PCS AWARDS FOR 1998

BY ROB HOUSER

Stephanie Rosenbaum

One of the important functions of the Professional Communication Society is to recognize outstanding achievement and contributions to our profession and society. PCS bestows three awards annually: the **Goldsmith Award** for outstanding achievement in engineering communication; the **Schlesinger Award** for outstanding service to PCS; and the **Best Paper Award**, for the best paper published in the *IEEE Transactions on Professional Communication*.

The purpose of this article is to highlight the 1998 award winners and to invite award nominations for 1999.

Goldsmith Award 1998:
Stephanie Rosenbaum

Stephanie Rosenbaum is founder and president of Tec-Ed, Inc., a 20-person consultancy specializing in usability engineering, user interface design (including graphic design), user documentation, and marketing communication. A pioneering firm in technical communication, Tec-Ed celebrated its 30th anniversary in 1997. Tec-Ed maintains offices in Ann Arbor, Michigan; Palo Alto, California; and Rochester, New York; clients include Intuit, Yahoo!, Sun Microsystems, Netscape, Xerox, Autodesk, and many smaller firms.

An IEEE Senior Member as well as a Fellow of the Society for Technical Communication (STC), Stephanie has delivered papers and presentations on documentation and usability for the IEEE, ACM SIGDOC, STC, the Usability Professionals Association, and companies such as Federal Express. Her recent publications include a chapter in John Carroll's volume on *Minimalism Beyond the Nurnberg Funnel* and an IPCC paper on "Whole-Product Usability: Integrating Documentation and Rest-of-Product Usability Testing."

Stephanie serves on the PCS AdCom and was program cochair (with Lori Anschuetz) of IPCC 96. A member of ACM SIGCHI and the Human Factors and Ergonomics Society, she is also vice-chair of ACM SIGDOC and heads the STC's Research Grants Committee. Stephanie holds a B.A. degree from the University of Michigan and an M.A. degree in the philosophy of language from the University of California at Berkeley. Her research background includes anthropology studies at Columbia University and experimental psychology research for the University of California at Berkeley.

When not involved in documentation and usability research, Stephanie sings early classical music and scuba-dives. Her paper for IPCC 98 (coauthored with Ron Blicq) described underwater communication during scuba-diving in "The Downs and Ups of a Non-trivial Pursuit."

Schlesinger Award 1998:
Mark Haselkorn

Dr. Mark P. Haselkorn is Professor and Founding Chair (1985-97) of the Department of Technical Communication in the College of Engineering at the University of Washington. He spent the 1997-98 academic year on assignment with the National Science Foundation as coordinator for Year 2000 External Activities. Dr. Haselkorn began serious study of the Year 2000 problem in February 1995. In addition to his activities at NSF, he is currently chair of the Year 2000 Coordinating Committee of the IEEE.

FROM THE EDITOR
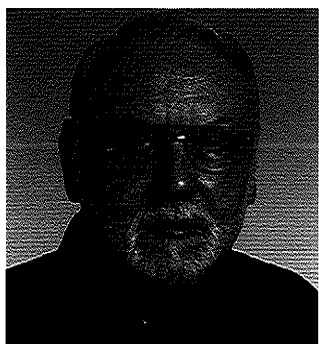
RUDY JOENK

PCC 98 Sessions

Once again we are fortunate to have extensive reportage of our annual conference by PCS and Editorial Advisory Committee member Laurel Grove. See her six articles beginning with "Keynote Address" on page 15. Also see the collage of conference photos on page 14.

Homily

Both recently and in my previous incarnation as *Transactions* and *Newsletter* editor in the late '70s and early '80s I published or (nonexclusive OR) reprinted many articles on English grammar and usage, but never did I come across an article offering guidance on the genitive with gerund. (That's not to say the subject can't be found in textbooks.) Probably most people don't even remember that that's the name for a construction of the type *I was annoyed by his being there.*

It has long been my impression that I seldom hear the correct construction in spoken language (more likely, *I was annoyed by him being there*; fused participle). Only slightly more often do I find the correct construction in text. So, being a working editor again, albeit part-time, I began to wonder if my training was lacking or whether time has altered usage.

I reviewed some of the teaching on this subject and offer these historic views in lieu of the probably "arcane bagatelle" that columnist Michael Brady suggested a tutorial article would be.

- In 1926 Henry Fowler (*A Dictionary of Modern English Usage*) was adamant that the fused participle—modifier in the objective case—should be avoided.

- In 1966 Wilson Follett (*American Usage*) offered these guidelines: When the idea that governs the gerund clearly calls for a stress on the person, the objective-case modifier may be used. When the stress falls equally well or better on the action, the genitive case must be used. Then he goes on to cite exceptions such as words incapable of possessiveness.

- In 1980 Roy Copperud (*American Usage and Style—The Consensus*) reported that the consensus is to use the possessive whenever possible but not to force an unwieldy construction.

- In 1993 Kenneth Wilson (*The Columbia Guide to Standard American English*) said "Native speakers can now trust their ears" meaning (a little loosely I think) that either the genitive (possessive) or objective case may be used before gerunds.

You can find many other writers in the intervening years who also show through examples the many exceptions to the "rule." The teaching has become less dictatorial, especially as more exception examples are recognized, but my guide is: *When not oppressive, use the possessive (or rephrase).*

AdCom Meetings

As announced in the previous *Newsletter* there is an AdCom meeting January 15-16 at the International Airport Marriott Hotel in Houston, Texas. The next meeting will be in June in the Boston area; date and place to be determined. Members are welcome at AdCom meetings.

BECOMING DIGITAL—BENEFITS AND DRAWBACKS, HOPES AND CONCERNS

ROGER GRICE

Think and plan before jumping into action.

In *Being Digital*, Nicholas Negroponte extolls the benefits of the world of digital communication—the possibilities for speed, efficiency, custom-tailored information, and forms of communication that we can only imagine today. If you're an optimist like I am—someone who always sees the glass as half full (and secretly imagines that it's really more than half)—Negroponte's vision is surely the one that will shape our lives in the upcoming decades. We have a bright future ahead of us.

But every once in a while, harsh reality jumps in and makes me have a second thought—or two—about where we might be headed. I had one of these brushes with reality recently when I attended the IEEE Technical Activities Board (TAB) meeting in November.

The IEEE produces an amazingly large volume of paper. Consider the number (about 100) of *Transactions* and magazines produced by IEEE societies, the number of conference proceedings (some societies have several conferences each year), the number of newsletters, *Spectrum*, *The Institute*, and all the routine membership correspondence. Add it all together and you have a staggering amount of paper. Surely something can be done to save trees, postage, distribution cost, and shelf space. A number of possibilities come to mind; two that are discussed more than others are distribution on CD-ROM and distribution over the World Wide Web.

What's Holding Us Back?

There are a number of factors: tradition, usefulness, and economics.

Many people hold up *tradition* as a reason to resist change. After all, information printed on paper has served us all these centuries, and it has served us well. Although it can certainly be argued that moving from print media to electronic

media has advantages today and even greater potential advantage for the future, the fact remains that some people will always be happier with the forms they have become familiar with.

The argument of information *usefulness* is a strong one. Many indexing services today index only printed information. (This will, of course, change, but that's the way things stand today.) To abandon print media for electronic media means that authors will not get the distribution and audiences they deserve. It also means that readers searching for information will not get the pointers they expect, and a large portion of intellectual property may become hidden, and hence "lost."

The *economic* argument always carries great weight. Switching from one medium to another involves start-up costs and, for a while, dual maintenance costs. We are now at a major decision point in our use of electronic media. A few short years ago, CD-ROM seemed like the wave of the future. It stores a large volume of information in a small volume of plastic; it stores the information reliably, cheaply, and in a manner that is easy to produce and access. But the increasing pace of technological change may be making CD-ROM old before its time.

Today, many people look to the World Wide Web for information. The Web provides access to a much, much larger volume of information than even a collection of CDs can; it allows immediate and continual updating; it enables people to link to additional collections of information; and it doesn't require people to carry storage media with them—just their passwords to use on any terminal they have access to.

Does this mean that we should not change and move ahead? No, it does not. Already within the IEEE we see the use of OPeRA (Online Periodical and Research Area) for

PCS AWARDS FOR 1998

Dr. Haselkorn is a member of a number of working groups for the U.S. President's Year 2000 Conversion Council. He has been featured in numerous articles and shows on the subject, including National Public Radio's "Talk of the Nation: Science Friday." Most recently he was an invited speaker on the Year 2000-problem on a South American tour to Peru, Argentina, Chile, and Uruguay.
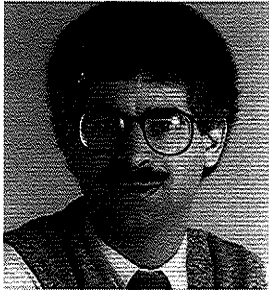
Prior to his focus on the Year 2000 problem Dr. Haselkorn enjoyed nearly two decades of leadership in interdisciplinary technology areas such as multimedia, usability, international technical communication, and the use of new information and communication technologies to deliver user services. He has been a leading researcher in Intelligent Transportation Systems with funding between 1989 and 1995 of over $5 000 000. Because of his work in this area the Minnesota Department of Transportation called him "one of the nation's leading experts on the use and impact of computer technology."

Dr. Haselkorn was 1996-97 president of PCS. His other roles in PCS include Seattle chapter chair, 1992-96; associate editor of the *Transactions on Professional Communication*, 1986-95; and program chair for IPCC 88. Dr. Haselkorn has also been extremely active on the IEEE Technical Activities Board (TAB), including its Management Committee, 1998; Strategic Planning and Review Committee, 1998; Blue Ribbon Committee (Reorganzation), 1996-98; Finance Committee, 1997-98; and Products Council, 1997-98. He was instrumental in the recent creation of the Intelligent Transportation Systems Council.

Mark Haselkorn

Menno de Jong receiving the Best Paper Award from Rob Houser

Best Paper Award 1997 (tie): Robert Krull

Robert Krull (pictured at right) received a Best Paper Award for his article "What Practitioners Need to Know to Evaluate Research" which was published in the September 1997 issue of the *Transactions* (vol. 40-3, pp. 168-181).

Dr. Krull is a professor of communication at Rensselaer Polytechnic Institute in Troy, New York, and director of the master's degree program in technical communication. In the past he has held several administrative positions at Rensselaer including associate dean for Graduate Programs and Research in Humanities and Social Sciences, director of Distance Education Programs in Communication, and director of the Industrial Affiliates Program in Communication. Professor Krull received his B.A. degree in psychology from the University of Michigan, and his M.A. and Ph.D. degrees in mass communication research from the University of Wisconsin.

