speaker on the afternoon's agenda of business briefings. Each of us had been allotted 20 minutes to make our pitch. I glanced sidelong at the other speakers. Like the super-market customer waiting in the express checkout line—10 items or less—I began to count the transparencies that each speaker clutched in his lap. I lost count, discouraged, somewhere in the mid-20s on the first speaker. Each of them had far more than I did—and I had too many myself.

Is it that we are really incapable of estimating how much time each briefing chart will consume? That started as a rhetorical question, but I am afraid that the answer is "yes." Even down deep, we fool ourselves; after all, the motivations are all wrong. The actual time consumed by a given chart will be determined by statistical imponderables beyond our control, or so we think. In the face of these cumulative uncertainties, we aim for that distant goal 20 minutes down a long, winding road whose road signs are our precious charts.

Granted, we cannot hit the end-point exactly in time, but shall we raise our sights and aim long, or shall we lower them to an imaginary shorter point? Not much of a question really. If our talk runs long, probably no one will notice. At worst, some chairperson will ask us to finish in a few minutes. But what happens if we finish ahead of schedule? That scenario is so horrible to contemplate that we thrust it from our minds—and shudderingly add a few more transparencies to our pile, just in case.

Imagine finishing your 20-minute talk in, say, 12 minutes. The audience of your assembled bosses looks at you expectantly, waiting for you to continue from this inappropriate pause. "That's all I have to say," you mumble semiaudibly. One boss glances at another, raising his eyebrows minutely. You sense that it is the "that's all he has to say?" raised-eyebrow expression. Another boss uncrosses her knees and jots something on a notepad. Obviously, she is writing something to the effect that you had nothing more to say, having exhausted your entire knowledge of this subject in a mere 12 minutes.

I wonder if anyone has ever compiled data on the actual length of short presentations as a percent of the allotted time? There are probably no known instances of anyone actually finishing early, so the histogram starts at something over 100 percent and tails off slowly past 200 and 300 percent, and so forth.

Of course, it is very hard to give a short talk. A longer talk is much easier. For an hour talk, little planning is required; you simply tell everything you know about whatever it is. On the other hand, a 20-minute talk requires organization and forethought. Mostly it requires throwing out some of the precious material that will show the audience how smart you are. Oh, that is hard! A 10-minute talk is even more difficult. Generally speaking, talks get tougher to give as they get shorter and shorter. But there is something like Zeno's paradox here, because finally a talk of zero length is very easy to give!

Generally speaking, talks get tougher to give as they get shorter and shorter.

Thus at some nonzero length, a talk becomes maximally hard to give. Ordinarily, I would advocate research to identify this magic interval, but it has already been uncovered by the media people—it is the elusive sound bite. If you ever have the experience of being interviewed by the media, that is what they will be looking for. In order to make the 11 o'clock news, you have to say something devastatingly important in about three words. When your big opportunity arises, the interviewer will ask you some ambiguous, long-winded question. The red, glowing eye of the television camera looks at you, and you hear the silence roaring at you like Niagara Falls.

"There are many considerations associated with that question," you begin. The expectant smile on the interviewer fades. "But first, I have to assert some qualifications," you continue. The interviewer glances back at the camera person. A look passes between them, and the camera person gives an infinitesimal shrug. He looks away and rolls his eyes in subtle disgust at your inep-

titude. Meanwhile, you have lost your train of thought. . . .

But back to my present predicament. The first speaker has now used 5 minutes on the first chart alone. I keep willing him to change charts, but to no avail. I know how he feels. When you first start to talk, it seems that you have forever to fill. Time expands, and the audience hangs on your every word. Your arguments sound amazingly convincing, and you conceive of little explanatory digressions on the spur of the moment. That is, of course, at the beginning; later, it all unravels.

The audience is no better at this time game. With the first speaker they are fresh, and they ask questions as if they had all day. Most of the questions are designed to show how intelligent and informed they themselves are. You sometimes wonder why they deign to hear the talks. Perhaps they should be giving the talks themselves, and from the sound of the questions, maybe they are.

Even as we unconsciously prepare talks that are too long, we rationalize that we will be able to adapt the talk on the spot to whatever time conditions seem to prevail. This is however, a delusion. Think back to the occasions that you have seen a speaker told that his talk must be made shorter, or must be finished up in some small amount of time. What is the speaker's reaction? Does he take his pile of transparencies and put most of them off to one side? No way. Whatever time must be saved, he apparently imagines that he can gain by speaking faster! It seems impossible to derail the prepared litany of subjects. Every chart must be shown, even if the speaker has to sound like Donald Duck in a frenzy of time compression.

But again I digress in philosophy while the afternoon has waned. It is finally my turn to speak, but the entire quota of time for the agenda, as well as the audience's patience, has long ago expired. Several principals

have already left, mumbling the perennial airplane-to-catch excuse. The others are glancing at their watches and yawning.

Nonetheless, I lug my 40-minute pile of transparencies to the head of the table. I wasn't ready for prime time anyway.

