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 dis-
rupt the organization of the hard
drive, hiding in places they con-
vince 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 ac-
tivity. 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 soft-
ware to reclaim them. You may
have to reformat your hard disk. If
you do, be sure to boot from disk-
ettes 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 prac-
tices.

Conclusion
The best advice to follow is, Be
Careful! While it may be comfort-
ing and helpful to install antivirus
software on your computer, it is
very dangerous to rely on it to the
exclusion of safe computing prac-
tices. 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
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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 Debbi
Flaberry 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 representa-
tives in car 15 had no idea that they
were about to participate in a heart-
warming exercise in east-west com-
munication.

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 Lamsberg, chairman
of the Professional Communica-
tion 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.

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FROM THE EDITOR
by Deborah Flaberty 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 O' England. And, from all reports, the conference was a resounding success! It was 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 Flung 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! It was an experience that we will remember for our lifetimes. The feature articles in this issue are a part of that trip. Our thanks to Dr. Lansberg, Vera Burova, Dr. Svetlana Tolsteh, and the many wonderful colleagues we met who helped make our trip so memorable, meaningful and enjoyable.

Finally, Willie Harind 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. Working languages of the conference will be Russian and English.

(Dr. Lansberg is head of the Scientific Information Department at the Institute of Radio Engineering and Electronics, 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 Research 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. They were in Estonia, and particularly the conference they participated in and the extraordinary degree of interpersonal communication that developed between them and the people they met.

The group comprised Rudy Joens (IBM Corporation, Thornwood, NY), Nancy Corbin (IBM Corporation, Menlo Park, CA), Debby Flaberty Kizer (AT&T International, Morris- town, NJ), and Ron Blicq (The Rong Group Inc., Winnipeg, Manitoba), and was formed hurriedly because the lead-time was extreme- ly 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. Lansberg wearing an enormous IBM 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 the head of the Department of 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, uncrowd- ed, 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.

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

IEEE Professional Communication Society

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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 hundred 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.

Some of the antivirus programs offer periodic updates to cover new developments. However, many come in an EBB (which you have investigated in advance), keep checking for later releases. Most SYNSOPS maintain a What's new message area to alert users to such develop- ments. And, if you have any ques- tions about what programs might be most appropriate for your situation, by all means ask the SYNSOPS.

The simple fact is 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 dan- ger has been done to one system, but before the replication and spreading process can get too far along. And the best way to screen viruses is to check the replication in the virus database.

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.

FLUSH PLUS (Software Concepts, shareware, PC)
VACCINE 1.2 (FoundationWare, about $200, PC)
VACCINE 2.0 (WorldWideData, about $80, PC)
MacSecure (Paul Mace Software, about $20, PC)
VI-Spy (Software Systems, Inc., about $250, PC)
PCDATA (PC Magazine, freeware, downloadable from PC Magazine, PC)

The Anti-Virus Kit (First Aid Soft- ware, about $80, Mac)
Virus Detection (Discovery Software Int'l, about $50, Amiga)

Safe Computing
Safe Computing is simply another way of saying "Exercise caution and common sense." While software piracy may be a problem, 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 diskette you use.

- Boosting from borrowed disks
  Don't do worse than using a borrowed data disk. Viruses and worms fre- quently 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 there somewhere.

- Using risky software
  While almost all shareware and public domain software (they are two different things) is safe, the fact remains that some of it is safe by a slimmer than you might be a slightly greater risk of contracting a virus through their use if you download them from the same system like a bulletin board. Protect yourself by downloading only from bulletin boards that have security files for infection. Unfortunately, even using only commercial software does not guarantee immunity: there have been many cases of in- fections from software right out of a store, even some wrapped up. 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 pro- gram has been altered to required more memory.

- Strange messages from nowhere and strange error messages
  If you get a message that says something like "That's not a virus! Catch me if you can!" you are very safe in assuming that something odd is under way. But if you get a message that says Memory fragmentation detected, realization of system parameters incorrect, 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 ad- ded or subtracted data), might in- dicate 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.
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 times devices) occupy one branch of the parasitic family tree. Worms crawl through the memory and data of your infected system, altering the data stored there, executing their own routines, and generally doing things. The basic difference between a virus and a worm is that the worm does not attack other programs or code; it acts only on its own 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. The worms are particularly effective on networked systems, where they can crawl along, changing and corrupting data and software without even being noticed. Among different systems, the worm probably goes along (although some people have tried to erase the trace of their existence after their malevolent activity 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 is often a specific date or elapsed time since infection, the reaching of a specific data, 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 it to a random bit stream, 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 triggered and able to control its function, whatever that may be, from displaying a "Gotcha!" screen to erasing data and programs. Sometimes, Trojan Horse programs are written to teach a lesson to someone with whom you have 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 the program be 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 break and go on other parts of the system, not simply repeat itself. If you think you have a bug, contact the software author or vendor; perhaps it has already been corrected and a simple reload or reinstallation 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 '83. 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 ac-
cess C: message are all telling you something. And it isn't that you have a virus.

Ooga!
Scene Act 1 Act 1 C:GOODDATA\Delete * Are you sure? (Y/N)
Scene Act 1, Act 2 (days later) C:GOODDATA
DIR <DIR>
...<DIR>
A/U/A/U/A/G-H!! 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 your expected your new shareware to connect 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 help you use 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; others less so. They are available for nearly every kind of computer and operating system, from Amiga to Zenith, and Unix to IBM's OS/2. Hewlett-Packard, itself with organic disorders, the best defense is to avoid exposure to virus.