Author of more than 80 scholarly papers, Dr. Krull conducts research on the structure and content of performance support systems. His studies of computer interfaces and documentation have been supported by such corporations as IBM, AT&T, and NCR. His studies of instructional television were supported by the National Institute of Mental Health and the Children's Television Workshop.

Last year, Dr. Krull received the Goldsmith Award for outstanding contributions to technical communication.

Best Paper Award 1997 (tie): Leo Lentz and Menno de Jong

Coauthors Leo Lentz and Menno de Jong received a Best Paper Award for their article "The Evaluation of Text Quality: Expert-Focused and Reader-Focused Methods Compared" which was published in the September 1997 issue of the *Transactions* (vol. 40-3, pp. 224-234).

Dr. Lentz is an associate professor at the Utrecht Institute for Linguistics at Utrecht University in the Netherlands. He conducted research projects on language
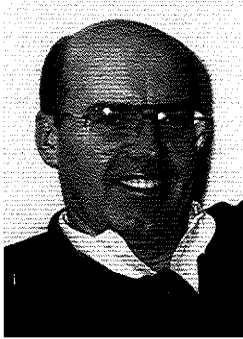
teaching and wrote a Ph.D. thesis on the functions of the school curriculum as a communication document between school and government. Text evaluation is the main focus of his research. He develops methods for reader-focused and text-focused evaluation. Another part of his research consists of field studies on career writers in the Netherlands. He recently published *Discourse Analysis and Evaluation: Functional Approaches*, which he coedited with H. Pander Maat.

Dr. de Jong is an assistant professor of applied linguistics at the University of Twente (Enschede, the Netherlands). His main research interest is text evaluation methodology and usability. He has published articles in other journals such as the *Journal of Business and Technical Communication*, the *Journal of Technical Writing and Communication*, and *Technical Communication*. His Ph.D. dissertation focuses on the value of the plus-minus method for pre-testing public information brochures. More recently he started a research project aiming at the development and validation of evaluation techniques for World Wide Web sites.

Robert Krull

Together the authors have co-written another article which received the 1997 National Council of Teachers of English Award for the best article in technical and scientific communication reporting qualitative or quantitative research.

How Awards Are Chosen

The Best Paper Award is chosen by the PCS Editorial Advisory Committee.

Nominations for the Goldsmith and Schlesinger Awards are submitted by PCS members. The final selection is made by a vote of the Administrative Committee (AdCom). All members of PCS are encouraged to submit nominations for these two awards. For more information about these awards and past recipients of the awards, refer to *http://www.avana.net/~rhouser/ieee*.

If you would like to nominate someone for an award, please send e-mail to *rob@user first.net*. Include the nominee's name, specify the award you think he or she should receive, and submit a 100-200 word explanation of why this person should receive the award. Nominations must be received by May 31, 1999.

FROM THE EDITOR

(continued from page 2)

Info for Authors

One thousand words makes a nice page-and-a-half article, although longer and shorter articles may be appropriate. Proposals for periodic columns are also welcome.

If you use a wp program, keep the format simple; multiple fonts and sizes, customized paragraphing and line spacing, personalized styles, etc. have to be filtered out before being recoded in *Newsletter* style for the publishing software. Some wp codes can be converted from one program to another but headers, footers, and tables lead the casualty list. Embed just enough highlighting—boldface, italics, bullets—to show me your formatting preferences.

Use e-mail for transmitting an article or postal mail for sending a diskette. My addresses are in the boilerplate at the bottom of page 2.

Deadlines

To shorten publication lead time and make it easier to remember deadlines I am setting the 15th day of each odd-numbered month as the deadline for publication in the succeeding odd-numbered month. For example, the deadline is March 15 for the May/June issue; May 15 for the July/August issue; etc.

Best wishes for the new year.

ECONOMIST STYLE

BY MICHAEL BRADY

Turn back the clock. Recall the questions in quizzes in your 10th grade English class in high school. (If you are a PCS member outside the U.S., imagine what they could have been like.) The archetype question asks you to assess the grammar of a few sentences and correct any errors you find. Consider, for instance: 'I met Dr. Jones near his office in St. James's Street. He said: "I am on my way to hospital"'.

Would you change the order of the quotes, change "in" to "on," remove the final s in "St. James's," insert a "the" before "hospital," and move the final period before the last set of quotation marks? Would your corrected version read: "I met Dr. Jones near his office on St. James' Street. He said: 'I am on my way to the hospital.'" If so, you would have done well. But if you had been in an equivalent class in a British school, you would have done less well, as the sentences are correct in British English.

It's nuances such as these that distinguish the two major varieties of English from each other. In a manuscript they comprise the stamp of its original syntax. No alteration of "-ize" endings to "-ise," no word-processing spell checker or find-and-replace tool can transmute American English to its British cousin, or vice versa.

The differences are deeper. That may be why denigration of the overseas version of English runs strong on both sides of the Atlantic. Woe be the British youngster, however well schooled, who attends an American school, as the above example connotes. And woe be the American author who submits a manuscript to a British editor who may contemptuously strike out its "Americanisms."

Volumes have been written on the subject, most of them ponderous and few of them readable. Fortunately, there is a no-nonsense succinct guide, *American and British English*, one of three parts in *The Economist Style Guide* (London, June 1998, The Economist, 160 pages hardcover, ISBN 1-86197-111-7). The other two

parts, *The Essence of Style* and *Fact Checker and Glossary*, are longer but equally as straightforward and useful. *The Economist Style Guide* is my choice for the best of its genre for writers working internationally.

The Economist newspaper, as it calls itself despite being in magazine format, is also a linguistic benchmark. Its articles are well written, well edited, and almost always unsigned. "This newspaper" (as it refers to itself in texts) also guards the language, not haughtily but humorously, in the sporadic *Johnson* columns, named after the famed lexicographer Samuel Johnson (1709-1784) and located in the *Moreover* cultural section in the back of each issue.

The weaknesses of English recur as themes: "The case against capitalism" (October 3, 1998, p. 113) ridicules the rules for capitalization, as most languages get along without them. Punctuation is often punched, as in "Apostrophically your's" (May 11, 1996, p. 97). And the "standard English" of academics is frequently put in its place, most recently under the written Cockney title "Wotch ah', 'ere comes Professor 'Oney" (September 27, 1997, p. 102).

And where else, outside of arcane journals, could one learn what France's greatest lexicographer, Émile Littré (1801-1881), said when found by his wife *in flagrante* with their housemaid (April 24, 1993, p. 94)? [The exchange, which makes sense in English as in French, reflects classic precision: "Émile, I am surprised!" she cried. "No, my dear. You are astonished. It is we who are surprised," he calmly replied.]

The explanations are as thorough as the leads are amusing. Mrs. Littré, had she spoken English, could have traced her usage back to Daniel Defoe. Through the centuries words slide up and down the scales of denotation and connotation. And those who defend the language for academic reasons are, it seems, defending little more than their reputations. The title of the magazine (er, newspaper) is *The Economist*. But for a professional writer, it might as well be *The Entertainer*.

Denigration of the overseas version of English runs strong on both sides of the Atlantic.

EX CATHEDRA TECHNOLOGICA: TEACHING ENGLISH IN AN ENGINEERING DEPARTMENT

BY DAVID F. BEER

Due to problems in the English department at the University of Texas at Austin, the department of Electrical and Computer Engineering created its own technical English program some years ago. This program has grown steadily since its inception, offers two technical communication classes and other support services, and reaches more than 200 students each semester. The program employs one full-time faculty member (the author) and three technical writing teaching assistants, all of whom have linguistics or journalism backgrounds.

Support of the program by the department of Electrical and Computer Engineering has been solid and enthusiastic and the program's success has encouraged other engineering departments at the University to gradually follow suit. Based on our experience I offer the following suggestions to those who might be considering setting up such programs or who find themselves teaching technical communication classes to engineering students.

Recommendations

1. Steer clear of the English department.

A lot of engineering educators are beginning to realize that English departments often view technical writing in the context of traditional goals, where literature courses really have highest priority and non-English majors come last. Inevitably, technical communication is placed just above freshman composition in department values, which is simply not good enough. Moreover, it is usually taught by default by faculty and graduate students who are "assigned a tech writing section" and who are oblivious to the real needs of engineers or the wide-ranging profession of technical communication.

In addition, the principles of the traditional composition curriculum sometimes conflict with the principles of technical writing. Since most engineering majors will take jobs where they will spend at least 25

percent of their time writing, as much as possible of their training in this discipline should be aimed at what they will actually be doing for the rest of their professional lives.

2. Don't accept the old cliche that "engineers can't write."

Anyone who can survive a few years in engineering school is not going to lack intelligence. However, you might have to work a bit on attitude conversion at first. Many engineering students have rather unpleasant memories of high school and freshman English and were never really convinced of the need to communicate well in writing.

Moreover, they were often bombarded with seemingly petty rules that appeared to go against the grain of easy and clear communication. Humor and patience can go a long way toward changing such attitudes. It's also a good idea to try to gradually replace "English" with "technical communication" in the vocabulary of your engineering colleagues and students.

3. Look at the tasks in engineering writing and speaking as problem solving.

Engineering is largely a discipline of problem solving and students are familiar with this phrase. What are the basic needs that must be met by this project? Am I analyzing the correct problems? The "problem" to be solved in technical writing or speaking is how to clearly transmit a piece of information from the encoder to the decoder with as little noise or change in the message as possible, whether that message is contained in a short memo or in a 500-page instruction manual.

Initially, of course, the problem for a writer or speaker is to analyze the audience and then address that audience in the appropriate mode. The problem is only fully solved, however, when the document or presentation has been effectively transmitted to an audience and the desired feedback has been received.

> *Most engineering majors will take jobs where they will spend at least 25 percent of their time writing.*

4. Approach the question of "correctness" in writing and speech from the standpoint of noise.

That is, anything that prevents efficient communication, whether it be poor spelling or punctuation, lack of transitions or coherence, unclear subheadings, careless diagrams, or an aging printer ribbon, is simply noise or unwanted signals that interfere with the message. In the same way, an oral presentation by a speaker who has poorly organized material, shows over-crowded transparencies, fiddles with the pointer, reads straight from notes, or "uhms" and "you knows" with every other statement is going to contain so much noise that the message will not get through efficiently.