Reprinted from IEEE Spectrum, September 1990. ◀

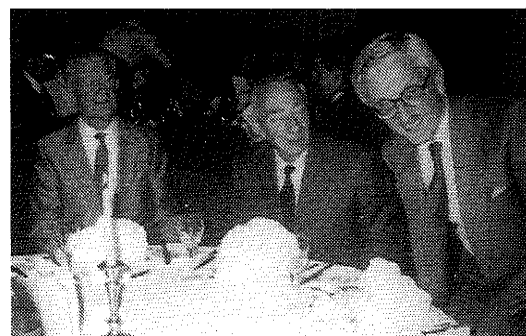
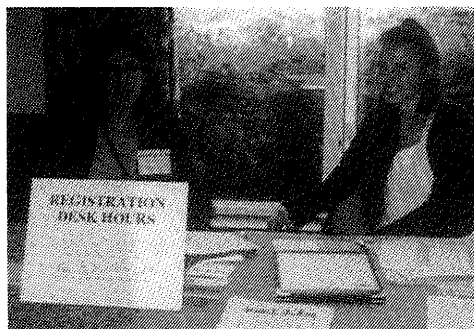
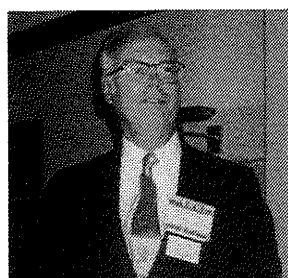
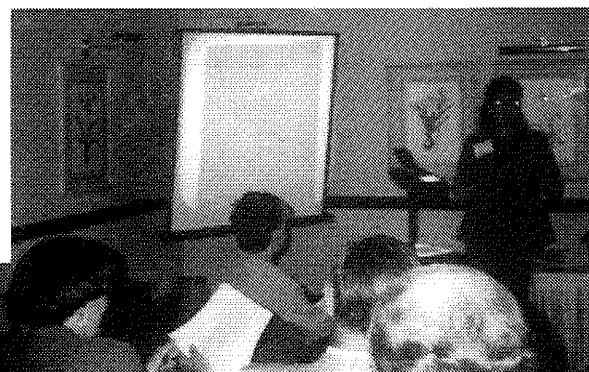
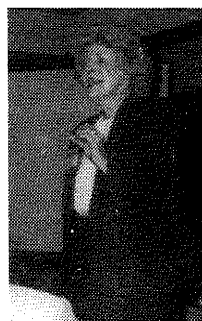
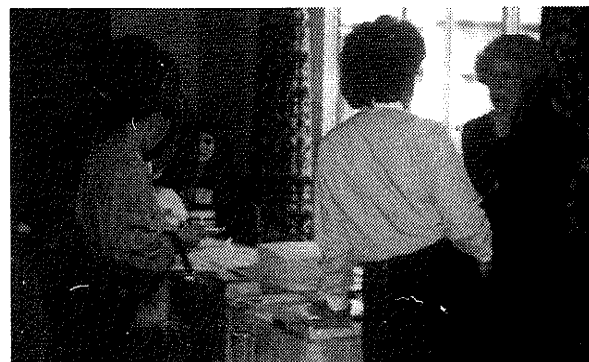
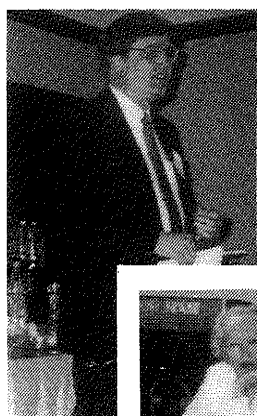
Desktop Publishing for Engineer Authors?

Not too long ago the typical engineer author typed or wrote rough drafts of reports and gave them to a secretary for final typing or word processing. Engineers now usually prepare their own manuscripts on PCs or workstations. Those in large organizations usually also get support from technical editors or technical writers.

But the easy availability of desktop publishing programs are changing authors' work habits. A few years ago the complex page layout programs were used only by publication professionals. Now word processing programs are beginning to offer multiple column formats and imported artwork.

How can the engineer author, unschooled in layout design, approach the subtleties of page composition? This question is discussed at length in a new chapter in the third edition of Herb Michaelson's *How to Write and Publish Engineering Papers and Reports*. Three other newly added chapters deal with ethical problems for writers, persuasiveness in internal proposals, and networking by collaborating writers. The third edition has just been published by The Oryx Press, Phoenix, AZ 85012. ◀

Memories of IPCC 90



IPCC 90—An International Success!

by Nancy C. Corbin

The Post House hotel in Guildford, England buzzed with excitement as conference participants gathered for the 1990 International Professional Communication Conference. Conference co-chairmen John Moffett and Dr. G. H. Byford welcomed participants from Germany, Holland, Denmark, Japan, Austria, Yugoslavia, Canada, the United Kingdom, France, Sweden, and the United States who gathered to brainstorm, exchange ideas, and offer solutions in the technology of communicating!

There was something on the program for everyone. The conference began Tuesday evening with a dynamic lecture on *Managing*

Interpersonal Conflict. Throughout the conference, internationally-flavored sessions addressed every aspect of professional communication. The when's and how's of acquiring technical communication skills were contributed by both industry and academia. Workshops on International English, technical writing, and oral communication rounded out the dynamic program.

Jim Lufkin, PCS's very own playwright, wrote and directed *Shakespeare Gets A Computer*. Shakespeare himself would have been envious of such talent. The overwhelming popularity of this play has Jim back at his computer writing a sequel.

During the conference banquet, President Rudy Joenk applauded this year's co-chairmen and conference committees for their tireless efforts to make this the best IPCC ever. Chairman Moffett presented the committee awards. Recipient of last year's Goldsmith Award Joan Nagle presented the Arthur Goldsmith's award to Herb Michaelson (not in attendance). The recipient of this award chairs the committee for selecting the following year's awardee. Banquet speakers were Roland Saam, Chairman, UKRI Section, Region VIII and Robert Williams, Founder of UKRI Section, Region VIII.



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ENGINEERED COMMUNICATION

October 30 through November 1, 1991
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Engineering, as a discipline, is the subject matter we deal with in the IEEE Professional Communication Society. Engineering, as process orientation, is also the methodology by which we produce effective communication. To engineer communications is to design for continued improvement.

The Steering Committee for IPCC 91 solicits your paper, poster presentation, workshop, or panel discussion that approaches the engineered communication from these aspects:

The Discipline

Principles and standards
Design
Work flow
Verification

The Environment

Tools and technology
Data storage, retrieval, and
conversion
Delivery problems and
solutions

The Practitioner

Training
Organization status and
placement
Growth and development
Ethics

The Consumer

Audience targeting
Customer orientation
Schedule & budget control
Integration of information
and functions

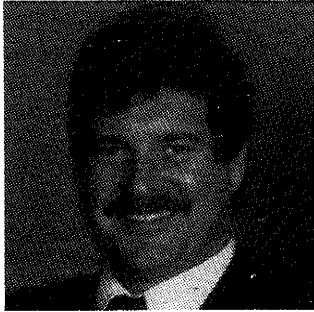
We will issue a final call for papers in November 1990.

In the meantime, to talk over (or just tell us) your idea of the engineered communication, call one of the following:

Dr. Chris Forbes, Program Chair
Westinghouse Waste Isolation Division
101 West Greene Street
Carlsbad, New Mexico 88221
(505) 885-8883

Dr. Dan Plung, General Chair
Westinghouse Savannah River Company
1070 Silver Bluff Road
Aiken, South Carolina 29801
(803) 642-4485

ON MANAGEMENT COMMUNICATION



by Michael B. Goodman

This column on management communication appears regularly in the March, July, and November issues of the PCS Newsletter. It covers topics related to the technical, cultural, financial, and political environment that characterizes contemporary business. Discussions concern: communication among technical and business disciplines; technical marketing; crisis and emergency communication; communicating technology to the public. Also send in suggestions for topics which interest you.

In the July Newsletter I mentioned that I would begin a discussion of Total Quality Management (TQM) and its implications for technical communicators. Total Quality Management, an American idea, began before World War II with Bell Labs' Walter S. Shewart's published papers on quality control. It took root in Japan in the early 1950s

Quality management is the result of a team effort.

after W. Edwards Deming, a Shewart disciple, told company presidents that quality was central to their survival. Also in the 1950s in postwar Japan, Joseph Juran discussed quality as an essential management discipline which has a positive impact on the bottom line.

Investment in quality improvement could remove avoidable costs of rework and repair.