In Estonia our host was Dr. Svetlana Tolstob, who is head of Computer Science of 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 the Gulf of Finland, at the eastern end of the Baltic Sea. We were joined by Svetlana's daughter Marta, a charming 15-year-old who was fluent not only in both Russian and Estonian, but also had a very good command of English, so we could 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 Association (known as "KEK") of Estonia, on the east shore of the Baltic Sea some 24 miles south of Parnawa.

The conference room was shaped like a semi-circle, with tables arranged in the center. Meetings were held in the conference room, which was about 100 square meters in area, with a conference table in the center. The room was well equipped with modern equipment, including a large television screen, a projector, and a microphone system.

The conference proceedings were taped and transcribed. The recordings were then used to prepare a report for the conference participants.

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 Agar, conference president and Director of the Estonian Institute for Scientific and Technical Information. He welcomed delegates from various countries to stand and identify themselves as he introduced them, and then asked them to speak in English to underscore the conference's international make-up.

The "Eastern" Papers
The focus of Dr. Agar's speech was that Estonia—indeed, the whole U.S.S.R.—was entering the automation 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 provide service base, much irrelevant and unnecessary work was collected, stored, and referred to. Now it is difficult to identify important or specific information within this resource.

- There were used to be 60 to 80 minis ters 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 a acute shortage of computers, 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 pur chasing offshore equipment im possible.

The conference was designed to provide a forum for delegates to discuss and exchange information on the latest developments in the field of information technology.

The conference was a great success, and we are looking forward to attending the next one in 1993.
the country's non-digital telephone switching equipment, which is wearing out and frequently breaks down.

- The people themselves are insufficient 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 Joerck (who followed immediately after the opening speaker), Dr. Agar 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 50-minute description of the Professional Communication Society, its role within the IEEE, its mandate, and its products and services; and then a 30-minute description of the communication technology and information resources provided by IBM Corporation at Thornwood, New York, and how the resources are accessed by engineers through 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

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.

Virus 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 known. 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 to be 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 history's lore. In any event, below are listed a few of the more infamous and colorful attacks in recent years.

Brain Virus

There 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."

This 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 ready 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.

Sunyslave Slag

This was a particularly nasty bit of code, which was activated by a response to a CPY file. It erased it instead. Fortunately, it announced itself upon infection, so the observer 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 patent geniuses who are trying to learn more about the wide world of computing (the "because it was there" theory). In reality, any such violation is the equivalent of
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 you to design and 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 graphics, 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
4. See especially, Mark Beach, Editing Your Newsletter: A Guide to Writing, Design, and Proof, Dodgeville, and Oregon: Coast to Coast, 1982; and Howard Penn Hudson, cited above.
5. A helpful resource is The Newsletter on Newsletters, available from The Newsletter Publishing Services, West Market Street, P.O. Box 311, Rhinebeck, NY 12572.
10. Joanne Scatterfield, The Professor and the Coordinator of the Program in Journalism and Mass Communication, Department of Communication, East Carolina University. She has professional experience in newswriting and editing, including newsletters, in the areas of education, public television, and consumer 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 a Doctorate of Education degree, all from West Virginia University.

By David L. McKown

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

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, curing them with a need to destroy the works of others. This gene manifests itself in the work of vendors 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 ramblings of computer programs. 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 20,000 different viruses attacking 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 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 O'Brien outlined some of the educational courses developed by PCS and the multimedia methods used for presenting them. He demonstrated how student assignments were transmitted electronically to these instructors and then marked on-line and returned by E-mail. Then he described how the manuscript for a new text book can be sent to a publisher on a single 5-1/4 in., 1.2 Mbyte diskette, and viewed on and typed 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 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 healthy 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 postgraduate service.

**Conference Wrap-Up**

The conference ended with a two-hour round-table discussion chaired by Dr. Agur, who invited Rudi and David to discuss some of the most promising points from four prominent speakers from other sessions, and for all of articulate their views on the problems facing the U.S.R.S.S. 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 emerge in the "new" telecommunication society? (And how do we answer them?)

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

The panel members each presented their views, among lively discussions, 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 view points that were offered.

"**Yuri** The Translator" is an unwindingly played an unobtrusive role in establishing personal communication between the PCS contingent and the other delegates. He was an Estonian of about 25, 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 he was an expert conversationalist in 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 into Estonian and into Russian were "less than perfect." It was not until after Rudi 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 keyed 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 dialog of a videotape excerpt he planned to demonstrate.)

Throughout, Yuri displayed considerable interest in our information, asked perceptive questions, and injected a very strong 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 a table isolated from all the noise and talk. People were talking privately to others who were having conversations with each other. Yet by the second day we could be found sitting at other tables talking individually to many other participants. Our progress from "alone-ness" 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 of English. We were unhappy that they would be embarrassed by their supposed incompetence.

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
The Adventures Continue...  
PCS in Moscow

by Debby Flaberty Kizer

The fun shop, for instance, also sold
noodles and toothpaste.

Upon returning to the hotel, we
were thrilled to see St. Basil’s
bathed in floodlights. In a continua-
tion of the Moscow 1990 celebra-
tion, an outdoor opera was being
performed. Again, the pages were
bent, the page was filled with people
enjoying the music and singing. Following
the performance, there was a one-hour
fireworks display that was pos-
tively breathtaking.