5. Tailor writing assignments to the needs of the students.

Engineering majors can be forgiven if they feel that discussing Donne's symbolism or Burns' use of dialect is an exercise in pedantry aimed at a rather limited audience. Engineering students need to learn to write for the world of work rather than for the literature teacher. Thus we give our students real-world scenarios for which to create documents ranging from short memos to proposals and technical reports. Since most engineers rarely have to write papers of more than four or five pages by themselves, we concentrate on short rather than lengthy papers, although collaborative work (as occurs in industry) on longer reports is also an important part of the syllabus.

6. Develop a grading checklist.

Evaluation of someone's writing or speaking is never easy. We all know one or two humorous or even cynical definitions of the course grade, such as "An inadequate report of an inaccurate judgment by a biased and variable judge of the extent to which a student has attained an undefined level of mastery of an unknown proportion of an indefinite material." A lot of the subjectivity involved in grading can be reduced through the use of carefully planned evaluation forms.

Giving at least the appearance of the objectivity prized by engineers and scientists, these forms can not only be returned with each student's work but can also be given out early in the semester as guides or checklists to be followed during the process of writing or preparing an oral report. Such evaluations should embody a positive approach to the student's efforts, rather than a critical or faultfinding one.

7. Use plenty of graphics in the classroom.

Engineering students generally respond more readily to visual than to textbook instruction. What this means is that you will keep the attention of engineering students better if you insert plenty of overheads into your lectures rather than just teach from the textbook and use exercises provided by the author.

All kinds of materials, exercises, and examples of good writing can be made up using engineering subject matter, and a lot of it can be put on transparencies and discussed in the classroom. For some reason my students are more willing to take notes from something on the screen than to highlight and mark up their textbooks. Moreover, since skill in creating graphics should be part of any technical communication course, the more we use graphics in the classroom the more our students will appreciate their usefulness and want to improve their own papers and oral presentations with them.
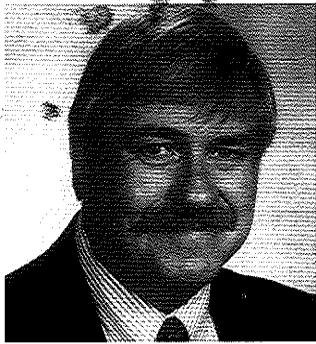
Summary

Although their inclinations usually lie in other directions, engineering majors can become as effective and as competent writers and speakers as you will find in any of the professions but, like the rest of us, they are most comfortable on their own ground. Meeting them there and working with them in the context of their own professional goals and needs, rather than farming out the responsibility to English departments, greatly enhances the likelihood that they will become skillful communicators in a discipline that increasingly needs and demands such people.

Dr. Beer is coauthor with David McMurrey of A Guide to Writing as an Engineer *(John Wiley & Sons, 1997) and editor of the PCS-sponsored* Writing and Speaking in the Technology Professions *(IEEE Press, 1992). He teaches technical communication in the department of Electrical and Computer Engineering, the University of Texas at Austin.*

> *Pursue correctness in writing and speech as the elimination of noise from communication.*

THE QUALITIES OF A MASTER OF STYLE II

RONALD J. NELSON

As a follow-up to my November/December column (obvious isn't it, from the title?), the present column attempts (How can a column "attempt"? Only people or other living creatures can attempt.) (1) to stimulate interactivity, (2) to continue the list of attributes of superb writing begun in my previous column, which could be regarded as suggestions or tips (perhaps to be saved for future reference), and (3) to furnish brief references to some sources you might want to obtain. (Incidentally, where exactly are the point-of-view shifts in the above? Did you notice the hyphens in "POV" since the three words act as an adjective modifying "shifts"?)

Here, then, is the second group of qualities, topics, concerns, and strategies:

12. Genuine Involvement

A master of style, I believe, should come across as one who is familiar with the territory. Been there, done that. But not glibly. The writer must convey a genuine involvement in subject matter, a kind of working through things or having worked through them. In *Heart of Darkness* Joseph Conrad has this to say about the subject: "I don't like work—no man does—but I like what is in the work—the chance to find yourself. Your own reality—for yourself, not for others—what no other man can ever know. They can only see the mere show, and never can tell what it really means."

13. Aphorisms

Study aphorisms to see how they go about articulating meaningful content. Why, for example, does Conrad's line from *The Secret Sharer*—"...exactitude in small matters is the very soul of discipline"—work? (Does the aphorism in item 12 resonate with you? Why, do you think?) And how about Samuel Johnson's line, "...English style, familiar but not coarse, elegant, but not ostentatious..."?

Touch on what the reader already knows....

You might check Jon Winokur's *Writers on Writing* (Running Press, 1986, but unfortunately out of print) for aphorisms relating to writer's block, style, and other related subjects. Also Robert Andrews' gathering of aphorisms in *The Columbia Dictionary of Quotations* (Columbia Univ. Press, 1993), is extraordinary.

14. Garbage

Maintain a zero tolerance of BS. Hemingway said in an interview with George Plimpton (*The Paris Review* 18, Spring 1958), "The most essential gift for a good writer is a built-in, shockproof, shit detector. This is the writer's radar and all great writers have had it."

15. Check Yourself

Check yourself at every point by asking questions, as I did in paragraph one. Be relentless in not allowing yourself to get away with anything. Ask yourself, "Could anyone find fault with what I'm saying at any juncture?" (Did you notice how I'm reacting to my own writing and trying to show you my thought process by including comments or questions in parentheses? Do you notice the shifts in point of view in this paragraph? Not good style of course. What about the preceding fragmentary sentence? Under what circumstances would you use one? How about going from the imperative mood to the interrogative? Do such flaws detract from readability?)

16. Read Aloud, Listen

Listen to what you're writing. Read it aloud (or whisper it to yourself) to get a feel for the rhythm of the sentences. That way you'll detect choppiness or excessively long sentences. And be alert to the words you're using. (In item 15, for example, I was tempted to use the word "point" twice. When I realized that there would be an echo effect, I decided to use a near synonym, "juncture.")

17. Delay Transitions

Occasionally, put the transition or link as the second (or third or fourth) element in the sentence, rather than the first. Such a ploy subtly conveys sophistication. Instead of "However, ..." try "Today, however, ..." Don't overdo it, though. Generally, you want that signal to the reader coming quickly.

18. Thesis Statement, Topic Sentences

Get down in black and white (or whatever colors you're using) a solid thesis statement and topic sentences—the latter of which go very well as the first sentences in paragraphs to indicate directly what is coming. Notice how readily this thesis statement leads inescapably into manageable topic sentences: The implementation of quality circles at X Company will increase productivity, improve the quality of products, and establish better employee-management relations.

Do you use aphorisms and asyndeton or polysyndeton?

19. Titles

It is often useful to make the title of the document coincide with the thesis statement to let the reader know what to expect. (The thesis statement is a complete sentence, the essence of the document compressed into one sentence; the title is a phrase.) For example, "The Need to Implement Quality Circles at X Company" or "The Advantages of Quality Circles at X Company" would be in sync with the sample thesis statement in item 18.

For solid advice on titles, see Robert R. Rathbone, *Communicating Technical Information* (Addison-Wesley, 1985), chapter 8—"The Tenuous Title."

20. "Known-New" Analysis

Use "known-new" analysis. This idea is to touch on what the reader already knows (or could reasonably be expected to know) immediately before introducing new material. Bridges are important. (Would that second sentence be better if it read, "Focus on what..."?) See Rebecca Burnett, *Technical Communication*, 4th ed., pp. 112-14 (Wadsworth Publ. Co., 1997). She refers to this type of analysis as "given-new" (pp. 285-87). Joseph Williams, *Style: Ten*

Lessons in Clarity and Grace, 5th ed. (Longman, 1997), covers the topic under the heading "Something Old, Something New, and in that Order" (pp. 102-105).

21. Hedges and Intensifiers

We can sound overly aggressive if we use intensifiers (very, prove, always, crucial) unwisely; we can sound indecisive and weak if we use hedges (perhaps, seem, could, maybe, it is likely) excessively. One hedge in a sentence will suffice: "The data probably suggest" becomes "The data suggest." Intensifiers get the emotional level up in many cases. I favor eliminating most intensifiers. "The boss is always criticizing me" is an impossibility—no one does anything "always" except breathe. Say it honestly, straightforwardly. (Joseph Williams' book, pp. 175ff, is superb on these points.)

22. Creativity and Rhetoric

When you're tempted to say, "The flag is red, white, and blue," vary the cliche to "The flag is white, blue, and red." Why? Because to do so activates the mind, whereas the clichaic way (Is that a word?) deadens the mind.

Perhaps even try polysyndeton: "The flag is blue *and* white *and* red." Or asyndeton: "The flag is red, blue, white." (Do you see how polysyndeton exerts a retarding effect on the reader, forcing her or him to consider each adjective as a separate entity?)

Incidentally, why not learn some rhetorical terms so that you can try some new (actually, old) strategies for reaching the reader? In other words, keep learning.

I realize that this column has not been easy reading, with its interrupting parenthetical material. I am trying to convey some of the considerations that the mind must go through to produce fine writing. I don't think there's any way around such questioning.

Please send any suggestions regarding the qualities of master stylists via e-mail to *nelsonrj@jmu.edu* or snail mail to me at James Madison University, Institute of Technical and Scientific Communication, Harrisonburg, VA 22807, or phone (540) 568-3755 or fax (540) 568-2983.

SEARCHING THE NET—PART II

ELIZABETH MOELLER

I n the previous issue I discussed how search engines work. Now that we know how they categorize information, it's time to discuss the tricks you can use to best find the information you need. These tricks involve using your favorite search engine, a metasearch engine, or other Web sites entirely.

Using Your Favorite Search Engine

There are a number of search engines out there and everyone has a favorite. Your favorite is the right search engine for you and your needs. This is the only way to define the "right" one. You will know when you find the right search engine because it will be easy for you to use and it will provide relevant results most of the time.

The first thing to do when you access your favorite search engine is to read the Help section. In it you will find syntax you can use to narrow searches as well as descriptions of any features unique to that search engine. The first piece of information you need is whether the search engine automatically matches *any* or *all* of your keywords.

Those that match any of your keywords, such as AltaVista (*http://altavista.digital.com*), Excite (*http://www.excite.com*), and Infoseek (*http://www.infoseek.com*), return Web sites that contain one or more of your keywords (e.g., searching for *professional communication* will return Web sites with the word *professional*, Web sites with the word *communication*, and Web sites with both words). Search engines that match all of your keywords, such as Hotbot (*http://www.hotbot.com*) and Lycos (*http://www.lycos.com*), return only Web sites that contain all your keywords.