In the late 1950s Armand Feigenbaum added the notion that quality was "everybody's job." And Philip Crosby, to push beyond the limits of statistics, introduced the notion of "zero defects," and the idea of "right the first time" might be more desirable than "acceptable quality levels." Kaoru Ishikawa took Deming's 14 points, simplifying them in seven tools, such as histograms and scatter charts, that any worker could use to solve problems. Genichi Taguchi introduced the notion of product and process robustness. His emphasis on design underscored the belief that quality is designed into the product.

The 1987 establishment of The Malcolm Baldrige National Quality Award, named for the commerce secretary killed in a rodeo accident, has set a goal and standard for achievement. With a Second Total Quality Management Symposium set for this month (November 14-16) in Baltimore, Total Quality Management has taken a prominent place in industry and government.

Quality as a management philosophy places customer satisfaction at the foundation of any successful enterprise. For the philosophy to work requires not only a commitment from top management, but the ability to communicate that commitment to all levels of the company. Implementation, education, and training require constant and consistent communication throughout an organization.

Quality management is the result of a team effort. Effective teams develop honest lines of communication that cut across all levels of a corporation. Mastery of interpersonal communications—one-on-one and small group—are the skills behind the management philosophy.

Commitments to management quality are certain to be tested by dramatic changes in the business environment and the financial pressures caused by global and domestic uncertainty. To meet the challenge of the future successfully,

technical communicators will need collaborative management skills and an interdisciplinary approach to problem-solving.

Coming up in the March "On Management Communication," a discussion of papers to appear in the *Transactions*—the results of a survey graduate management communications curricula; video truth; and visual literacy. ◀

CURMUDGEON'S CORNER



by Joan G. Nagle

The Machine and the Message

It made the national news services. Writing in *Academic Computing*, January 1990, Marcia Peoples Halio of the University of Delaware's English Department postulated that the type of computer that students use to write for college composition classes affects the way they write . . . indeed, the quality of their writing (if one accepts Halio's value judgments about quality, and I do). Comparing freshmen writing on IBM PCs with those using Apple Macintoshes, she found the following:

- Papers produced on the Mac were "sloppy." "Words were misspelled; commas were placed haphazardly; semicolons were virtually nonexistent . . . and . . . quotation marks, apostrophes, and question marks were treated with gay abandon."
- There was a difference in style.

"Paragraphs were brief . . . and sentences . . . were short. Word choice tended to be simple, spiced with slang and colloquialisms." She saw a "sort of pop-style of the kind found in advertising or in the mass media."

- Topics chosen were fundamentally different. Mac-generated papers were concerned with fast food, rock music, sports, and relationships, contrasted with the essays on capital punishment and nuclear war that came from "the IBMers."
- But the papers from the Mac class were often creatively illustrated.

Halio and her associates made the usual attempts to quantify these findings, and then to explain them. It made for an interesting study, and many newspapers picked it up. That fact in itself is interesting; lifetimes ago, when I was studying these things, no one off campus knew or cared what we were writing with or how. Now, as Halio says, "many people have an absolute commitment to their favored computer that is in ways as strong a bond as marriage."

Is that putting it too strongly? I love my computer but . . .

Maybe not. Maybe our "computer commitment" is more important than we think, if it's important enough to generate national attention. And maybe my curmudgeonly tendencies are showing here (as usual), when I ask, "So what?"

I did my own study. On a vacation day last summer (it was raining anyway), I circulated the article among a carefully controlled group—members of my family who have used both IBMs and Macs—and then conducted by own scientific survey. I asked them, you will not be surprised to hear, "So what?"

"So nothing," was the general consensus. Now you must understand that the subjects in this study were of the next generation after me, so they may be considered to be vulnerable to this computer commitment syndrome. You should also know that they are inhabitants of what academia calls (somewhat defensively, I always thought) "the

real world." They are results-oriented.

And this was the orientation of their reaction. "The computer is just a tool," Emily said. "You should be able to write as well with a pencil stub as with a Mark Cross pen, and it's the teacher's business to see that you do, not to be worrying about what tool you're using."

"Anyway," added Jack, "the difference in tools is disappearing. In the Windows environment, which is becoming the norm, IBMs look and act more like Macs." If the heightened "seriousness" which Halio saw in the IBM students is a real phenomenon, and if it does affect one's writing habits, style, and content, then we can expect it to go away with the character-based interface of the PC and its clones.

Maybe our "computer commitment" is more important than we think . . .

"And another thing," Laura put in (this is a very talky family, as you may have observed, and anyway it was still raining), "there are probably other effects at work here. The author says that students could choose whether to work in the IBM lab or in the Macintosh lab. If you weren't predisposed to one computer or the other, how would you choose? You'd decide on the basis of which one was closest to your dorm, maybe, or which one was reputed to be less crowded. If you're a marginal student, especially, ease of access is going to be very important to you. Moreover, if you like to draw, you will be drawn to the Mac, probably."

"Are we out of beer again?" asked Bill.

What we all identified with was the observation by one of Halio's associates that "although he was sure there was a difference, he wasn't

sure exactly what it was." From this observation, Halio leaps to the conclusion that her respondents were unanimous in believing that "there is some sort of *effect on* [italics mine] students' writing when they use a Mac, different from when they use an IBM."

Aside with my problems with the syntax of that statement, I just don't believe it. Or that Halio's work has proved it. Or that it matters.

"Students interviewed in our lab said they tend to think of the Mac as a sort of toy. It reminds them of the games they play at home; the mouse even seems like a sort of joystick to them, and they have nicknamed the printers in the lab Happy, Doc, Dopey, Grumpy, and Bashful, reminders of childhood friends. Students may find the Mac so 'friendly,' they 'talk' to it easily," Halio says.

Well, that's OK, I say. I think of my computer-aided publication workstation as a toy, and my mouse as a pet. In my office, in fact, in this sophisticated engineering organization, one can see gray plush mouse-slipcovers, complete with ears, nose, and whiskers. Does this mean we don't do serious work? Is a proposal for a ten-figure contract serious? Are you kidding?

It is management that sets the tone here. Which is: playing with your computer as with a toy or a pet helps you to get to know the thing, and its capabilities. That's fine. But when you have a serious assignment, get real.

It is, in the nonreal world if you want to call it that, the instructor's responsibility to set the tone. "I don't want to hear about your favorite TV show or your trouble maintaining relationships. I don't want to read on the Dick-and-Jane level; this is college for goodness sake. And I don't want to see pictures. This is English Composition 101, which deals with words. You will be graded on your ability to satisfy my criteria. Get real."

Curmudgeons talk like this all the time. So did my college professors. ◀

TOOLS OF THE TRADE



by Cheryl Reimold

Negotiation and Communication

Part 1: Situation Analysis

To negotiate means to try to settle differences. We have differences or conflicts all the time, but we don't always try to settle them. Somehow, it often seems easier to "live with" the situation, complain about it, sabotage the other side, or give up and withdraw. These are all *destructive* responses to conflict; the *constructive* response is negotiation.