Saturday was our day to “Do
Moscow.” In the morning, we
had a tour of the Kremlin Museums
(The Armoury Chamber). This provided
much insight into the history of
Russia and its people. We saw
everything from carriages to
Faberge eggs to weddings and cor-
onation gowns. Our 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
expensive and quite acceptable.
Occasional extra touches of color
can be added when desired.
Stock is a major choice for your
newspaper project which should
be marketed properly. Color, text,
and weight should be selected with advice
from a good supplier 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 #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. Several important
functions of headlines are to
summarize the story and to set the topic of the writer. The style of
headlines is a little different than
other writing. There are a number of traditional rules for headline writing which can be adapted to newsletter writing.

Tip #7—Employ creative use of
white space, headlines and other material to make each page of your publication attractive to the reader. By using white space when working with a small newsletter
to just put down columns of type to get in less of information. But designers remind us that each page is a new challenge for the reader. One of the creative
problems is to turn the loocker or scanner into a reader—and the design tech-niques should be implemented to
help you achieve this.

This is a summer in the
s near the end of the summer, and there is no better way to

Nancy, Rudy and Ron brighten up Red
Square in front of St. Basil’s Cathedral.
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, while another notes that newsletters are the number one print medium among business communicators. 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.1 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 each 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 pitfalls 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 type-written 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 newsletter 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 into the world of 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, Hungary, Romania, 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 well-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 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 Khitsamovtsev, 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...
The library was the only source for some 1600 released abstracts!

After our busy day, we were all looking forward to the evening's excursion. We attended the Státislavski Némovitz-Dan-
číkko hall at the Municipal Musical Arte Theatre! The theater's museum displayed photographs from the early days of the theater, and was a delight to wander through during the intermission.

We were immediately enchanted by the brilliance and beauty of St. Basil's Cathedral.

Three halls were performed, each one in a different style, but all superbly danced. After the perfor-
nance, Sveta, Dzenica, and Dzenica's daughter, and her guest Boris took us on a Moscow Metro tour. The stations are almost like 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 dined Sveta 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 recovers and stores documents that are not widely published and distributes them (paper copies or magnetic media) to its subscribers. The primary users are scientific research institutes, academic institutions, and industry. Upon request, the center provides analytical reviews. Most serving is done in an online mode, with most requests made via electronic mail. The network connects 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 faced by other institutes we visited. The telecommunications infra-
structure needed to provide the center with services that do not exist and telecommunications costs keep rising. The center is also grappling with a lack of funds, which should charge for its services without suf-
fering a decline in customer growth rate. Telecommunications financing is of major concern.

The center's director noted that there are four levels in the state in-
formation 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 be-
tween the higher and lower levels, with the second level receiving the most pressure.

On Tuesday afternoon, we visited the All-Union Institute for Auto-
matic Equipment. For us, the activity was somewhat misleading—the empha-
sis 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 computer networks. To carry out its charter, this Institute works with international organiza-
tions, primarily with the United Nations. The Institute operates a data packet switching network, along with an analog network, which is connected to some 80 international networks (i.e. Tyment, Dialog, CompuServe, etc.). In order to carry out its mission, the Institute has several joint ventures with foreign telecommunications carriers to pro-
vide services. Along with providing telecommunications services, the Institute is also involved in the development of commercial organization, and as such for charges for its services. One of its challenges is to expand the scope of its activities.

The Adcom officially appointed Willie Hardin as editor of the Newsletter. This issue is Debra Kone's last "Hotel of Lost Ideas.

Bill Kehoe shared a proposal prepared by Gordon Davis (Ameri-
can Association of Engineering Societies) to market the Commu-

Guide series for a fee of 35 percent of the cover price. A motion was made that everyone we met seemed genuinely happy with their.
TOOLS OF THE TRADE

by Cheryl Reimold

Negotiation and Communication Part I: 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 just draw a line and walk away. 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, 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, and then turn to the obvious answers so you can devise creative solutions. The most important question to ask is why—not just once, but over and over.

Here's an everyday example. You are buying a lab that runs tests for other departments in your company's R&D center. Increasingly, you are 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 extrapolate 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.

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? Other, no doubt, 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 budget request 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 huger. If your overall strategy is to get in 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 (4614 Fifth Ave., San Francisco, CA 94118), offers services in business writing, shops and courses in communication, writing, negotiation, and creative problem solving.

We were given a demonstration of the electronic mail capabilities at their institute. Rudy was invited to send an e-mail greeting to someone in the U.S., and choose (a surprised) Peter Heathcote in Robbie Robinson in Long Island, NY.

We also met with Dr. Vladimir E. Terentevsky, the General Director of Sovcomtel, the second largest American joint venture for the provision of telecommunications services. Sovcomtel Teleposter is offering service to about 100 customers in the U.S.S.R. Soyom currently uses Intelsat to a teleport in New York, New York, and dedicated fiber to Palo Alto. Sovom 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 exiles. A piano was available for impromptu music-making. Of course, with our entertainment background from Kabal, we were ready to roll. Nancy played, and Debby led the chorus with people from other delegations coming up to join. 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, everything from the physics of semiconductors to planetary investigation. After our visit, we walked to a 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 and eating with ease, even without knowing the language. In fact, we had become so "Soviet" that at lunch Dr. Lantsberg offered to buy his son, 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 Sheremeteyvo 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 had just names on paper for most of us. We will remember their kindness, friendship, generosity and warmth for a lifetime.