Once you know whether your search engine automatically matches any or all, you can then decide the syntax needed to narrow your searches. These syntactical elements include Boolean searches, special punctuation, and power searches. Some search engines recognize Boolean phrases such as *and*, *or*, *and not*, and *not*. Those that recognize these words will take *and*

(e.g., *professional and communication*) to mean that the Web sites must contain both words and *or* (e.g., *professional or technical*) to mean that any of the words must appear. Depending on the search engine, you can exclude words and phrases using *and not* (e.g., *professional and not technical*) and *not*, which means the same thing.

Some search engines allow you to use punctuation to help narrow the search. In many search engines the plus (+) symbol indicates words that must appear and the minus symbol (−) indicates words that must not appear. AltaVista allows you to use the asterisk (*) as a wildcard symbol (e.g., *communicat** would return both *communication* and *communicate*). You can also search for a phrase by putting it inside quotation marks ("..."). These punctuation marks can be used in association with the Boolean searches mentioned above (e.g., "*professional communication*" and "*technical communication*").

Finally, many of the search engines offer menu-driven power searches, also referred to as advanced searches or custom searches. Take advantage of these functions. They give you an easier way to include and exclude information, search for exact wording, include or exclude sites that include Java or animations, set an age limit on Web sites (e.g., not older than one year), among many other functions. Some search engines such as AltaVista allow you to refine a search once you have initial results. In AltaVista's case, you are given the opportunity to include or exclude topics. Although this function can be useful to help narrow your search, it can also be useless if you include or exclude too many topics.

In the end, your favorite search engine simply may not have the link you need in its database. What to do then? Choose another individual search engine, visit a metasearch engine, or let someone else do the work for you.

Using Metasearch Engines

Metasearch engines, such as Dogpile (*http://www.dogpile.com*), Mamma

Metasearch engines search several other search engines simultaneously.

(*http://www.mamma.com*), The Internet Sleuth (*http://www.isleuth.com*), and Metacrawler (*http://www.metacrawler.com*) search many other search engines for your keywords. Because of this they take longer to return results. If the Internet is running slowly at the time, these search engines could take an extremely long time. To combat this problem, some of them, such as Dogpile, ask you for a maximum time limit. For the others you must use their power search function to set the time limit.

You definitely will run into the "too many results" problem if you do not effectively narrow your search. You can use the tricks just described to narrow your search. The job of a metasearch engine is to translate its syntax into those of the other search engines. Therefore, you need to look at their Help sections to understand their syntactical rules.

Using Other Web Sites

When all else fails, let someone else filter the Web for you. For example, The Mining Company (*http://www.miningcompany.com*) advertises over 500 expert guides who "mine the net so you don't have to." The guides are people who spend time searching for and reviewing Web sites relevant to their area. Only those deemed relevant are included. Topics include everything from

technical writing to health issues to travel to arts and entertainment and more.

If you don't want to try to determine keywords but just to ask the Web a question (e.g., What is technical writing?), use a site such as Ask Jeeves (*http://www.askjeeves. com*) which then searches the Web for relevant answers. I got 50 responses to "What is technical writing," and almost all of them would yield an answer to that question. AltaVista is currently running a subset of Ask Jeeves which allows you to use both keyword searches and question-based searches.

Finally, if you're really stuck, Search Engine Watch (*http://www.searchengine watch.com*) has links to tutorials on searching and provides more detailed information on searching effectively. Getting the results you need may take some work but these tips should make it a little easier.

Elizabeth Weise Moeller is a PCS AdCom member and chair of the Publicity and Marketing Committee. She owns Interactive Media Consulting (518-366-8765, beth@ imediaconsult.com), a World Wide Web and Internet training firm in Saratoga Springs, New York, which provides Web site design and Internet training for businesses in the northeast.

PRESIDENT'S COLUMN

(continued from page 3)

distributing and storing *Transactions* online. Some conferences offer attenders (and others) copies of conference proceedings on CD-ROM. We are making progress.

But as we look to the future and the changes we must make, we do need to keep in mind that change takes time and effort. Before we jump to make changes we need to consider:

1. Whether the change really makes things better

2. Whether the change is one that can last for a "reasonably long" time or whether it is only a passing fad

3. Whether we continue to accommodate people who are used to working with us

4. Whether we have thought through, as best we can, the implications of making the change.

Once we have thought these issues through and are satisfied with our plans, it is time to move on. Until we have done so, however, we might do better to think and plan some more before jumping into action.

LOGICAL ORGANIZATION IN PROCEDURES

R ecently the Professor thought to unwind from a long week of editing by settling down to watch television. The Professor had obtained a satellite dish and was pleased to discover that several of the many channels provide nonstop educational and interesting offerings. However, on this particular night the Professor decided to surf the other channels and landed on a rather humorous episode of *M*A*S*H*. (Jerry Springer was also a rerun.)

The Professor soon found herself watching the members of the 4077th trying to defuse a bomb that landed in their camp. Now most people don't know the first thing about defusing bombs, but fortunately our unlikely heroes were both lucky enough to have the instructions on hand and smart enough to attempt to follow them.

The script went something like this (the Professor's apologies if she's a bit fuzzy about the details and characters):

Colonel Blake (voice heard over a loud speaker): OK, now unscrew and remove the case.
Captain Pierce: OK, check!
Colonel Blake: OK, good. Next find the red, white, and blue wires.
Captain Pierce: Red, white, and blue. OK, got them!
Colonel Blake: Now cut the blue wire.
Captain Pierce: I'm cutting the blue wire. OK, check! *(Bomb makes a clicking noise.)*
Colonel Blake: But first, be sure to cross the wires...
(Cut to our heroes running for cover!)

As luck would have it, our heroes managed to survive their encounter with the bomb— no thanks to the instructions.

The Professor knows that most of you don't write instructions for life-threatening situations but, nevertheless, the Professor urges you to organize your procedures carefully. The moral of this story is that users read sequentially and rarely read ahead before they take the actions in procedures. Your users might not end up

scrambling to get out of the way of an explosion, but they may be frustrated and waste time if they don't get the steps in the order that they need them.

Organizing steps logically can sometimes be tricky. One simple rule is to make sure that every action is listed in the order in which it should be taken. If you chunk actions together under a general step, make sure that the introduction to the step is generic enough to indicate that the substeps follow. In the *M*A*S*H* example, suppose the instructions looked like this:

1. Unscrew and remove the case.
2. Find the red, white, and blue wires.
3. Cut the blue wire:
   1. First cross the blue and white wires.
   2. Then cut the blue wire.

If your bomb has two red wires, disregard these instructions and cut the white wire.

Captain Pierce might have been less likely to make a mistake if the instructions had been organized like this:

1. Unscrew and remove the case.
2. Determine whether you have a live bomb:
   - If you have two red wires, you have a propaganda bomb, which is not dangerous. Stop here.
   - If you have one red wire, one white wire, and one blue wire, you have a live bomb.
3. Defuse the live bomb:
   1. Cross the blue and white wires.
   2. Cut the blue wire.

Many writers think of organization only in terms of tables of contents, headings, and outlines. The Professor hopes that this lesson has helped her students to realize that organization has a much broader scope that extends down to the sentence and step level. Until next time, happy rerun season!
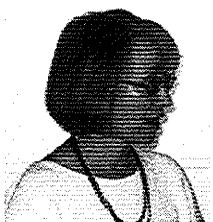
> *Instruction users read sequentially and rarely read ahead.*
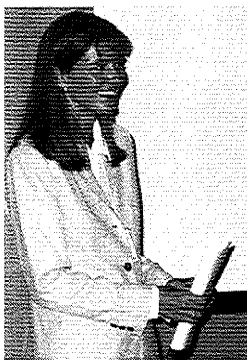
IPCC 98 ✦ QUÉBEC CITY

Some scenes from IPCC 98.

The location of Québec City for IPCC 98 offered contemporary communication combined with the old time flavor of this historic and beautiful setting.
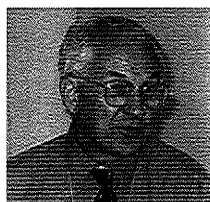
Victoria Sharpe

Scott DeLoach

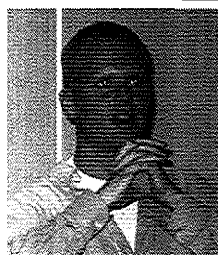Deborah Hinderer
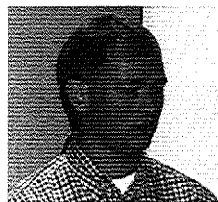
Janet Rochester

Patrick Hofmann

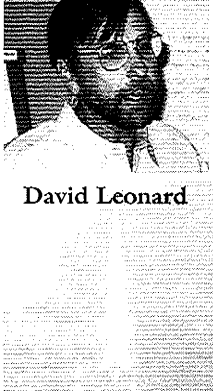Jan Spyridakis and Carol Isakson

Serenading Roger Grice

Milan Dakich

Mark Gellevij
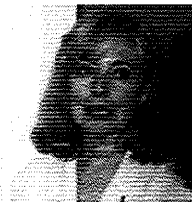
Emily Thrush

Ruby Tebelak
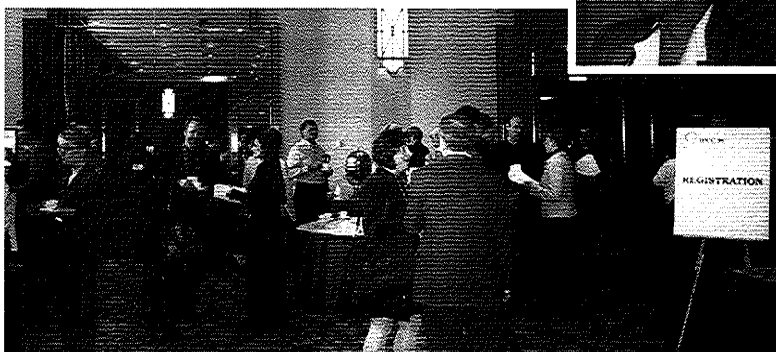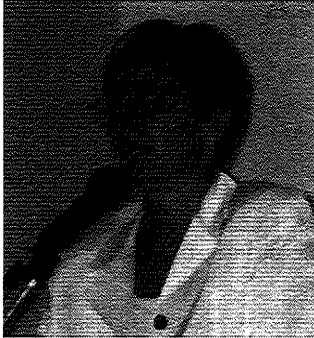
David Leonard

Nancy Coppola

KEYNOTE ADDRESS — IPCC 98

Keynote speaker **Kim Echlin**, author of *Elephant Winter*, gave an entertaining and relevant talk about nonverbal communication with taped examples from bell-ringing, music, and communication with elephants, emphasizing resonance and the meaning of internal silence. People today are awash in words so it's helpful to stop and focus on just one or two things. Echlin argued that focusing on words individually (e.g., in consulting a dictionary) slows us down and makes us think, carrying us into a spiritual sphere.