How do we settle differences? By talking them away? Well, almost. The best negotiations (those that produce the greatest benefits for all parties) consist of rearranging or transforming differences until they become acceptable to everyone. This takes a great deal of careful communication, usually over a long period. So, in a way, good negotiators really do "talk away" differences.

Good communication, then, is one key to effective negotiation. The other is thorough, searching analysis and preparation.

Analyzing the Conflict

The first step in any negotiation situation is to question your needs, interests, constraints, and major assumptions, particularly assumptions about needs and interests of the other parties. Look beyond the obvious answers so you can devise creative solutions. The most impor-

tant question to ask is *why*—not just once, but over and over.

Here's an everyday example. You are heading a lab that runs tests for other departments in your company's R&D center. Increasingly, you're being overwhelmed by "rush" projects. Apparently, 90% of the work the R&D center does is "urgent" and 10% is routine—or so they claim. Of course, nobody is happy with your lab because turnaround time on really urgent tests is unacceptable and anything submitted as "routine" is continuously pushed back until it's almost irrelevant. Rather than grumble, or quit and find another job before you develop ulcers, you decide to negotiate your way out of this demoralizing situation. Your immediate idea is to persuade the department heads to require a director's signature on any rush project. That should cut down on rush projects, you argue. Now, before you dash off to act on this, let's question your needs, constraints, and assumptions.

The most important question to ask is why—not just once, but over and over.

What's your need? "To cut the number of rush projects," you say. But *why*? "To improve turnaround for routine projects, yet get fast response to real rush jobs." Why do you want that? "To make the other departments more satisfied with our service." And why is that important? "It's our job: to serve the other departments." So, your real need is to serve your clients better.

Now your constraints. What's stopping you from bouncing projects back just as fast as they come in? "Staff size and equipment." The budget! If only you could have more people and more new shiny machines . . .

Finally, what do the department heads need? Reasonable turnaround on all projects so they can

satisfy their clients. Fast response on urgent projects. Low cost. (Whatever money you get comes out of their budgets!) But they also have to keep their subordinates happy. One sure way to have them unhappy and unproductive is to give them more paperwork and less authority. And that spells big trouble for your "rush-buster" idea. Besides, suppose you did curb rush projects. Would you achieve your real goal, to give good, fast service to your clients? No. The real problem is slow general turnaround; that's why people submit everything as "urgent." And the only thing that would improve general turnaround is more resources for your lab. (Your studies show that productivity is not the problem, your lab excels in that respect.)

Putting it all Together

What does all this mean? A new negotiation goal: Get a bigger budget. Who is the other party in that negotiation? Top management of the research center. What is the main obstacle to getting that bigger budget? The other guys, who are pushing their budgets as more important than yours. And what can you do about that? Negotiate!

Your analysis points you towards a two-step negotiation:

- Get the other department heads to support your request for more resources so you can give them better service.
- Get top R&D management to grant you those resources.

It won't be easy—a bigger budget is always a red flag. But if you succeed at the first step, your chances are hugely improved. We'll see in the next issue how you might take that first hurdle.

Cheryl Reimold is author of more than 100 articles and several books, including How To Write a Million-Dollar Memo and Being a Boss. Her firm, PERC Communications (6A Dickel Rd., Scarsdale, NY 10583, telephone 914-725-1024), offers businesses in-house workshops and courses in communication, writing, negotiation, and creative problem solving. ◀

PCS AdCom Meeting Notes

by Nancy C. Corbin

The Administrative Committee (AdCom) met October 12, 1990, at the Sheraton World Resort in Orlando, Florida, site of the 1991 conference. AdCom members had the opportunity to view the hotel facilities for next year's conference, meet with hotel management, and attend Dr. Dan Plung's 1991 conference planning meeting. Arthur Goldsmith, Director of Division VI, was among the attendees.

Ron Blicq and Arthur Goldsmith commented on the Sections congress they had attended in Toronto. Again this year, priority was placed on increasing the practicality and number of tutorial articles in all *Transactions*.

The AdCom officially appointed Willie Hardin as editor of the *Newsletter*. This issue is Debby Kizer's last "Labor of Love."

Bill Kehoe shared a proposal prepared by Gordon Davis (American Association of Engineering Societies) to market the CommuGuide series for a fee of 35 percent of the cover price. A motion was made and carried to immediately begin marketing the CommuGuides through AAES.

A motion was also made and carried that after 1990, starting with CommuGuide 5, the author of each CommuGuide will receive a one-time \$250 honorarium and the editor a \$100 honorarium. (This will simplify bookkeeping and interaction with AAES.)

For 1990 and beyond, authors of CommuGuides (CG) 1-4 will continue to receive a 25-percent royalty. For 1990, editors of CommuGuides 1-4 will receive a 25-percent royalty per CG or \$100 per CG, whichever is greater; and there will be no editorial royalty after 1990.

Janet Rochester offered three abstracts to the AdCom for new potential CommuGuides. These CommuGuides are in various stages

of planning. Subjects are contract performance documents, a guide on the production of technical videos, and delivery procedures on government contracts. A motion was made, seconded, and carried to proceed with only the proposed CommuGuides on contract performance and producing technical videos. Janet is open to topic suggestions and would welcome new authors. Janet can be reached at (609) 772-6058.

President Joenk appointed David Kemp as Chapter Coordinator. David has been active in the IEEE for 20 years and was founding chairman of the Winnipeg chapter.

Janet Rochester, PACE representative, reported on the PACE conference held Labor Day weekend in Phoenix, Arizona. PACE seeks opportunities to promote professional activities at the member level. Janet recommended that PACE be invited to make a presentation at our next conference.

President Joenk shared with the AdCom the report from Susan Feinberg who represented the IEEE Professional Communication Society at the 1990 Colloquium in South America. Susan spoke in Rio de Janeiro, Buenos Aires, and Santiago on Using Computer-Generated Graphics to Make More Effective Engineering Documents and Presentations.

President Joenk, Ron Blicq, and Nancy Corbin each covered various segments of their trip to the U.S.S.R. and participation in the Kabli, Estonia, conference. A follow-on colloquium is recommended for Moscow next year and Rudy expressed that he would like about 10-15 participants. He plans to tie this colloquium in with the IEEE Region 8 colloquium and TAB meeting planned for early October 1991 in Italy (almost but not quite in conflict with IPCC 91). The AdCom concurred that this would

be a desirable activity; financial support will be considered at the next meeting.