Herb Michaelson

Given Goldsmith Award in London

At IPCC '90, a committee made up of representatives of the UNESCO awards 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 contributed 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 perception 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 and articles for the benefit 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 fact and take great pleasure in giving him the recognition he so richly deserves."
President's Message

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) organization.

2. We now have opportunity and means to expand—consistent with our constitution—our mainstream topics to include information resource acquisition, storage, retrieval, and dissemination.

Our trip to the U.K. and the S.U.S.S.R. was a great experience for me—I 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 Cebrian writes about the Guildford conference; Ron Blicq, about the Estonian portion of the trip; and Debbie Kizer, about the Moscow visits.

I can easily identify five major benefits to PCS:

1. PCS can claim to be the only international, professional organization devoted to the study of communication, more so than other communication societies, more akin to other IEEE Societies who have already crossed the Atlantic Ocean to Region 8.

2. Chapter 20 in Moscow seems likely. It would be headed by the host of our U.S.S.S.R. visit, Dr. Heinrich Lantzius. This shows the approved format of an IEEE Moscow Section in August.

3. There is business among the Russian and Estonian information centers for a PCS mini-conference in Moscow in October 1991 as part of the IEEE Technical Activities Board's Region 8 Colloquium.

4. We will have a Russian keynote speaker, Dr. Lantzius, at IPC'91 in Orlando, Florida.

5. Numerous Soviets expressed interest in PCS products such as Ron Blicq's technical writing workshop to not only improve their writing ability but also to improve their knowledge of the English.

The high point of this trip for me occurred at the All Union Research Institute for Automated Systems. On a personal computer—our friend and shuttle driver, this is an extensive menu of bulletin-board systems and e-mail services, and there was CompServe. I quickly signed on and sent a greeting to vice president Richelle 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 speaker on the afternoon's agenda of business briefings. Each of us had been given 20 minutes to make our pitch. I glanced sidelong at the other speakers. Like the supermarket customer wading through 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? This seems like a rhetorical question, but I am afraid that the answer is "yes." Even down deep, we fool ourselves; after all, our motivation is not wrong. The actual time consumed by a given chart will be determined by statistical imperatives beyond our control, or so we think. In the absence of a comprehensive metric, 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 us and find something to 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 inopportune pause. "That's all I have to say," you mumble semiapologetically. One boss glances at another, raising his eyebrows minutely. You see that it is "that's all he has to say" raised eyebrow expression. Another boss uncrosses her knees and jots something on a notepad. Obviously, he is writing something to the effect that you had nothing more to say, having exhausted your claim to the topic 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 percentage 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 talls off slowly past 200 and 300 percent, and so forth.

"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 a Madison Avenue media." Topics chosen were fundamentally different. Mac-computer papers were scrutinized with fast food, rock music, sports, and relations, contrasted with the essays on capital punishment and nuclear war that came from "the Mac class.

But the papers from the Mac class were often creatively illustrated.

Halo 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; lifetime ago, when I was studying these things, no one off campus knew or cared what we were writing with or how. Now, as Halo says, "many people have an absolute commitment to the Mac that is in ways as strong as a bond of marriage."

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

Maybe not. 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 we weren't predisposed to one computer or the other, how would you choose? You'd decide on the basis of the professor. That 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 was the observation by one of Halo's associates that "although he was sure there was a difference, he wasn't sure exactly what it was." From this observation, Halo leaps to the conclusion that her respondents were uninformed. (Perhaps believing that there is some sort of effect on [italics mine] students' writing when they use a Mac is different from when they use an IBM.)

Aside with my problems with the syntax of that statement, I just don't believe it anyway. I am not a Mac user and I have 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 reminded them of the games they play at home; the mouse even seems like a sort of joystick to them, and they love it, and it always affects one's writing habits, style, and content, and 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 . . .
On Management Communication

by Michael B. Goodman

This column on management communication appears regularly in the March, July, and November issues of the PCM 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. Shewhart's published papers on quality control. It took root in Japan in the early 1950s.

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 communication—one-on-one and small group—are the skills behind the management philosophy.

Committments 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 topics to appear in the Transactions—the results of a survey graduate management communications curriculum; 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 Hailo 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 inside the quality of their writing (if one accepts Hailo's value judgments about quality, and I do). Comparing freshman 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; sentences were virtually nonexistent... and... quotation marks, apostrophes, and question marks were treated with gay abandon.
- There was a difference in style.

Of course, it is very hard to give a short talk. A long talk is much easier. For an hour talk, little planning is required, whereas to tell everything you know about what ever it is. On the other hand, a 20-minute talk requires organization and forethought. Mostly it requires throwing out some of your erudite material that will show the audience how smart you are. Oh, that is hard! A 20-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!

Thus at some nonzero length, a talk becomes maximally hard to give. Clearly, I would advise any research to identify this magic interval, but it has already been uncovered by the media—people is it 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 ask 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 inexperience. 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 wishing him to change charts, but to no avail. I know he feels comfortable talking to me but, then, 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 seems

The audience is no better at this time game. With the first speaker they are fresh, and they ask questions as they did all day. Most of the questions are designed to show how intelligent and informed they themselves are. We wonder why they deign to hear the talks. Perhaps they should be giving the talks themselves. But that is another story.

Even as we unconsciously prepare talks that are too long, we realize that we will be able to adapt the talk on the spot to whatever time constraints are imposed. This is 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 small amount of time. What do 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 discard the prepared litany of subjects. Each 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, long ago expired. Several principals

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 troublesome 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, persuasion 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

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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 who'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.