Before being asked to give this talk, she hadn't thought of her fiction as containing a lot of technical information, but on reflection realized that that has historically been the pattern for novels. For the metaphor implicit in a novel to be plausible it must seem real and must have facts attached. That is how technical information is usually brought to bear.

Elephants communicate with a low rumble below the range of human hearing. This was discovered by Katie Paine who worked with whales previously and when she was with elephants noticed a change in air pressure. She taped the inaudible sounds associated with the pressure changes and

played them back at 10 times real speed to discover the sounds, which also include groans and whistles. Certain sounds do have certain meanings, making up a language, though the ones in Echlin's book are fiction. Only African elephants have been studied communicating in the wild. When Asian and African elephants are together in captivity, they develop a means of communication, probably similar to a Creole.

Echlin suspects the reason for so much current interest in animal communication is that people are overwhelmed by the noise of human communication and want to move into a new language of silence. Her creating a language out of silence gives meaning to the silence, creating harmony.

In writing, Echlin advises writers to be receptive to big thoughts, to write without censoring themselves, and then to revise. The important "silence" in our writing may be in the preparation, not the white space on the page as some assume. The silence may also be the reader's jump to "aha!" which is equivalent to actual two-way communication (at least the reader is not a passive recipient).

Kim Echlin

CHANGING HOW WE EDUCATE I — IPCC 98

Students at the distant sites and on campus achieve similar grades and quality of work.

Robert Krull works in *synchronous* learning with students in classrooms on campus and at a distance. Many universities anticipate exploiting distance learning as a money stream but, in fact, it involves at least twice the usual effort. Although the technology allows courses to be viewed at desktops, to date the companies enrolling students for Krull's courses have wanted the students to have the benefit of more interaction. Krull and his colleagues are using interactive audio and video to meet instructional design issues. He relies on some techniques adapted from instructional television. While technological constraints remain, transitions in technology have led to improvements.

According to Krull, instructional design starts with the "introduction" or "motivating" process which leads into "imaging" or "naming" of the things to be learned. ("Naming" refers to providing verbal abstractions and segmented steps; "imaging" refers to providing living pictures and sounds, giving the student a picture of successful behavior). That is the point at which students are given information. From naming, the students (and instructor) move to doing and from there to evaluating the result. Evaluation may be the responsibility of the instructor alone or it may be shared among the students or instructional sites. On completion of that process, there can be either a return to naming or a closing.

Among the changes inherent in synchronous distance learning is the instructor's inability to watch the students to recognize when they need to shift from naming to doing. The instructor's movement is also limited. Unlike in a regular classroom the instructor cannot wander around the room but must stay in place. Countering that, it would be boring for both instructor and students if the presentation were entirely static.

Therefore the instructor has to think in terms of multiple media and must prepare in advance so that the support crew can keep up. One benefit is that instruction is likely to be better because the presentation is better planned. The instructor will soon find out—these students are more likely than those in a regular classroom to let the instructor know if the course or anything in it doesn't work.

Synchronous learning requires a significant support staff. Krull needs two staff for his course; in the same situation, Roger Grice calls on four. Teamwork makes the project work. Having students on site as well as at a distance can help give the instructor feedback and keep the process lively.

Among the problems are video resolution —movements are a bit jerky and distant sites tend to show up in poor-resolution distance shots rather than in easily recognizable close-ups— and a time delay in interactions. The instructor must take into account the time delay and cannot just keep moving on, leaving the distant groups behind trying to interact. Once the class has started to develop patterns, an alert support crew may be able to anticipate which students are likely to speak up and preset cameras to catch them.

Charlotte Brammer, Kim Campbell, and Nicole Ervin at IPCC 98

Another problem is that even as the instructor is working with eight to 14 sites, one or more can go down. The kind of attention required to keep things going is quite different from that required for standard classrooms. All students, both in the classroom and at distant locations, must be made to feel a part of the class, even with tape delays and other obstacles.

In Krull's experience, students at the distant sites and on campus achieve similar grades and their work quality is similar. The technical support needs are obviously greater for the remote sites. He and his colleagues haven't yet compared onsite-vs.-offsite measures of student satisfaction or instructor ratings. They make site visits during the term and make phone calls every couple of months to get feedback. Clearly even the onsite students have a different experience from their colleagues in regular classrooms, and they have been much happier since being able to see their distant classmates.

Dennis Horn from Clarkson University discussed tools for *asynchronous* learning. He considers the most common analogy to be with correspondence schools, which have too often been second-rate. He believes a better analogue may be the construction of a Heathkit computer or other device, which is a good learning experience because the student is doing, not just reading.

As a means of exchanging information, newsgroups are egalitarian but 95 percent of the material is dross. Horn wanted to create something that would overcome that problem. His tool is software created for an online writing laboratory. It allows instructors to lead the students, control the questions and answers, and have the last word. In this situation students are responding to shared readings as a means of engaging them with the materials. In Horn's case the result is something like a journal for the students, and the quantity of their response is at least as important as its quality.

With the software tool Horn noted that the good students get in quickly and respond. Both instructor and classmates can see who has been working and when. The instructor sets a discourse for a session, putting out a statement or comment relating to the reading, and the students are expected to respond. The files are set up in such a way that the instructor can search them by student or theme or any other meaningful criterion. The instructor can also edit the discussion to remove any flaming or inappropriate responses.

This tool has opened the classroom to the world. If such openness becomes a problem, which it has not as yet, Horn plans to make it an access file that is limited to enrolled students.

The tool has broader applications as well. The New York Association of Transportation Engineers is using a similar system for mentoring. The engineers fill out a form giving a professional profile of themselves so that newcomers can decide who should receive their questions. The questions and responses then gradually become a database that can be searched to find the answers to frequently asked questions, saving the mentors from some degree of annoyance.

Whereas Clarkson University's Internet consulting group has concentrated on K-12 education, Horn's group focuses instead on the college level, creating more of an open-ended symposium or mentoring model. Preserving the content of the discussion can create quite a useful resource, as the engineers have found. At present the system is being used as a hybrid; the students also attend a class.

George Hayhoe reported on two courses he has taught at Utah State University from his home in Aiken, South Carolina. He started his preparation by developing an evaluation questionnaire. His interest was in determining whether the education the students received was as rigorous and rewarding as a traditional program.

Hayhoe's courses were Publications Management (13 students) and Usability Studies (seven students). Both were taught as graduate seminars consisting essentially of Web-based discussions of reading and writing assignments. Most students were full-time practitioners as well as being students, and the course assignments were oriented to that audience. The course was *asynchronous*; differences in time zones meant students were spread over a 12-hour range. They did attempt to have some real-time electronic chats but because students could not participate during their various work times, scheduling was extremely difficult.

At the end of each course Hayhoe gave the students the questionnaire. Students turned in their responses after grades were reported so that concern would not bias the results. They were asked about the number and quantity of reading and writing assignments and whether they felt the course was as rigorous or as rewarding as they expected. Responses were open-ended essays; Hayhoe and a colleague scored them from 1 (very unfavorable) to 5 (very favorable). Scores were holistic, meaning that they considered the entire comment in deciding whether a given response was favorable or unfavorable. In most cases both scorers agreed; when they didn't, Hayhoe omitted the score he gave and relied on the other.

The lowest mean score was 3.1 for the quality of the discussions in one course; the highest score was for value for cost. Mean scores for that were 4.4 and 4.7; Hayhoe noted that those high values must be weighed against the extremely low tuition charged the students.

The students appreciated the fact that the course related to the workplace as well as to the classroom. However, some students resented having to block out time for the readings (a problem they would surely have encountered in a traditional course as well). The asynchrony of the course caused some problems in getting discussions going; students tended to declaim rather than engage in give and take. Personalities did not appear until well into the term.

Students were motivated to participate by the fact that 50 percent of their grade depended on participation. However, they often tended to talk more to the professor than to one another. Hayhoe found himself forced to enter the discussions to get and keep them going. His preparation time was 15-20 hours per week; the time for an equivalent traditional course would have been 8-10 hours.

The texts Hayhoe used were JoAnn Hackos' *Managing Your Documentation* (Wiley, 1994) and the fall 1997 issue of *Technical Communication* which focuses on strategic planning. He found that having readings readily available and identified far in advance were important considerations for the distance course. Students were scattered and most did not have access to research librarians. However, electronic reserve readings (pdf files provided through the library) are a usable option.

Preserving the content of the discussion can create a useful resource.

CHANGING HOW WE EDUCATE II—IPCC 98

In discussing ways to teach professionals to write better, **Vicki Schmolka** gave a number of hints about how she teaches one- and two-day courses for people in the field of law. She started by making the points that people learn in four modes—cognitive, social, physical, and emotional—and that instructors must take all four into account.

Adult learning must be more practical than learning for younger students. Unlike younger students, adults often carry a lot of baggage from past classroom experience and the trainer must find ways to work around it. Schmolka tells her students that what she is mostly doing is not so much teaching as reminding them of what they already know to reconnect them with knowledge they already have. She wants them to know how to write to the reader and that they can write better when they leave her course.

Not so much teaching as reconnecting with previous knowledge.

Her intent is not to make them write perfectly—an impossible goal. To make that point she uses much-marked-up examples of her own writing. Before the class she asks students for writing samples and she also uses those (anonymously). Thus the samples are detached from the student writer, who then feels less personally criticized even though the class as a whole is critiquing the sample.

The topics Schmolka covers in her short courses are generally active/passive voice, nominalizations, and eliminating "lawyer talk." She covers those because they are

An audience at IPCC 98

the areas that show up most often in the work the students do.

Schmolka has found that it can be easier to get students to talk if each is reading something that another student has written. One of her exercises is to have everyone write about something they learned in the session. She finds that making students think about what they have learned helps retention.

Susan Fife-Dorchak, John Keane, and **William Conroy** talked about information science (IS), which is more than just computers; the confusion about content reflects the fact that the discipline is immature. However, IS is coming to be recognized as helping clients solve problems using computers, integrating, and facilitating. IS professionals must understand the business problem to be solved before they can solve it with electronics. They also need to see the big picture on how this problem fits into the whole corporate system.