President Joenk expects that there will be a PCS chapter in Moscow headed by Dr. Lantsberg. He will pursue making this goal a reality. A proposal was submitted to the AdCom to host Dr. Lantsberg as a guest speaker for the 1991 conference in Orlando and as a guest in the U.S. for 10-12 days centered on the conference. Members of the AdCom will investigate possible tours with their employers during Dr. Lantsberg's visit.

Conference chairman Susan Dressel presented a full report and shared brochures of potential hotels with the committee. She reported that the Protocol Office of Los Alamos National Laboratory is giving its full support to the conference and is helping make many of the arrangements. She would like one of the 1991 AdCom meetings to be held in Santa Fe. Conference committees are forming and the official kickoff meeting should occur the first week in December.

Richie Robinson reported that Mike Goodman has agreed to serve as conference chairman for IPCC 93 in Philadelphia.

Richie Robinson reported that conference chairmen are still being sought for 1994 and beyond. Anyone interested in hosting a conference should contact Richie (516) 575-5472.

Ron Blicq reported on the courses that he and Cheryl Reimold are teaching for NYNEX. As a result of IPCC 90 we recruited two new teachers. Teaching the technical writing courses has netted \$1200 for PCS to date. He also commented that he is seeking future sites for these courses. He reported that he and Nancy Corbin had presented mini-workshops in both England and Russia on communication skills.

Elections are the highlight of the AdCom's annual meeting. During the elections, the following were elected to serve three-year terms on the AdCom:

- Susan Dressel
- Mike Goodman
- Rudy Joenk
- Bill Kehoe
- David Kemp
- Cheryl Reimold

Lacy Martin was elected to a two-year term.

Rudy Joenk and Richie Robinson were reelected president and vice president, respectively, by acclamation. Rudy reappointed Bill Kehoe as treasurer and appointed Nancy Corbin as Membership Committee chairman. He will recruit another

secretary from the outside in order to add new talent to the AdCom. Anyone interested in serving as secretary should contact President Joenk at (914) 742-5665.

President Joenk announced that work is continuing on the 35th anniversary history of the Professional Communication Society. Susan Dressel will include the celebration in the Santa Fe conference.

The next AdCom meeting is scheduled for November 30, 1990, at the Airport Tower Hotel, 2015 Penrose Avenue, Philadelphia, PA, (215) 755-6500. Rooms are \$65 per night. Call Bill Kehoe if you plan to attend in order that he can make lunch reservations.

1991 AdCom meetings are scheduled as follows:

February 8	IEEE Headquarters, New York City
May 10, 11	Los Alamos and Santa Fe, New Mexico
November 1	Orlando, Florida
December 6	IEEE USA Office, Washington, D.C.

Without question, 1990 has been a banner year for the PCS. Next year promises to be even better. All PCS members are welcomed to attend the AdCom meetings and are encouraged to get involved. ◀

Ten Strategies from Journalists and Designers Help the Business Writer Produce a Newsletter

by Jeanne Swan Scafella, Ed.D.

One writer calls newsletters the fastest-growing type of printed communication in the United States,¹ while another notes that newsletters are the number one print medium among business communicators.² You'll find little disagreement that newsletters are becoming more important to the business community. Professor Albert Walker of Northern Illinois University underscores this importance when he notes that some 50,000 companies and organizations issue newsletters—and that "subscribers to newsletters are likely to read every issue from cover to cover."³ For the business writer assigned the task of doing the organizational newsletter, some tips from journalists and publication designers regarding format, news-gathering techniques, and style may help make the process more efficient.

Tip #1—Clearly define your audience and the purpose of the newsletter. It's an old, but very true saying, you can't be all things to all people. Nowhere is it more true than in a small publication. Work closely with the head of your organization to narrowly and clearly define an exact audience and purpose for the publication. This is most helpful in planning content and clarifying budget needs related to size and distribution. If you cannot narrow the purpose to a single idea, try organizing each issue around a single theme to give greater impact to the presentation of each idea.

Tip #2—Plan tasks and time carefully, both for yourself and your staff. Situations for a newsletter editor can vary widely within organizations. Sometimes a staff member can be assigned the newsletter in addition to a number of

other tasks. As editor you may or may not have others to write for you. Frequently the task of editor is to sort out already existing material to put into proper style and format for the publication. Whatever the situation you find, careful planning of each step of the newsletter and of your time in doing it can help you avoid the pitfall of letting the job fill all of the time available for it to be done. Keep stories and information gathering brief and concise. Plan artwork and photos with definite use in mind. Estimate your copy (amount of printed material to be used) by devising a formula which tells you how many typewritten pages will fill a column in your paper. Give specific story assignments if you have a staff to work with. Above all, establish deadlines and stick to them religiously. A final suggestion if you are working with others to put a news-

letter together—be sure to retain final authority as editor. This will protect you from having to go back to a committee or several other people for decisions on each phase of your work.

Tip #3—Design a format and style for your newsletter that fits with the organization and purpose. Numerous books⁴ and other publications⁵ offer specific advice on design and format. Nameplate and logo designs are a very personal part of the newsletter and give it a distinctive personality. The following list can provide ideas for some of the decisions you'll have to make.

1. What size will your publication be? Page size, number of pages, type of fold—these are all decisions you can make by examining copies of other newsletters, or by discussing your ideas with a commercial printer.

2. What will the title of your publication be? Do you have ideas for a nameplate (the distinctive design of the name that gives your paper a personality)? Graphic artists are good to consult on this one, or check designs others have used for ideas. (e.g. "Trademark Trends" is an interesting publication which reviews creative logos and trademarks which are registered weekly with the U.S. Trademark Office.)

3. What number of columns, or basic page design will you follow? For example, if you choose a 8-1/2 x 11 page size, three columns per page (each column 2-1/4") allows for an attractive design. Again, making this decision and sticking to it will permit you to plan your pages more efficiently.

4. What typeface will you choose? A commercial printer can help you with this decision by showing you a number of alternatives. There are also design publications which give you examples and suggest which type styles are best for specific purposes. Readability and attractiveness should be important considerations.

5. What kind of ink? What kind of paper? Generally black ink is least

expensive and quite acceptable. Occasional extra touches of color can be added when desired. Paper stock is a major choice for your newsletter project which should be made with budget considerations in mind. Color, texture and weight should be selected with advice from a good printer who can advise you according to the style and format of your newsletter.

Careful planning of each step of the newsletter and or your time in doing it can help you avoid the pitfalls of letting the job fill all of the time available for it to be done.

Tip #4—Use the journalist's five-W's-and-an-H approach to information gathering and writing. Whether you are working on your own to collect material for the newsletter, or have a staff to assist, the basic newswriting technique of asking who-what-why-when-where and how is a great assist in organization and efficiency. The questions form the basis of all news stories and the trick is to learn how to set priorities for the information and present it in readable style. These are a number of excellent books which can help you refine your newswriting style.⁶ Newswriting also uses what is known as the inverted pyramid style, putting the most important information at the top so that stories may always be cut from the bottom without destroying essential facts. This is a time-saver in the final stages of putting the newsletter together as stories don't have to be rewritten when they are too long.

