IMRAD Buried

By Michael Brady

IMRAD: We know it well. Introduction, methods, results, and discussion—the structure making up the foundation of communication in science and technology. What more need a writer know to craft a research paper, conference talk, or media article?

Plenty, says geologist, scholar, and writer on scientific writing Scott L. Montgomery in *Communicating Science*,* new this year from the publishers of *The Chicago Manual of Style*. For a starter, though the subject of much preaching about writing (keying in IMRAD as a search word in Google brings up more than 1200 hits), the ostensibly universal IMRAD structure seldom is seen in practice, principally because scientific writing transfers poorly between fields. What is good in medicine is not necessarily good in electrical engineering. Moreover, belief in IMRAD evokes other absolutes, none of which lead to good writing. Even within a single, narrow field of science, attempts to impose detailed standards lead only to irrelevance. Though there's much to be said for observing the basics of good grammar and spelling, efficient communication does not rest on a bed of rules.

THE CHICAGO GUIDE TO
COMMUNICATING
SCIENCE

SCOTT L. MONTGOMERY

What then? The key lies in an initial postulate that is convincingly proven in the book: Writing and speaking are as much constituents of science and technology as are scientific principles and laboratory research. In short, science and communication are inseparable. That they have been and still are seen as separate efforts arguably is rooted in the way scientists and technologists are trained. Students of the humanities read, critique, and thereby learn from the works of the past, while students of the sciences avoid works of the past almost altogether. A student of literature will read Shakespeare; a student of physics will not read Newton. Scientists and technologists apparently are expected to learn good writing not by example but rather by rule, as by attending a course or two in technical writing. The resultant writing by rule is responsible for much of the dullness in technical writing.

But technical writing need not be dull, as Montgomery shows in examples drawn from many fields and modes of communication, from journal papers to e-mail
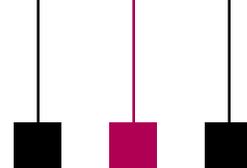
Rudy Joenk

This Issue

In the previous issue the coincidence was two letters to the editor that generated much discussion. In this issue the coincidence is that several authors were simultaneously more frugal with their words. Whereas it usually takes some artful squeezing to produce (only) 24 pages, this issue required some prodigious stretching to achieve 20 pages. I'm grateful to those who, on very short notice, responded to my call for additional contributions.

There is a better coincidence in this issue, however: Two very different articles (Michael Brady's on p. 1 and Ron Nelson's on p. 10) have the same message, namely, that effective writing isn't based on rules.

If our regular authors are running out of words, remember that I welcome proposals for articles and new columns. See the information for authors at the end of this column.

Potpourri

Since 1976 Lake Superior State University (Sault Ste. Marie, Michigan) has issued its annual recommendations for words and phrases to be banished from the English language.

From among 3000 recommendations received, the selection for New Year's Day 2003 (*http://www.lssu.edu/banished/current/default.html*) includes:

As per: Causes a need for "asperin."

Branding: Applied to other than livestock.

Challenge: No one has problems anymore.

Having said that and *that said:* Intellectual form of "ya know."

Mental mistake: What other kind is there?

Untimely death: Has anyone died a timely death?

More welcoming than banishing, the American Dialect Society selected words and phrases that came into prominence during 2002 (*http://www.americandialect.org*):

Most creative: *Iraqnophobia*

Most euphemistic: *Regime change*

Most likely to succeed: *Blog*

Most useful: *Google* [also see the February 2003 *IEEE Spectrum*, p. 68]

Percentage of Americans who feel they should write a book: *81*; percentage who do: *2*. AARP *Modern Maturity*, January/February 2003.

Mission Statement: "The DARPA Information Awareness Office will imagine, develop, apply, integrate, demonstrate and transition information technologies, components and prototype, closed-loop, information systems that will counter asymmetric threats by achieving total information awareness useful for preemption; national security warning; and national security decision making." *http://www.darpa.mil/iao/.*

Metaphorically Speaking: Internet collection of metaphors found in high school essays, forwarded by Dan Danbom:

"A politician was gone but unnoticed, like the period after the Dr. on a *Dr Pepper* can."

"Her vocabulary was as bad as, like, whatever."

"It came down the stairs looking very much like something no one had ever seen before."

"John and Mary had never met. They were like two hummingbirds who had also never met."

Elizabeth Weise Moeller

In February all PCS members received a letter discussing our mission, goals, and issues surrounding the possibility of changing the name of PCS. Due to production deadlines I wrote this column before receiving feedback from that letter. So I am using this column to elaborate on some of the issues mentioned in the letter and provide some background procedural information.

Mission Statement

In December the AdCom approved a new mission statement for PCS. Since this is a bylaws change, it needs to go to the IEEE Technical Activities Board (of which I am a member) for final approval; TAB will vote on it in June. The new mission statement is:

To foster a community dedicated to understanding and promoting effective communication in engineering, scientific, and other technical environments.