One of the issues that comes up frequently is that people fail to see the consequences of their actions. Miscommunication about such issues can result in a failed system. Among the sources of miscommunication are "bypassing" (sharing a word without sharing the understanding that underlies it; people need to recognize assumptions and not just use terms without checking that the meanings are shared) and "blindering" (continuing to work in the old way without recognizing that electronic systems are completely different from paper-based systems).

Students in the IS program are adults with lots of experience. Instructors must build on that experience—not try to change it. Everyone must learn to develop their own knowledge. Students are required to become sensitive to new challenges, including working together, to produce effective and efficient systems people can really use. These instructors give skill-based training within a context, not in the abstract. They assume that the students come in ready to learn (they know that they need to know something and need to perform more effectively), that all fill many
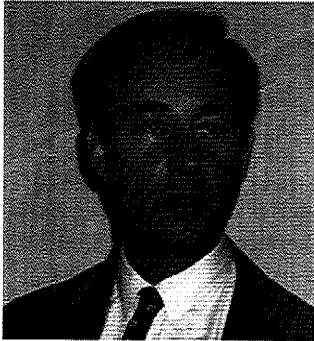
roles from workplace to household, and that they will relate new information to their own experiences.

The purpose of the training is to facilitate communication with the aim of facilitating business. Instructors use concrete examples and encourage the students to reflect on them. Other courses reinforce what is learned as students are forced to use the same knowledge and skills in later courses. (Educating other instructors to do this has taken some effort.) By putting students in teams instructors force students to teach each other.

Students are required to keep journals. From these they can trace their own thought processes and they are made conscious of what they doing, which helps their recall. Another way these instructors reinforce learning is to ask each student to write on an index card the top three things they learned that day and why they should care about them.

Tom van Loon described a case study (or horror story) of work on a probabilistic safety assessment. Safety assessments are important to the chemical industry, genetic engineering, and the nuclear industry— disciplines generally governed by technicians who tend not to communicate to nontechnicians and who often lack social interest. As a result, the fields and their technologies have come to be mistrusted. This mistrust has resulted in political requirements for detailed reports on safety.

The outcome can be numerous reports focusing on safety and environmental impacts. In a probabilistic safety assessment investigators must calculate the likelihood of every possible type of accident and then calculate what possible releases (in the case of nuclear industry) might occur as a result, with what possible consequences to people and the environment.

In the case Van Loon described, dozens of reports were prepared with no overview and no effort to make them understandable to the lay public. The reports were not acceptable to the authorities in the nuclear plant's bid for relicensing. Therefore the company decided to develop summaries, one more technical for the authori-

ties and one aimed at the general public. No time or money was available so Van Loon as in-house editor was assigned the project with no help and no guidance regarding the audience or amount of detail to be included.

He prepared two safety summaries and two summaries of the probabilistic safety assessment specifically, one of each aimed at the authorities and one of each aimed at the general public. Each was 24-36 pages. In each he explained the probabilistic assessment both in general terms and in relation to the plant seeking the license. Both versions had much of the same content but differed in terms used, background knowledge assumed, amount of mathematics included, and wording. To simplify the writing Van Loon did them in sequence, the more technical one for the authorities first, followed by the simplified version for the public.

Although the company was unwilling to bring in outside help, they did call on the public relations arm of their parent company to help with production. Unfortunately, the public relations staff had no technical knowledge and edited and changed the text to fit with their usual work. The result was inclusion of errors. Van Loon reported these errors for correction but was considered to be making too many changes too late in the process; his management did not stand up for him. The first summary went out with serious errors. Meanwhile, Van Loon continued work on the second summary, not knowing what was changing in the first.

Inevitably, the versions for the authorities and the public contained contradictions; furthermore, the public relations department had added irrelevant illustrations. This combination of events led the authorities to doubt that the summary was serious work and cast doubt on the assessment itself. At that point the company directors attempted to halt distribution of the summaries with the result that the public never did receive reliable information about the assessment and the low risk associated with relicensing. Ultimately, the company abandoned the plant, despite having spent huge amounts of money to upgrade it.

Tom van Loon

The PR staff had no technical knowledge and changed the text disastrously.
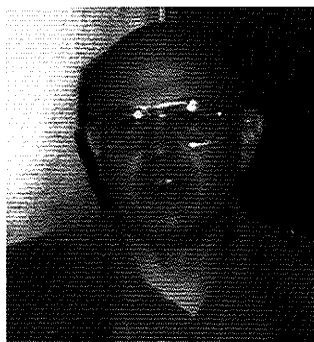
CHANGING HOW WE WORK—IPCC 98
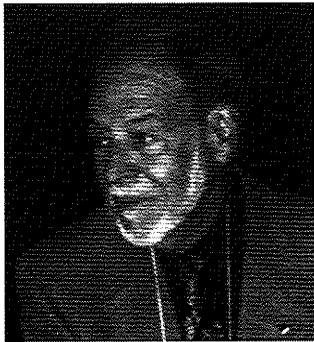
Ron Blicq described collaborative editing he has been doing on the magazine *TC-Forum*. The magazine is an outgrowth of Forum 95, intended to fill the five-year gap between Forum meetings. It is published in English but the production and lead editor are in Germany, graphics are produced in Sweden and Norway, authors come from at least 16 countries, and the language editor is in Canada. The effort is done entirely by volunteers who meet once or twice a year and each issue is distributed free using grants first from Mercedes-Benz and now from the Society for Technical Communication.

Most of the articles are submitted via e-mail to the editor in Germany who works in a Windows 98 environment; the editor sends RTF files via e-mail to Blicq, who works in a Windows 95 environment in Canada. Blicq edits first on paper and then on screen, making the changes visible. The editor in Germany sends at the end of his day so the articles arrive at the beginning of the day in central Canada. Blicq is usually able to turn them around in a day so they are again at the German editor's desk at the beginning of his next day.

A major problem in such a venture is the selection of editorial style. Europeans and North Americans follow different conventions for showing emphasis, punctuation, and spelling. The problem is familiar in Canada, which does some things as they are done in the United States and others as they are done in England. Blicq described the style developed as an amalgam of national styles (which few of the people attending the session found satisfactory). Articles follow a single mid-Atlantic style; letters follow the style of the author's native land. In either case, the author's choice of words is allowed to stand, rather than being edited to conform to a single convention.

Copyright infringement on the Web was the topic of **Don Zimmerman**'s talk. Working with electronic rather than paper library resources became a necessity when the Colorado State University library in Fort Collins was flooded and 40 percent of the volumes damaged or destroyed. Use of online databases for research is now a way of life, but it uncovers new issues of copyright.

Copyright laws differ from country to country but most relate to reproduction of works and to the production of derivative works. The United States has especially broad coverage, such that authors of any works (including software, music, and thank-you notes to Grandma) automatically have copyright on those works. In other countries, such as Canada, the author has the right to register but does not automatically have full rights of ownership.

To use copyrighted materials usually requires formal permission, in that form or in the form of a license (such as for software). Licenses may be written to preclude use by certain groups (such as the federal government) or in certain ways. Limited copying may be allowed but only if it will not affect the commercial value of the product. The issue of "fair use" is complex, affected by the portion of the work that is used as well as the effect on potential sales. The laws continue to evolve by interpretation in law suits.

For a work to be copyrighted in the United States, it must be original, include at least a trace of creative input, and be in a fixed, tangible medium. The author may be either an individual or a group, as in the case of work for hire when an individual is paid to produce a work on behalf of an employer. The usual copyright notice is an aid to proving ownership but to obtain full copyright protection in the United States, the work must be registered. That registration covers only the form and not the ideas. It is not possible to copyright ideas.

There have been a number of myths about copyright. It is not true that if a work does not have a copyright notice it can be copied freely. Furthermore, using even a small part of a work is not necessarily allowable, and simply crediting the authors is not enough to discharge your obligations under copyright.

To prevent problems and avoid lawsuits Zimmerman advised (1) create works yourself or have them created for you under a clear contract; (2) get permission if you use materials developed by others; (3) read license agreements carefully; and (4) use only works in the public domain (which includes most, but not all, materials published by the U.S. government).

Ron Blicq

Don Zimmerman

Tony Auston

Cary Clark

Zimmerman suggests monitoring the issues in trade magazines and on Web sites to keep abreast of the current rules.

Tony Auston and **Cary Clark** described a Web-based online review tool they developed to speed up the process of reviews. Before the tool, for each document to be reviewed it was necessary to print the document and have it copied, bound, and distributed to 10 reviewers who were allowed a week to review it before coming together in a meeting that lasted one-to-two days to resolve the comments. The document was then revised and the process repeated. For a typical document this took 28 reams of paper, 24 hours of labor just for copying and distributing, and 20-to-40 hours of staff time for meetings (plus possibly travel time and expenses for some reviewers).

Dealing with the comments was also a problem. They were scattered among many copies, illegibly scrawled in the margins, and often redundant. Working online, many of these problems were eliminated (meetings were still held to resolve comments and many reviewers printed a copy to review, rather than reading online). Working online raised various compatibility issues and it was necessary to prevent reviewers from making changes to content or format that would be overlooked or incompatible with those of other reviewers.

The tool they developed uses a centrally located review draft that allows concurrent access (both protected and limited) with a common area for comments. This combination made it possible to eliminate the meetings, provided feedback from a single source, protected the format of the source files, and was easy to create while still preserving the document's visual integrity.

Auston and Clark can provide files formatted as either pdf (to protect format, be created easily, and protect visual integrity) or HTML (to allow simultaneous access as well as being easy to create). Before developing their own tool they examined several commercial products. A few had features they needed but could be used only with software the users did not already have; some also could not work with pdf files, allowed only limited simultaneous access, and required a lot of training.

The tool Auston and Clark developed shows all comments on a given page with the name of the commenter. It also allows the examination of all comments at once or by reviewer. It is password-protected and can be used with either pdf or HTML files. It is no longer necessary to have review meetings for most documents, although they have found an inverse relationship between the length of the document and the reviewers' willingness to review it online (thus the tool is better for smaller documents).

This kind of tool seems to be a natural for review of Web sites. However, all kinds of content can be reviewed as long as the content can be converted to either pdf or HTML. The tool might also be good for international localization efforts, saving the cost of sending hard copies worldwide by courier. At present the user must be at his desk—a link to the Web is necessary. That may change in the future.
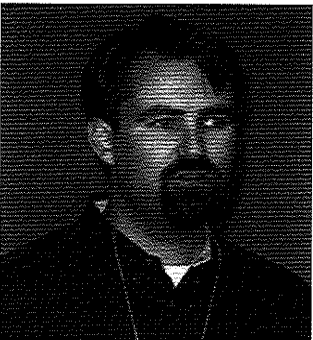
IS PROFESSIONAL COMMUNICATION IMPORTANT?