Tip #5—Set high standards for photographs and artwork. Photographs, line drawings, charts and graphs enhance your newsletter if they are selected carefully and

used sparingly. Since display space is at a premium in a small publication, visual aids take on even greater importance. Photographs should have clear focus and add to the written articles, not repeat information. This same suggestion applies to the cutline, or explanatory tags placed under the visual aids. Don't repeat what your viewer/reader can plainly see. Give additional information. For example, under a feature photo of an infant in an outdoor pool, don't insult your readers by writing, "This infant in an outdoor pool. . . ." Rather use the photo as an illustration, saying, "Young Charles stayed cool while temperatures reached record highs . . ." Similarly, charts and graphs can be useful collections of information, saving space by collapsing presentation of ideas into a small area.

Tip #6—Treat headline writing as a special art that can contribute greatly to the readership and attractiveness of your publication. Even in a small newsletter, headlines on the stories you write can draw viewers into reading an article you present. Two other important functions of headlines are to summarize the story and to help set the tone of the newspaper. There are a number of traditional rules for headline writing which can be adapted to any size publication.⁷ Three critical guidelines which will help you get started: say something meaningful, draw the information from the story, state it simply.

Tip #7—Employ creative use of white space, headlines and other material to make each page of your publication attractive to the reader. It's tempting when working with a small newsletter to just put down columns of type to get in lots of information. But designers remind us that each page is a new challenge for the reader.⁸ One of the creative problems is to turn the looker or scanner into a reader—and the design techniques you can pick up, plus readership studies which have been done, can help you successfully apply research to your publication.⁹

Tip #8—Try the new desktop publishing capabilities offered by several computer companies to make creation of a newsletter delightfully easy—and give you complete in-house control of your publication. A number of possibilities exist, among them the PageMaker™ software by Aldus, which allows on-screen design of complete pages of your newsletter.

Since display space is at a premium in a small publication, visual aids take on even greater importance.

This type of system will also permit reduction of printing costs and time.

Tip #9—Work with the staff in your organization to develop a good distribution system for the newsletter. You want to be sure that readers receive the publication and have time to read it. Developing a creative mailing list can provide additional benefits to your organization by helping you keep in touch with former employees, for example, or by attracting attention of potential supporters.

Tip #10—Develop a critique session as a follow-up to each newsletter. Ask for written comments, evaluate articles, check errors, discuss possible improvements. Each publication is a new beginning and a chance to improve communication channels. Allowing others in the organization to invest interest in this process also allows them to take pride in the achievements of the publications.

Newsletters are as diverse as the more than 50,000 organizations which produce them. But you don't have to feel completely at sea if you are starting a new publication for your organization. These tips can help you get started, and the works

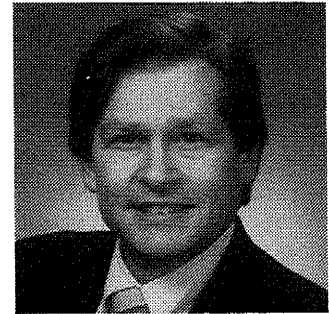
cited below can help provide further assistance.

Notes and References

1. Hudson, Howard Penn, *Publishing Newsletters*, New York: Scribners, 1982, p. x.
2. Quoted by Roy Paul Nelson, "Newsletters," *Publication Design*, 4th ed., Dubuque, Iowa: Wm.C. Brown, 1987, p. 300.
3. Walker, Albert, "Newsletters: Fastest Rising Print Medium," *Journal of Organizational Communication* 1, 1977, p. 22.
4. See especially, Mark Beach, *Editing Your Newsletter: A Guide to Writing, Design, and Production*, Portland, Oregon: Coast to Coast, 1982; and Howard Penn Hudson, cited above.
5. A helpful resource is *The Newsletter on Newsletters*, available from The Newsletter Clearinghouse, 44 West Market Street, P.O. Box 311, Rhinebeck, NY 12572.
6. See especially, Fred Fedler, *Reporting for the Print Media*, 4th ed., San Diego: Harcourt, 1988; and Brian Brooks et al., *News Writing and Reporting*, 3rd ed., New York: St. Martin's, 1988.
7. Baskette, Floyd, Jack Sissors and Brian Brooks, *The Art of Editing*, 4th ed., New York: Macmillan, 1986, pp. 173-201.
8. Nelson, Roy Paul, Cited above. pp. 3-34.
9. Baskette et al., pp. 219-354; See also, Edmund C. Arnold, *Designing the Total Newspaper*. New York: Harper and Row, 1986, p. 23.

Jeanne Swan Scafella is an Associate Professor and the Coordinator of the Program in Journalism and Mass Communication, Department of Communication, East Carolina University. She has professional experience in news writing and editing, including newsletters, in the areas of education, public television, and community mental health. She was also managing editor of a quarterly industrial newspaper. She currently edits a newsletter for a private medical practice serving the business and corporate community in Pittsburgh, Pennsylvania. She has published articles in Journalism Educator, TechTrends, and Technical Communication. She has B.S. and M.S. degrees in Journalism, and the Doctor of Education degree, all from West Virginia University. ◀

TECHNOLOGY & COMMUNICATION



by David L. McKown

Things That Go Bump in the Night: Viruses, Worms, Trojan Horses, and Other Beasties

Computers are wonderful things. They help people do all sorts of things that would not otherwise be possible. Unfortunately, there seems to be a recessive gene in the human gene pool that surfaces in some people, cursing them with a need to destroy the work of others. This gene manifests itself in the work of vandals who push over headstones in a cemetery, in the scratch in your car that a stranger passing by made with a key, and in the egotistical renegade programs called computer viruses. Viruses do their best to disrupt all that wonderful work we get our computers to do for us. They cost businesses and national economies unknown (for reasons you will see later) amounts of time and money. For 1988, the Computer Virus Industry Association (CVIA) reported 90,000 virus attacks on personal computers, and estimated that 200,000 diskettes had been infected.

This article discusses these electronic infiltrators, and ways to recognize them and protect your system from them.

A computer virus is software that replicates itself within other programs without help or knowledge of the owner of the computer on which it resides. Then, when these

infected programs are run, the virus within them is passed onto yet another program. In this way, a computer virus is like an organic virus that reproduces without any action on the part of the host.

However, whereas organic viruses are the result of some natural process (mad scientists aside), computer viruses are the result of an inventive and sometimes destructive human mind. Unfortunately, also like organic viruses, computer viruses can cause great damage to the entities they infect. In humans, viruses cause ailments ranging from the annoyance of the common cold to the devastation of AIDS. In computers, viruses cause disorders ranging from mischievous messages to destruction of entire libraries of data and even operating systems. While there are ways of detecting some viruses, others are virtually undetectable until their presence has been inferred from the damage they have caused.