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An INTERNATIONAL PROFESSIONAL COMMUNICATION CONFERENCE

THE ENGINEERED COMMUNICATION

October 30 through November 1, 1991
Sheraton World Resort, Orlando, Florida

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 Westinghouse Waste Isolation Division
101 West Greene Street
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(505) 885-4803

Dr. Dan Plung, General Chair
Westinghouse Savannah River Company
1070 Silver Bluff Road
Aiken, South Carolina 29801
(803) 640-4435
Memories of IPCC 90

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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 environments that characterize 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. Shewhart's published papers on quality control. It took root in Japan in the early 1950s.

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 communication—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 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 curriculum; 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 Hatio 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, the quality of their writing (if one accepts Hatio's value judgments about quality, and I do). Comparing freshman 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, semi-colons were virtually nonexistent... and... quotation marks, apostrophes, and question marks were treated with gay abandon." There was a difference in style.

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 can 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 sort of serious material that will show the audience how smart you are. Oh, that is hard! A 20-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!

Thus at some nonzero length, a talk becomes maximally hard to give. Obviously, 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 devilishly 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 present 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 inexpedience. 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 he has another chart, but I feel, 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 succers.

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, or to wonder why they deign to hear the talk. Perhaps they should be giving the talks themselves. If they are not, the sound of the question, maybe they are.

Even as we unconsciously prepare talks that are too long, we realize that we will be able to adapt the talk on the spot to whatever time constraint the situation forces. 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 was 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 for the speaker to recall the detailed content of his notes. Some charts 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 our 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 wondering.

Nonetheless. I lug my 40-minute pile of transparencies to the head of the table. I wasn't ready for prime time. I have only 3 minutes to go. I'll confine my talk to a discussion of the big picture of this thing. The audience is already distracted by the sound of a magazine falling from the ceiling light. It is time to cut the microphone and gear television. It is a wonder they listen at all as I begin. The audience is too interested in their own level of commas and the relative quality of their communications. Who can resist the temptation to compare notes?"

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 is changing authors' work habits. A few years ago the complex page layout programs were sold 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 subtle pages of complex positioning? 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 collaborative writers. The third edition has just been published by The Oryx Press, Phoenix, AZ 85012.
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) PCS (as is) organization.

(2) We now have opportunity and impetus to expand—consistent with our constitution—our mainstream topics to include information resources outside storage, retrieval, and dissemination.

Our trip to the U.K. and the U.S.S.R. was a great experience for me—I 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 Talbott writes about the Guildford conference; Ron Blicq, about the Estonian portion of the trip; and Dobby Kizer, about the Moscow visits.

I can easily identify five major benefits to PCS:

1. PCS can increasingly claim international presence and activity, much more so than other communication societies, more akin to other IEEE Societies who had already crossed the Atlantic Ocean to Region 8.

2. Chapter in Moscow seems likely. It would be headed by the host of our U.S.S.R. visit, Dr. Heinz Lantzy. This follows the approval for all of an IEEE Moscow Section in August.

3. There is buzz about the Russian and Estonian information centers for a PCS mini-conference in Moscow in October 1991 as part of the IEEE Technical Activities Board’s Region 8 colloquium.

4. We will have a Russian keynote speaker, Dr. Lantzy, 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 the English.

The high point of this trip for me occurred at the All Union Research Institute for Automated Systems. On a personal computer visit, I found this an extensive menu of bulletin-board systems and E-mail services, and there was Comserve. I quickly signed on and sent a greeting to vice president Ritchie 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 speaker on the afternoon’s agenda of business briefings. Each of us had been given a large pitch to make our point. I glanced sidelong at the other speakers. Like the superintender customer waiting on an 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? Two different rhetorical question, but I am afraid that the answer is “yes.” Even down deep, we fool ourselves; after all, motivation isn’t the problem. The actual time consumed by a given chart will be determined by statistical imponderables beyond our control, or so we think. In the present situation, the committee and its committees, 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 imagi-

ary 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 horri-ble to contemplate that we thrust it aside for next time. And add a few more transparencies to our pile, just in case.

Imagine finishing your 20-minute talk in, say, 12 minutes. The au-
dience of your assembled bosses looks at you expectantly, waiting for you to continue from this inap-

propriate pause. “That’s all I have to say,” you mumble seminadily. One boss glances at another, raises his eyebrows minutely. You screech 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, he is writing something to the effect that you had nothing more to say, having exhausted your expositional capacity on this subject in a mere 12 minutes.

I wonder if anyone has ever com-

pared data on the actual length of short presentations as a per- cent of the allotted time? There are prob-

ably no known instances of anyone actually finishing on time, so the histogram starts at something over 100 percent and talls off slowly past 200 and 300 percent, and so forth.

“Paragraphs were brief . . . and sentences ... were short. Word choice tended to be simple, spiced with slang and connotative quailifications.” She saw a “sort of pop-style of the kind found in a Marketing magazine.”

• Topics chosen were fundamen-
tally different. Mac-generated papers were filled with fast food, rock music, sports, and rela-
tionships, contrasted with the essays on capital punishment and nuclear war that came from “the

scholars.”

• But the papers from the Mac class were often more creatively illustrated.

Halo and her associates make 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, lifetime ago, when I was studying these things, no one off campus knew or cared what we were writing with or how. Now, as Halo says, “many people have an absolute commitment to the Mac and Mac software that is in ways as strong a bond as mar-
riage.”

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

Maybe not. 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 prob-
ably 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 com-

puter or the other, how would you choose? You’d decide on the basis of what was closest to your dorm, maybe, or which one was reputed to be less crowded. If you’re a marginal student, of course, 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.”