These PCS-relevant results of a survey of Engineering Management Society members were reported in the EMS newsletter, vol. 48-3, p. 9, 1998:

1. What do you do on a typical day at work?

Most of what we do is communicate! The majority of respondents spend a large part of their time with e-mail, voice mail, telelphone, letters, and memos, not to mention meetings, sometimes for several hours a day. After all this communication, some individuals had a little time left over for specific technical work such as design.

2. Which engineering management skills do you use the most?

Given the answers to the first question, it is not surprising that communication skills ranked high among skills most frequently used. Additionally, project management and mentoring skills also were often mentioned.

CHANGING HOW WE REACH OUR AUDIENCES—IPCC 98

Margita Johansson

Decision management principles have proved more stable and robust than the technologies to which they are applied.
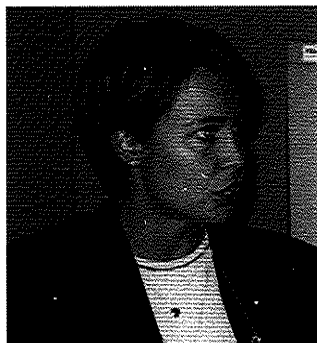
Margita Johansson described her company's qualitative study of four manual concepts. The study was global because the company works in 45 languages. The team on the project was interested in identifying a single concept to be used throughout the company's manuals. They were not interested in identifying a winner or a loser among the concepts they tested but rather in finding the strengths and weaknesses of each, to develop a concept that would work better for all.

They conducted 12 minifocus groups in Sweden and four full-size focus groups in other countries. Participants tested both the product and its manual, and then the other manuals in varying order. One manual stood out by virtue of being produced in color, so it was always introduced last, to ensure that color or lack of color was not the only factor participants responded to.

The points tested were the first impression given by each manual, the instructions given, the non-instruction information, illustrations, layout, and format. The group also tested the symbols used, language (the text was written in English by Swedish writers, proofread by a native English speaker, and then translated to the other languages tested), structure, cover, and table of contents (no index was supplied). The test subjects were all new to the use of the product (mobile phones) but were interested in and considering buying one. They were asked about the ease of use of the product and manual and their feelings about them.

So what would the ideal global manual be? Most participants wanted a photograph of the product on the cover. They also preferred having color on the cover. Most wanted the manual to be small but Americans preferred a large manual that would lie open on a desk. Most participants wanted basic information at the front and more complex information at the back. They preferred having a one-page table of contents featuring bold headings and subheadings.

They liked having a menu description of the product at the start, making it look more like a computer manual. They also liked drawings showing the buttons to be pushed. Illustrations at the front with the basic material should be large; those later on, supporting the more complex material, could be smaller. Most participants saw little need for photos except to make the wasteland of the safety text more bearable.

Use of color pages to separate sections was popular, as was separating instructions from non-instruction information. They preferred to have the font as large as possible and asked that statements congratulating users on their purchase or completion of the manual be omitted. Participants liked seeing flow charts that showed the process step by step. Many found the cover, which featured the product lying across a necktie, to be sexist and exclusionary. Only the participants in Malaysia liked to have information presented using cartoons. Simple line drawings in black and white were preferred.

Conducting the research cost about $300 000 Cdn. Although in this case the cost was tied to one product, the results will serve many more because they give the staff reasons and data to support their decisions, much as a style guide does. Though the resulting manual will not be the very best everywhere or possibly anywhere, it will be acceptable everywhere.

Robert Jones of Westinghouse Savannah River reported on the relationship between technological change and management change. The usual business cycle is considered to be 3-5 years; the investment cycle is 7-11 years; the building cycle is 15-25 years; and the economic long wave, which involves construction of capital goods, is 45-60 years. We are apparently at the end of a long wave that started at the end of World War II.

During an expansion phase, control is rational (decisions are based on what seems best for current conditions); during a contraction phase, control is normative (decisions follow rules). Henri Fayol in 1916 described these principles of management which have been embraced in much of western management since about 1988. The principles have proved more stable

A "super database" structure would pull all relevant information from electronic journals.

and more robust than the technologies to which they are applied. A notable change, however, is the shift from managers as commanders to managers as leaders.

Tom van Loon proposed development of a system for concurrently accessing all electronic journals that publish scientific and technical articles. The problem with literature searches today is that there are too many databases, none of which is really comprehensive, and much of what they pull up is irrelevant. Because any given database has gaps and those gaps differ between databases, researchers must use several to have any assurance of catching all relevant material.

Van Loon suggested a "super database" structure that would automatically pull all relevant data from the electronic journals. (Van Loon expects all journals to be in electronic form within 10 years.) Journals would send the super database their data automatically, including the title, author, author's affiliation, key words (carefully selected), abstract, date, and other publication information. Patent information might also be included. The full article would not be available from the database but would be ordered from the individual publisher for a fee.

Van Loon contends that the database should provide its information in the most relevant languages: probably (in alphabetical order) Chinese, English, French,

German, Portuguese, Russian, and Spanish. Consequently, the database would need professional translators. It would be a huge institution, bigger than any existing. Because of the size necessary to make this work, development of a competing database is unlikely to be viable.

The question of funding is important but difficult. One possibility would be that a consortium of the International Council of Science Unions, academies of science, and representatives of the larger learned societies, editorial associations, and electronic publishers might be able to set up the database. The publishers might run the database under the supervision of the other groups. Start-up costs can be expected to be large and running the database will also carry a cost; the database would have to be profitable to be maintained.

Van Loon posited that it would be preferable to get the funding from the publishers rather than from individuals searching the database. It would indeed be counterproductive to charge the necessary fees to the researchers, who might be forced to abandon their searches. A royalty-type arrangement between the publishers and the database might be preferable such that the database receives a set fee for each article downloaded. The advantage to the publishers would be that each of them would not have to have a searchable database, saving them costs.

PCS MEMBER HONORED BY ABC

Professor Jan Ulijn was selected as the ninth recipient of the Association for Business Communication's (ABC) Outstanding Researcher Award. This annual award, sponsored by Richard D. Irwin Inc. and the ABC Research Committee, is given to encourage excellence in business communication research by honoring a scholar who has made an outstanding contribution to the advancement of knowledge in the discipline.

The award is based on the overall contribution of the researcher's cumulative publication record. An engraved plaque and a monetary award were presented to Dr. Ulijn at the annual ABC international

conference in San Antonio, Texas, November 11-14, 1998.

Dr. Ulijn holds the endowed Jean Monnet chair for Euromanagement in Business and Technology in the Department of Organization and Management Science at the Eindhoven University of Technology in the Netherlands. He is an author, researcher, teacher, and consultant in the field of international business communication. Through his work, he has contributed to the development of global business communication as a growing and dynamic field of study and practice. He is a member of the Professional Communication Society and its Editorial Advisory Committee.

CHANGING HOW WE COMMUNICATE WITH WIDER AUDIENCES—IPCC 98

Edmond Weiss started his talk by noting that although English is shared by huge numbers of the world's people, for most it remains a foreign language. E2 (non-native) speakers are those who use it frequently; E3 speakers use it only rarely. Weiss holds that reading is a biological act as well as a psychological one. Bad writing and bad design can increase stress in readers enough that they respond biologically and cease to read.

Avoiding reading takes a number of forms including scanning and skipping. Unused or failed instructions are usually skipped because they are ill-written. Blocky paragraphs in particular are avoided by readers; they intimidate and put off both readers and translators. Long, justified paragraphs with hyphenated words are especially off-putting.

To ease the stress Weiss recommends making more use of one-column tables and bulleted lists, synoptic lists, sequential tables (e.g., decision trees), and recursive diagrams (e.g., flow charts). Using such layouts improves the reader's immediate impression, makes the text easier to translate, and is easier to check for accuracy. A member of the audience noted that in her work with K-12 teaching, such tools are referred to as "semantic organizers."

Weiss objects in particular to presenting procedures in paragraph form based on the difficulty of checking such a procedure for accuracy. It is not immediately apparent whether a step has been omitted as it is when the procedure is presented in other ways. Arranging the information as a diagram can not only make it easier to follow, it can also make unnecessary complexity obvious, which in turn can lead to improving the process. However, such presentations require some learning time when they are first encountered.

**Bethany Haara** discussed the gap between what technical communication programs in the university provide and what employers require of their workers. Her experience was in preparing materials for global products. The university had provided minimal instruction in preparing for international audiences and did not consider a situation as complex as the one she faced immediately—learning how to communicate to many cultures while also learning about the base product and its numerous international versions.

To assist their students universities must provide more in the way of international technical communication courses. The few that exist tend to look at one country at a time, which is not realistic. On the other hand, employers need to give their employees training (via consultants and books), management support (funding for the training and resources), and encouragement for writers and translators to work together.

Immediate steps Haara recommends are for writers to recognize cultural bias in their own writing, develop guidelines for translation preparation, and start discussing these issues among themselves. One of the tools that can help is simplified English.

Tom Warren described how international standards are developed relative to ISO 10303 which concerns data exchange. The basic problem in preparing these standards is that the language and concepts are highly technical, the standard must be culturally unbiased and neutral, readers are technical experts in the subject matter but are not necessarily working in English as their first language, and the standard must be unambiguously understood by any reader.

The complicated hierarchy that develops standards starts with groups from at least five countries expressing interest in developing a standard. A working group then gathers information and produces a proposal that is examined and may be approved. A standard is then drafted and reviewed technically by experts and for style by a quality committee. The ISO
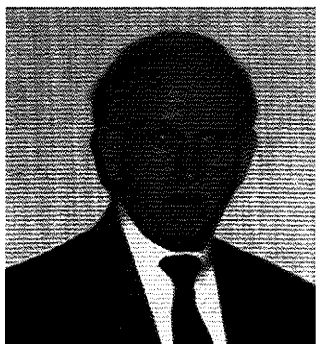
Edmond Weiss

Tom Warren

style requires that the standard be written in English; the writers must work to various directives supplied by the quality committee.

The working group consists of technical experts. One among them is designated to write the draft and is termed the editor. That person has unquestioned technical expertise but often little expertise in editing. The editor may in fact be an E2 or even an E3 speaker of English. Nevertheless, the editor must ensure that the draft conforms to ISO standards.