Viruses may do something dramatic, or something nearly unnoticeable, or anything between. It's a tossup which of the two extremes is worse. If an entire disk is erased, the loss is great, but at least the user knows that something bad has happened and can recover files from backup (all good users DO backup, right?). But if small parts of the data are changed randomly and infrequently, the problem may not be noticed until backups that also contain the errors have been made. Then, not only is there a problem of generally unknown extent (or existence), but the means of repairing the damage easily has been eliminated.

Although it is certain that viruses, worms, Trojan Horses, and other damaging infestations have happened, the details of these events are not necessarily clear. Most major institutions, whether government, industry, or academic, are not thrilled with the idea of advertising their vulnerability. After all, would you want your medical records in a hospital computer that has been breached successfully? And they are even more close-mouthed about

their means of preventing and treating infestations. Wouldn't it be just the challenge that a twisted mind would relish if a major bank publicly declared it was safe against all viruses? So the details of the real viruses that have been causing all the excitement are a little blurred; in fact, some seem to have passed into hacker's lore. In any event, below are listed a few of the more infamous and colorful attacks in recent years.

Brain Virus

These are two versions of the Brain virus. The first version has the virus announcing itself with a message like "Welcome. Beware of this VIRUS. Contact us for a vaccination." *Us* is a Pakistani store that has no relationship to the virus. The other version has the virus rename the disk BRAIN, a *friendly* thing to do, as it will be readily apparent the next time a DIRECTORY is run.

Actual damage from this virus has been slight because of the warnings given by the programmer. This might well be a case of "because it was there."

*Like organic viruses,
computer viruses can
cause great damage to the
entities they infect.*

MacMag Virus

The MacMag virus affected Macintosh computers, and announced itself through a banner advocating Peace on Earth. It then proceeded to trash the System Folder.

ARPAnet Data Virus

This turned out to be a very costly and potentially dangerous virus. It began somewhere in California on an ARPAnet node and within 72 hours had clogged the entire net to a standstill.

PLO Virus

Although there is no evidence to link this virus to the PLO, it is so

called because it infected files throughout Israel, and was set to destroy files on Israel's Independence Day, May 13, 1988. Early detection prevented what would have been a national catastrophe: many national defense computers reportedly were involved.

Sunnyvale Slug

This was a particularly nasty bit of code, which was activated by a request to COPY a file. It erased it instead. Fortunately, it announced itself upon infection, so the observant user knew to take action. Not everyone noticed.

SCORES

Another Macintosh virus, SCORES, has reportedly infected Macs across the United States from NASA to EDS, a subsidiary of General Motors. No one is talking much about this one.

Hamburg Chaos Club Virus

Although NASA first confirmed, then denied the event, it is reported that the Club penetrated the NASA space physics data network and left behind a virus.

Christmas Card Virus

Slipped in under cover of an electronic Christmas card, this one brought down the entire IBM electronic mail network, worldwide.

Cookie Monster

This worm just left a message on the screens of MIT computers: "I'm a worm, kill me if you can!"

Electronic Mugging

Viruses (and their cousins and cohorts, described below), no matter how benign their creators intended them to be, are trespassers on YOUR computer, altering YOUR software and YOUR data without YOUR permission! There are those (and some are very influential in the computer industry) who believe that *harmless* viruses are merely tools for latent geniuses who are trying to learn more about the wide world of computers (the "because it was there" theory). In reality, any such violation is the equivalent of

an electronic mugging. Remember: people are knifed in subways just for fun, too.

Following are brief descriptions of various electronic parasites that might try to invade your system.

Worms

Worms (not the same as Write Once Read Many data storage devices) occupy one branch of the parasitic family tree. Worms crawl through the memory and disks of the infected system, altering the data stored there, executing their own routines, and generally disrupting things. The basic difference between a virus and a worm is that the worm does not infect other programs or code: it acts only on its own on the system into which it has infiltrated. However, a worm DOES replicate, creating more worms which then replicate, and so on. Eventually, the entire system is full of wormy code executing like crazy, and quite possibly bringing the entire system to a standstill. Worms are particularly effective on networked systems, where they can crawl along from node to node, happily finding new homes in which to replicate. Of course, if a copy of a wormy program is shared among different systems, the worm probably goes along (although some are designed to erase any trace of their existence after their misbehavior has been completed).

Time Bomb

Also called a Logic Bomb, a Time Bomb is simply a virus or worm that lies dormant for some time before activating itself. The trigger for activation can be anything: elapsed time since infection, the reaching of a specific date, some action on the part of the user (running a certain program, issuing a particular system command, formatting a diskette). Once activated, the bomb will likely do something undesirable to your data, perhaps changing only a random bit, perhaps wiping an entire disk.

Trojan Horse

A Trojan Horse, true to its name, is a program that allows a virus,

worm, bomb, or some other nasty code to sneak into your system. Usually, a Trojan Horse looks like a harmless and desirable program. When the program is run, the virus is liberated and able to carry out its function, whatever that may be, from just displaying a "Gotcha!" screen to erasing data and programs. Sometimes, Trojan Horse programs are written to *teach a lesson* to someone who illegally copies software. While we all have a little Rambo in us, combating one illegality with another isn't the most socially conscientious way of preventing crime.

Nonviruses

It has become almost chic to blame computer problems on a virus or other electronic critter. But chances are that something far more benign is behind the trouble. Users who are having trouble would do well to go over the following sanity checks before calling in the virus SWAT team. These simple checks can save time, effort, and embarrassment.

Bugs

Could be the program has a bug; it has an error in programming and just doesn't run correctly. Try to reproduce the problem and note any error messages, changes in data, and misbehaviors. If the problem is reproducible, chances are it's a bug, not a virus. A virus would continue to wreak havoc on other parts of the system, not simply repeat itself. If you think you have a bug, contact the software author or seller; perhaps it has already been corrected and a simple reload or change in procedure will correct it. If it's homegrown software, check out the code . . . again.

Mechanics

"Oh, no! I can't read from my external B: drive! Must be a virus on that shareware 5 1/4 I put in there!" Maybe. Maybe the cable fell off (not everyone tightens down those little screws . . .). Maybe the heads haven't been cleaned since '81. Did you notice where you placed your magnetized scissors last? "Oh. Drive B:, you say? Guess I typed A:.

Force of habit." By the way . . . when WAS the last time you backed up your hard disk? That hesitation in access, that barely audible grinding noise, that occasional *Can't access Drive C:* message are all telling you something. And it isn't that you have a virus.

Oops!