“Aren’t we out of beer again?” asked Bill.

What we all identified was the observation by one of Halo’s asso-
ciates that “although he was sure there was a difference, he wasn’t sure exactly what it was.” From this observation, Halo leaps to the con-

clusion that her respondents were unanimous in believing that “there is some sort of effect on [italics] students’ writing when they use a Mac rather than from when they use an IBM.”

Aside with my problems with the syntax of that statement, I just don’t believe it. I don’t believe the ACM Network 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 lean in it and it seems to 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.”

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Maybe our “computer commitment” is more important than we think . . .
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’s wins and withdrawals. 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 of time, 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 and about the obvious answers so you can devise creative solutions. The most important question to ask is why—not just once, but over and over.

Here’s an everyday example. You are handling 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 turn-around time on really urgent tests is unacceptable and anything submitted as “routine” is continuously pushed back until it’s almost irrelevant. Rather than grumble, orquit and find another job before you develop ulcers, you extraducate 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 see your questions, 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, yes? Your response to real rush jobs.” Why do you want that? “To make the other department 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 bunging 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 turn-around on all projects so they can satisfy their clients. Fast response on urgent projects. Low cost. (Write a memo saying you getcomes out of their budgets.) But they also have to keep their subordinates happy, so when they have to turn them unhappy and unproductive is to give them more paperwork and less autonomy. 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 the general turnaround, that’s why people submit every thing 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? Other group may be pushing their budgets as more important than yours. And what do you do about that? Negotiate! Your analysis points you toward a two-step negotiation:

• Get the other department heads to support your ideas in order to get 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 huge. After that, we’ll see if we can make any next issue 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, PIERC Communications (4A Diehl Rd., Scarsdale, NY 10583, telephone 514-725-1024), offers business writing, in-house editing and courses in communication, writing, negotiation, and creative problem solving.

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) President of the Institute Dicie Robinson in Long Island, N.Y.

We also met with Dr. Vladimir E. Terentevsky, the General Director of Sovcomtrans, an American-Soviet joint venture for the provision of telecommunications services. Sovcom Trans holds contracts with about 100 customers in the U.S.S.R. Sovcom currently uses Intelecom to a teleport in New York, and dedicated fiber to Palo Alto. Sovcom is working on extending their service to Europe via a dedicated link.

On Tuesday evening, we treated our hosts to dinner. Luckily, Vladi volunteered to make reservations for us. The restaurant was a small, out-of-the-way place frequented by Soviet officials. Piano was available for impromptu music-making. Of course, with our entertaining background from Kahlil, we were ready to roll. Nancy played, and Debby led the chorus while people from other booths com ing up to join us. 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 activit y, especially by the influx of physicists to semiconductor to theodirection. After our visit, we walked through the center, 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 problems with ease, even without knowing the language. In fact, we had become so "Soviet" that at lunch Dr. Lantsberg told us to "save him the me for his daughter, Svetlana!"

After lunch, our budging 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 Sheremetevo II International Airport. At the airport, we bade farewell to Dr. Lantsberg and Vera Burova (who had accompanied us from 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.

IEEEl Plans Conversion to Electronic Publishing

According to Wallace Bohnke, Chairman of the TAB Periodical Council, and Fred Wolf Smith, 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 factors that may get faster and faster in the future: the speed of data processing and distribution. The workshop was divided into two sessions: the first was to discuss all-day and evening meeting. The primary objective of the workshop 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.
1300. The staff prepares special reports for scientists and publishes abstracts/bibliographical information. The library, containing over 12 million volumes, is part of the university's science library in Europe. The library's users are members of other institutions, including the Colosseum, the Academy, and post-graduate students.

The staff inputs information on over 1,000 documents a day! The operation has been continued since 1986. Remote users can access the catalog/abstract information online, as this information is stored in a database. Bulgarian users are among the largest online users, accessing the system almost daily. 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, and find funding for new 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. It 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 acronyms and abstracts into English by the end of the year. The library has hardware concerns as well. Rannest often does not have the equipment in place (e.g. light pens, bar codes, etc.) to provide circulation services. This equipment is not available in the U.S.S.R. The lack of 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 excitement. We attended the Stasniavsky's Nemcovskii-Danilovko ballet at the State Musical Arts Theatre! The theater's museum displayed photographs from the early days of the theater, and was a delight to wander through during the intermission.

We were immediately struck by the brilliance and beauty of St. Basil's Cathedral.

Three ballets were performed, each one in a different style, but all superbly danced. After the performance, Svetlana, Dvorkin's daughter, and her guest Boris took us on a Moscow Metro tour. The stations are almost like 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 online 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 institutions we visited. The telecommunications infrastructure needed to provide the center with network switching does not exist and telecommunications costs keep rising. The center is also grappling with methods of handling and charging for services without suffering a decline in customer growth rate. Their operating financing is of major concern.

The center's director noted that there are four levels in the state information services of 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 Automatic Computing Technology. For us, this was 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 our institute. To carry out its charter, this institute works with international organizations, such as UNESCO and IEC. The Institute operates a data packet switching network, along with an analog switch 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 computer training, commercial organization, and as such charges for its services. One of its challenges is to expand the scope of its activities.