Warren put his discussion into terms of a theory in which understanding is based in part on context, which is both internal and external. External context includes "language codes" that identify groups by the kind of language they use. One kind of code is "elaborated," meaning that extensive explanations are needed to give meaning and many words must be used. "Restricted" codes, in contrast, imply that meanings are understood by users (as in a jargon) and so can use far fewer words, fewer sentences and paragraphs, and shorter sentences and paragraphs. In this context the ISO editor should be operating in the restricted code for technical matters, as should the readers; as readers of the style requirements, the editor must work in the elaborated code.

Warren recommended that writers increase the cohesion of a document through metadiscourse—that is, linguistic markers or tokens that advance meaning and explain attitudes to text and reader and the organization applied by the author. Warren looked at the use of those that overlay structure (connectives) and those that supplement meaning (code glosses); he did not consider those with connotative meaning, which is not neutral.

Looking at four samples from the guidance given ISO editors, Warren found that the editors could not be expected to understand the style guidance they were given and did not know effective methods for technical communication. Warren suggested that in preparing materials, writers should think about whether their readers need elaborated or restricted coding, asking themselves how much explanation readers need. He recommended the use of metadiscourse to increase understanding but the avoidance of connotative forms.

Bad writing and document design can increase stress enough in readers that they cease reading.

PCS MEMBERS ELEVATED TO SENIOR STATUS

Congratulations to these Professional Communication Society members who have recently achieved IEEE Senior Member status:

Regions 1-6 (U.S.)	*Region 8*
Rahul Chattergy	Jerzy A. Seidler (Austria)
Theodore J. Dzik	
Dennis A. Hartley	*Region 9*
Gene F. Hoffnagle	George Huling (Colombia)
Mark L. Lamendola	Manuel Zelada (Peru)
Janet H. Rochester	
Stephanie E. Rosenbaum	*Region 10*
Steve E. Watkins	A. B. Sharma (Thailand)
	Yumin Wang (China)

If you have 10 years or more of professional communication experience you can apply for IEEE Senior Member status. The forms are available via e-mail. Send a blank message to *senior-member-forms@ieee.org.* You will automatically receive the application-nomination and reference forms by return e-mail. For more information or help in completing the forms contact *l.kostek@ieee.org.*

SOME OF THE WACKIEST WOIDS YOU EVER HOID

BY WEN SMITH

An *-oid* of whatever sort is something that resembles that sort but the resemblance is imperfect or incomplete.

In other woids, a *factoid* is almost a fact but don't count on it. Avoid a *factoid* whenever you can. Here are some other *oids* to be taken with a *granoid* of salt.

- *Actinoid:* A supposed ray of sunshine that acts like a wet blanket.

- *Alkaloid:* An antacid tablet that goes plop but won t fizz.

- *Anthropoid:* Any being or person that is manlike, but not really manly.

- *Asteroid:* A wannabe star. A small one is a half-asteroid, starlike but no sparkle.

- *Cardoid:* Heart-shaped, but having a lithoid heart.

- *Celluloid:* Stuff that movie film and unwanted fat are made of.

- *Conoid:* Something that looks like a cone but without ice cream.

- *Coralloid:* Something that looks like coral but never saw a reef.

- *Cuboid:* Shaped like a cube and used in a Rubic exercise.

- *Cycloid:* Something that's almost like a circle, but has too much shortening in the pi.

- *Deltoid:* A flying machine that loves to fly.

- *Dendroid:* What looks like a tree but is too bushy.

- *Discoid:* A cacophonic musical chord.

- *Donkoid:* A politician that talks Democrat but votes Republican.

- *Elephantoid:* A politician that talks Republican but votes Democrat.

- *Ellipsoid:* A politician that says "Read my ellipse" and throws a curve.

- *Ethnoid:* A politician that claims to be color-blind but always favors the ethnic minority.

- *Humanoid:* An entity that resembles a human being but acts like a politician.

- *Hyaloid:* A greeting shouted to your friend Loid.

- *Lithoid:* Anyone thoroughly stoned.

- *Ovoid:* Anything shaped like the President's office in the White House.

- *Paranoid:* Twins harassed by humanoids.

- *Planetoid:* A pseudo planet populated by paranoids.

- *Sigmoid:* A Viennese doctor with delusions of adequacy.

- *Spheroid:* Earth-shaped but not really having a ball.

- *Tabloid:* A newspaper whose editorials pretend to have been brought down the mountain by Moses.

- *Tauritoid:* A speech or press release after a spin-doctor has made it resemble the feces of a bovine male.

Not yet sufficiently annoyed? Consider some other woids for your next Scrabble® session: *albuminoid, aneroid, crinoid, crystalloid, ganoid, helicoid, hemispheroid, metalloid, mongoloid, Negroid, ooid, pachydermatoid, paraboloid, petaloid, prismatoid, prismoid, pyramidoid, rhomboid, saccharoid, trapezoid, typhoid, varioloid.*

Wen Smith is a humorist who lives in Ashland, Oregon.

This Newsletter *is not a tabloid!*

"U.S. West Communications Inc. has signed a 255 000-square-foot lease...."

— *The Denver Post*

IPCC 99

BY LEANN KOSTEK

I volunteered to help with IPCC 99 because I want to go to New Orleans—the magical place that conjures up images of history, architecture, food, drink, and fun in the minds of people throughout the world. New Orleans is one of the most popular tourist destinations in the world. Visit and you will see why.

It's easy to fall in love with New Orleans and be romanced by the famous French Quarter. This 10-block square is a mosaic of colors, sounds, tastes, smells, and feelings like no other place in the world. Nestled in the Mississippi River's crescent, the Quarter is a blend of old and new traditions, cultures, and customs. After reading this description at *www.frenchquarter.com*, I couldn't resist surfing further to learn more about the city's history.

In the next few issues I will explore with you New Orleans' rich history, architecture, food, and—most of all—the fun you can have in New Orleans; but first a history lesson.

By the mid-1600s the French had established themselves in Canada by securing control of the St. Lawrence River and the Great Lakes. The French worried about English expansion and sought to control the mighty Mississippi River. They knew that by claiming the Mississippi and its tributaries and controlling the mouth of the river, they could keep the English on the east coast.

In 1718 the first French settlers arrived at the Mississippi delta. They joined the existing population of American Indians and West Africans. The resulting complex and harmonious community gave rise to Creole culture.

New Orleans was laid out by the French engineer Adrien de Pauger in a classic eighteenth-century symmetrical gridiron pattern. The plan, with its central square, church, walls, and towers, embodied the eighteenth-century Enlightenment ideal of the perfect city implanted in the New World.

In 1763, defeated in the Seven Years War, France ceded control of New Orleans to Spain. Hounded out of Canada by the British at the same time, rural Arcadians settled the countryside around New Orleans in the 1760s and evolved into today's Cajuns.

Spain never exerted much control over the area and by default American Colonial trade began to take over. In 1802 Napoleon convinced Spain to give the Louisana Territory back to France and he tried unsuccessfully to reestablish the French Empire in Louisiana. Strapped for cash, he sold New Orleans and the Louisiana Territory to Thomas Jefferson for $15 million dollars on December 1, 1803. This "Louisiana Purchase"—828 000 square miles doubled the size of the United States and Americans began to move west.

As more Americans settled in the Ohio and Mississippi valleys, trade along the river became New Orleans' life line. The 1810 census revealed a population of 10 000, making New Orleans the United States' fifth largest city, and it remained among the 12 largest U.S. cities for the next 100 years.

Normally, when tourists go to New Orleans they have a difficult time understanding the city. It looks like no other place in the U.S. The appearance of the French Quarter and the constant buzz of people in a downtown that never sleeps contrast with quiet neighborhoods of townhouses and cottages. Visitors are enchanted by all they see and hear.

Mark your calendar now for a time like no other: September 7-10 at the Omni Royal Orleans in the heart of the French Quarter.
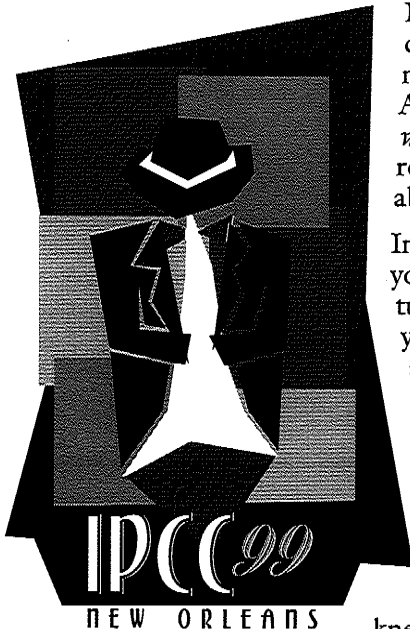
ALIAS THE ADCOM

The Administrative Committee (AdCom) invites comment from PCS members about any of the Society's activities. All the AdCom members have an electronic alias at the IEEE that automatically forwards e-mail to the member's actual electronic address.

You can address the whole AdCom at *pcs.adcom@ieee.org* or any of the members individually at the addresses listed in the table. The year in parentheses marks the end of the member's three-year term.

If you would like to obtain (or update) an alias of your own, go to the IEEE Web page, *http://www.ieee.org/eleccomm*, and supply the information requested there (you will need your IEEE membership number).

Members are always welcome at AdCom meetings.

Ron Blicq (2001) *r.blicq@ieee.org*	Gene Hoffnagle (1999) *g.f.hoffnagle@ieee.org*	Beth Moeller (1999) *b.w.moeller@ieee.org*
Kim Sydow Campbell (2000) *k.s.campbell@ieee.org*	Rudy Joenk (1999) *r.joenk@ieee.org*	Lisa Moretto (2000) *l.moretto@ieee.org*
Ed Clark (2001) *eclark@ieee.org*	Bill Kehoe (1999) *w.kehoe@ieee.org*	Cheryl Reimold (1999) *c.reimold@ieee.org*
Roger Grice (2001) *r.grice@ieee.org*	Leann Kostek (1999) *l.kostek@ieee.org*	Stephanie Rosenbaum (2000) *s.rosenbaum@ieee.org*
Mark Haselkorn (2000) *m.haselkorn@ieee.org*	Luke Maki (2001) *luke.maki@ieee.org*	Tom van Loon (2001) *t.vanloon@ieee.org*
George Hayhoe (1999) *g.hayhoe@ieee.org*	Terrance Malkinson (2001) *t.malkinson@ieee.org*	Muriel Zimmerman (2000) *m.zimmerman@ieee.org*

IEEE
PROFESSIONAL COMMUNICATION SOCIETY
NEWSLETTER