Scene 1 Act 1

C:\GOODDATA>Delete *.*
Are you sure? (Y/N)y

Scene 1, Act 2 (days later)

CD\GOODDATA
DIR
.
..
..<DIR>
..<DIR>

AU-U-U-U-U-GH!! VIRUS!!

Misunderstandings

Are you really sure you know what the program is supposed to do? Did you really read the manual? How about just the part that says *READ ME FIRST!* in big red letters? Just because you expected your new shareware spreadsheet to import Lotus™ files, that doesn't mean it will import that 500 x 500 cell job you brought home from work . . . or if it does, that it won't take forever to recalculate. Make sure you understand the capabilities and limitations of the software you use. Not only will that help you to recognize if a virus is at work, it will make the program more useful to you.

Remedies

In recent years, the concern over viruses has become less hysterical and more organized. The number of programs designed to detect and protect against viruses and the like have increased greatly over the last few years. Programs that protect against viruses are vaccines; those that try to clean them out of an already-infected system, disinfectants. Some work well; other less so. They are available for nearly every kind of computer and operating system, from Amiga to Zenith, and CPM to Xenix. However, as with organic disorders, the best defense is to avoid exposure in the

first place. Follow the Safe Computing practices listed below to minimize the risks you run.

Vaccines and Disinfectants

There are many commercial, shareware, and public domain programs designed either to reduce the chance of getting a virus, or to help eliminate viruses. These programs range in cost from a few tens to a few hundreds of dollars, depending on their source and sophistication. All of them have the same problem as do the manufacturers of police highway radar: as soon as they have something to defeat the lawbreaker, the lawbreakers come up with something new. Unfortunately, that probably always will be the case; counteractions cannot be developed until the action has been disclosed.

In recent years, the concern over viruses has become less hysterical and more organized.

Some of the antivirus programs offer periodic updates to cover new discoveries. If you download from an EBB (which you have investigated in advance), keep checking for later releases. Most SYSOPS maintain a *What's new* message area to alert users to such developments. And, if you have any questions about what programs might be most appropriate for your situation, by all means ask the SYSOP.

The simple fact is that there is no way to ensure that every virus, worm, or other dangerous intruder can be prevented from infecting any system. However, there are ways to *detect* almost virtually all of these creatures—maybe not before damage has been done to one system, but before the replication and spreading process can get too far along. And that's where the real danger in viruses lies: in the replication.

Here are a few programs for protecting your system that are representative of those available. There are many more not listed. Contact your computer dealer, your local computer club, a good bulletin board, and look in the many computer magazines for more information.

FLUSHOT PLUS (Software Concepts Design; shareware; PC)

VACCINE 1.2 (Foundation Ware; about \$200; PC)

VACCINE 2.0 (WorldWide Data; about \$80; PC)

Mace VACCINE (Paul Mace Software; about \$20; PC)

Vi-Spy (Software Systems, Inc.; about \$250; PC)

PCDATA (PC Magazine; freeware, downloadable from PC MagNET; PC)

The Anti-Virus Kit (First Aid Software; about \$80; Mac)

Virus Infection Protection (Discovery Software Int'l; about \$50; Amiga)

Safe Computing

Safe Computing is simply another way of saying "Exercise caution and common sense." While software promiscuity may be tempting, it is also a very good way of contracting a virus, worm, or bomb. And that latest *free* program could well be a Trojan Horse.

Avoid the following practices:

- Borrowing disks

"Don't put that in your floppy drive! You don't know where it's been!" In fact, that borrowed disk might well be infected. Even if you just intend to initialize it, you put yourself at risk. Make sure you know the history of the diskettes you use.

- Booting from borrowed disks

Even worse than using a borrowed data disk. Viruses and worms frequently hide in COMMAND.COM or other system files or folders. Using a contaminated command file guarantees infection. Better to look in your desk drawer for the original. It's in there somewhere.

- Using risky software

While almost all shareware and public domain software (they are two different things) is safe, the fact remains that you may be at a slightly greater risk of contracting a virus through their use if you download them from a remote system like a bulletin board. Protect yourself by downloading only from bulletin boards that are known to screen files for infection. Unfortunately, even using only commercial software does not guarantee immunity; there have been many cases of infections from software right out of a nice, new, shrink-wrapped box.

Watch for these early warning signs of infection.

- Sudden partial loss of memory

If you suddenly cannot run favorite programs because you have too little RAM, and you have not changed any operating parameters, suspect some sort of infection. Either a virus or some other nasty is sitting out in RAM, or the operating program has been altered to require more memory.

- Strange messages from nowhere and strange error messages

If you get a message that says something like "Ha, ha! I'm a virus! Catch me if you can!" you are very safe in assuming that something odd is under way. But if you get one that says *Memory fragmentation detected; reinitialization of system parameters recommended*, get the operating system manual pronto to see if that is listed as a system message. If not, you've probably caught something.

- Changes in file size, especially in COMMAND.COM

Changes in the size of the program file (not necessarily a data file, which can change because YOU added or subtracted data), might indicate that a virus has attached itself. Size changes as little as a few hundred bytes should be investigated. Viruses frequently modify the most basic system files, such as COMMAND.COM in the MS-DOS world; keep particular watch for changes in such files.

- Strange behavior of operating system commands

If CHKDSK begins to report larger numbers of lost clusters, or fails to give the option of "convert lost clusters to chains?" a virus may have been at work. Viruses may disrupt the organization of the hard drive, hiding in places they convince CHKDSK are fragments.

- Changes in time to accomplish tasks

If it seems to be taking longer to accomplish routine tasks, such as disk formatting or copying files, be suspicious; something more may be happening as a result of virus activity. Perhaps the virus is being transferred to the newly formatted disk or to the copied file.

So What If You Have a Virus?

If all efforts at prevention have failed, the only remedy you have is to turn to your backup. Discard the diskettes that you believe have been infected, or use disinfectant software to reclaim them. You may have to reformat your hard disk. If

you do, be sure to boot from diskettes that are virus free. If you followed your manual, you will have made backup copies of your original system diskettes; the originals will be safely stored away. As for your data files . . . well, you DID have a complete backup set, didn't you? The point here is that defense in depth is the best way to avoid catastrophe: safe computing coupled with antivirus software, reinforced by sensible backup practices.

Conclusion

The best advice to follow is: *Be Careful!* While it may be comforting and helpful to install antivirus software on your computer, it is very dangerous to rely on it to the exclusion of safe computing practices. New viruses and worms pop up with disturbing regularity, and you don't want your system to be the one that proves how easily your particular antivirus software can be defeated. Viruses are a fact of life. You are not immune. Act accordingly.

Newsletter Schedule

The *Newsletter* publication and deadline schedule is as follows:

DEADLINE	ISSUE
December 7	January 1991
January 31	March
March 29	May
May 31	July
July 26	September
September 27	November

Please send your contributions to Willie Hardin at the following address:

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