PCS AdCom Meeting Notes

by Nancy C. Corbin

The Administrative Committee (AdCom) met December 10, 1990, at the Ritz-Carlton Hotel in Orlando, Florida, site of the 1991 conference. AdCom members had the support of many facilities for next year's conference, met with hotel management, and attended Dr. Tung's 1991 conference planning meeting. Arthur Goldsmith, Director of Division VI, was among the attendees.

Ron Bitz and Arthur Goldsmith commented on the sessions 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 Koo's "last" Labor of Love.

Bill Kehoe shared a proposal prepared by Gordon Davis (American Association of Engineering Societies) to market the Conference Guide series for a fee of 35 percent of the cover price. A motion was made and seconded that everyone we met seemed genuinely happy with their work.

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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. Lansberg. He will pursue making this goal a reality. A proposal was submitted to the AdCom to host Dr. Lansberg 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 discuss possible tours with their employers during Dr. Lansberg’s visit.

Conference chairman Susan Dreszel 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. Any- one interested in serving on the committee should contact Richie (516) 575-4257.

Ron Bitz reported on the courses that he and Cheryl Reimold are teaching for NYENEX. As a result of IPCC 90 we recruited two new teachers and by 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 most of the courses in both England and Russia on communication skills.
Ten Strategies from Journalists and Designers Help the Business Writer Produce a Newsletter
by Jeanne Swan Scaffella, Ed.D.

One writer calls newsletters the fastest-growing type of printed communication in the United States, while another notes that newsletters are the number one print medium among business communicators. 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.” 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 pitfalls of letting the job fall 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 type-written 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 newsletter...
The Adventures Continue... . .

PCS in Moscow

by Debby Flaberty Kizer

Four Adricom members attended a Soviet Technical Conference in the Soviet Union in September. These are the observations of Debby Flaberty Kizer. See related article by Ron Blais 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 bus tour, we once more stayed at the bounteous feast. Our Tallinn host, Dr. Svetlana Tolpast, sent us on our way with a delightfully delicious celebration cake.

We pulled into Leningrad Station in Moscow Saturday morning—September 22nd—where we were greeted 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 Radisson—located right downtown. 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 toward St. Basil’s. Much to our delight, the steps of the Cathedral were crowded with military bands, having what looked like 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 so much, returning to meet the Rudy, Ron, and Dr. Laubscher for a late lunch.

That evening, after purchasing tour tickets for the next day, we headed back to the hotel. There was much hand clapping 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 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 culmination of the Moscow 1990 celebration, an outdoor opera was being performed. Again the same 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 Fabergé 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 expensive and quite acceptable. Occasional extra touches of color can be added when desired. A stock is a major choice for your newsletter project which should be modified—considering in mind. Color, texture and weight should be selected with advice from a good source 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 #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. Another important feature of headlines is to summarize the story and to help set the tone for the newsletter. There are a number of traditional rules for headline writing which can be adapted to your publication. Three critical guidelines which will help you get started: say something meaningful, keep 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. Especially 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. One of the creative problems is to turn the looser or scanner into a reader—and the design technique should be applied to pick up, plus readership studies which have been done can help you successfully apply research to your publication.
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 you to design and 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 contents, 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
5. A helpful resource is The Newsletter on Newsletters, available from The Newsletter GreetingsHouse, 41 West Market Street, P.O. Box 311, Rhinebeck, N.Y. 12572.
10. Joanne Susan Scallon is the Coordinator of the Association of the Program in Journalism and Mass Communication of Publications, Department of Communication, East Carolina University. She has professional experience in newswriting and editing, including newsletters, in the areas of education, public television, and government. 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, Tech Trends, and Technical Communication. She has B.S. and M.S. degrees in journalism, and a Doctor of Education degree, all from West Virginia University.  

By David L. McKown

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

Computers are wonderful things. They help people do all sorts of things that would not otherwise be possible. Unfortunately, there seems to be a seismic 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 palm over headstones in a cemetery, in the scratch in your car that a stranger passing by made with a key, and in the egotistical regal 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 the destruction of 50,000 diskettes, and 40 programs faced a major legal battle from the Federal Trade Commission. 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 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.

R. W. B. Olivers 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 these instructors and then marked on-line and returned by E-mail. Then he described how the manuscript for a given text book can be sent to a publisher on a single 5-1/4 in., 1,2 Mbyte diskette, and retrieved on and typeset directly from the diskette.

On the second evening of the conference Nancy and Ron also pre sented a shortened version of their 1-1/2 hour workshop "Technical Writing and Speaking." Questions from the audience showed that the conference delegates were particularly interested in the electronic communication techni ques used by both IBM and AT&T. They also showed a healthy interest in PCS’s educational 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 Rady and Denny for a round of questions from 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 emerge as we enter the telecommunication society? (And do we do about them?)

The conference was organized jointly by the Estonian 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 view points that were offered.

"Yuri" The Translator

Yuri unswervingly played an unobtrusive role in establishing personal communication between the PCS contingent and the other delegates. He was an Estonian of about 25, 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 Rady had presented his paper that Dr. Agur informed us that many English language expressions were being lost in Yuri’s translation.

Consequently Deby, 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 dialog of a videotape excerpt he planned to demonstrate.)

Throughout, Yuri displayed considerable interest in our information, asking questions, and injected a witty 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 first hesitant to be found sitting at other tables talking individually to many other participants. Our approach from “aloneness” 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 smattering of English. We were unaware that many others also could speak English. We were unaware that many others also could speak English. We were unaware that many others also could speak English.

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
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.

PCC's Papers

In introducing Rudy Joczk (who followed immediately after the opening speaker), Dr. Agar 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. delegations 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 50-minute description of the Professional Communication Society, its role within the IEEE, its mandate, and its products and services; and then a 30-minute discussion 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.

PC'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 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 (and some scientists believe 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 toosup 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, or your bank statements, have 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.' Cs, 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 computer reportedly were involved.

Sunsorya Slag

This was a particularly nasty bit of code, which was activated by a request to remove a file. It erased it instead. Fortunately, it announced itself upon infection, so the observer 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

Virus (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 computing (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 times Devices) occupy one branch of the parasitic family tree. Worms crawl through the memory and infected resources, altering the data stored there, executing their own routines, and generally doing all sorts of mischief. The basic difference between a virus and a worm is that the worm does not infect other files or code: it acts only on its own system into which it has infiltrated. However, a worm 

**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 safety checks before calling in the virus swat team.

Bugs

Could the program be a bug? It has an error in programming and just doesn't run correctly. Try to reproduce the problem and note any error messages, changed data, and bad behaviors. If the problem is reproducible, chances are it's a bug, not a virus. A virus would continue to break up on other systems of the system, not simply repeat itself. If you think you have a bug, contact the software author or owner and perhaps it has already been corrected and a simple reload or complete procedure will correct it. If it is 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 put in there!!!

Maybe. Maybe the cable fell off (not everyone tightens down those little screws...). Maybe the heads haven’t been cleaned since 51. Did you notice where you placed your magnetized scissors last? "Oh. Drive B., you say? I 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 acces the C message are all telling you something. And it isn’t that you have a virus.

Ooga!

Scene Act 1 Act 1 C:GOODDATA\DELETE * Are you sure? (Y/N)

Scene Act 1 Act 2 (days later)

C:GOODDATA

DIR ...

..CDR ...

AU+U+U+G+H!! VIRUS!!

**Misunderstandings**

Are you really (as 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 to perform some 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 also 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; others less so. They are not available for free for every kind of computer and operating system, from Amiga to Zenith, and even for Unix. Your best defense is to avoid exposure to these.
FROM THE EDITOR
by Deborah Flaberry 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 truly an international experience, with professional communicators from all over the world sharing their concerns and working communications issues. Hats off to John Mofett, 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, Dr. Flaberry Kizer 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 tell the story of our trip. Our thanks to Dr. Lansberg, Vera Burova, Dr. Svetlana Tolhost 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. Lansberg is head of the Scientific Information Department at 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. How they were in Estonia, and particularly the conference they participated in and the extraordinary amount of interpersonal communication that developed between them and the people they met.

The group comprised Rudy Joesen (IBM Corporation, Thornwood, NY), Nancy Corbin (IBM Corporation, Manchester, VA), Debbie Flaberry Kizer (AT&T International, Morris- town, NJ), and Ron Bliz (The Roning Group Inc., Winnipeg, Manitoba, and), 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 Airway's flight 872, which touched down at Moscow's Sheremeteyevno International Airport at 5 p.m.

We were also considerably relieved to see Dr. Lansberg wearing an enormous IBM 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 of 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 stay. Both spoke excellent English.

He whisked us in a small van through Moscow's broad, uncrowd- ed, 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.

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 developments in virus technology, from an EBB (which you have investi- gate in advance), keep checking for later releases. Most SYSPRO maintain a What's new message area to alert users to such develop- ments. And, if you have any ques- tions about what programs might be most appropriate for your situation, by all means ask the SYSPRO.

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 dan- age has been done to one system, but before the replication and spreading process can get too far along. And the worst is that the real danger in viruses lies in: the replica- tion.

Here are a few programs for pro- tecting 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 com- puter magazines for more informa-

FLUSHPLUS (Software Concepts Inc., shareware, PC)
VACCINE 1.2 (FoundationWare, about $200, PC)
VACCINE 2.0 (WorldWideData, about $80, PC)
Macsafe (Paul Mace Software, about $20, PC)
VI-Spy (Software Systems, Inc.; about $250, PC)
PSCDATA (PC Magazine; freeware, downloadable from PC Magazine, PC)
The Anti-Virus Kit (First Aid Soft- ware; about $80, Mac)
VirusWatch (Discovery Software Int'l.; about $50, Amiga)
Safe Computing
Safe Computing is simply another way of saying Exercise caution and common sense. While software programs may be available, there 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 diskette you use.
• Boosting from borrowed disks
Don't be worse than using a borrowed data disk. Viruses and worms fre- quently 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 are taking a bit of a chance. You are likely to get a bug with a great risk of contracting a virus through their use if you download them from some system like a bulletin board. Protect yourself by downloading only from bulletin board services that check files for infection. Unfortunately, even using only commercial soft- ware does not guarantee immunity; there have been many cases of in- fections from software right out of a new commercial or an unboxed 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 lit- tle 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 pro- gram has been altered to required more memory.

• Strange messages from nowhere and strange error messages
If you get a message that says something like "Fatal error. Did you mean virus? Catch me if you can!" you are very safe in assuming that something odd is under way. But if you get a message that says Memory fragmentation detected, revisionalization of system parameters attempted, 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 ad- ded or subtracted data), might in- dicate that a virus has attached itself. Size changes as little as a few hundred bytes should be investi- gated. Viruses frequently modify the most basic system files, such as COMMAD.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 diskette 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:

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March 29
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September 27

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Please send your contributions to Willie Hardin at the following address:
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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 Debbi Flaberry 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. Heinrich 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 applications 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. Heinrich 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 continued on page 2

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