To this end, the IEEE Professional Communication Society endeavors to:

- Advance technical and scientific communication as an essential element of engineering;

- Help engineers, scientists, and other technically oriented professionals to communicate better in the workplace—both in speaking and in writing, both verbally and nonverbally;

- Promote and disseminate best practices and research results on the development, maintenance, delivery, and management of technical content; and

- Promote and facilitate leading-edge education and training of engineers, scientists, and other technically oriented professionals in communication theory and practice.

Name Change Decision Schedule

This is not a decision to be rushed. With that said, there are some IEEE deadlines we need to consider. There are three organizational-unit meeting series per year when TAB and all the other boards of the IEEE meet face-to-face. Societies bring constitutional changes, such as a name change, to TAB. If TAB approves, these are sent to the IEEE board of directors for final approval at the next meeting series. For example, if we present our name change to TAB in June and it passes, the BoD will see the name change on their agenda in November.

> Name change is more an identity issue than an activity issue.

On top of board schedules, we have printing schedules to be concerned with. The IEEE prepares all membership renewal materials for the printer in July. Therefore, for a name change to be in the 2004 materials, it must be approved by the BoD no later than June 2003. This will not happen. We were not nearly ready to make a decision ourselves, let alone take it to TAB for its February 2003 meeting. This is not a bad thing.

We will take the time between now and our May AdCom meeting in Dallas to discuss this among ourselves and with the membership. If the AdCom votes in May to change the name, we can take it to TAB in June and the BoD in November. This schedule would then give us a year to advertise the name change, which would take place for 2005. Even if we took it to TAB this November and the BoD in February 2004, we would still have plenty of time to advertise the change.

Would We Be Different?

One of our new AdCom members asked what we, as a society, would do differently if we changed our name. Good question. I don't think it is a function of what we would do differently. This is much more an identity issue. PCS is more than "professional communication." We need to find an effective way to communicate that information.

In addition, PCS is often confused with the IEEE Communications Society (ComSoc), which is focused on the technical aspects of communication, such as communication networks, transmission media, and network architecture and protocols. We need a way to distinguish ourselves from that group.

As I write this, there is no lead contender for the new name. Suggestions have included IEEE Technical and Scientific Communication Society, IEEE Information Design & Management Society, IEEE Human Commu-

nication Society, and IEEE Engineering Communication Society. These are all names we feel would eliminate confusion with ComSoc. We will make a final decision at our AdCom meeting in Dallas in May. You are more than welcome to e-mail your suggestions to me and I will propose them to the AdCom.
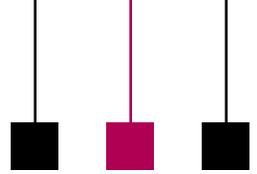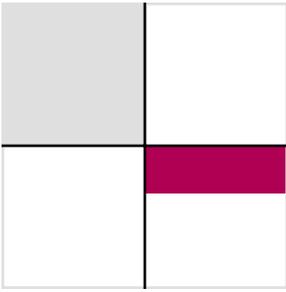
We know we have some strengths. This *Newsletter* is often cited as an example to follow and our *Transactions on Professional Communica-* *tion* consistently draws strong peer-reviewed research articles. IPCC, our conference, is going strong and continues to be a favorite among many. This year IPCC will have a special stem on content management; at IPCC 2004, the stem will evolve into an extra day. In 2005 we will have two conferences, one just on content management.

We are also working to bring you an electronic newsletter. Its goal is to bring you breaking news, faster than this *Newsletter* can, without overwhelming your inbox. The electronic information committee, headed by Mark Haselkorn, is assigned this project.

PCS, whether the name changes or not, will continue to grow and bring new products to our members. The name change is important, nevertheless. What are your questions, comments, concerns? E-mail me (*b.w.moeller@ieee.org*) and let me know what you think.

IMRAD Buried

(continued from page 1)

messages. Outstanding among them is a 1953 journal paper that begins: "We wish to suggest a structure for the salt of deoxyribose nucleic acid (D.N.A.). This structure has novel features which are of considerable biological interest." Authors Watson and Crick go on to break almost every rule of dispassionate scientific writing: The paper doesn't follow IMRAD, it's peppered with redundancies and grammatical errors, and it has no real conclusion. Yet it is a masterpiece of communication as well as one of the epochal papers of 20th century science.

The lesson is clear: Good writing is based on reading. On that score alone this book is an outstandingly readable work on our art.

PCS Member Heads CCIP

Luke Maki, PCS AdCom member, is chair for 2003 of the IEEE-USA committee on communications and information policy (CCIP). This group promotes formulation of sound legislation, regulation, and policies relating to communications, computer, and information technology development. Previously Maki was chair of the PCS electronic information committee.

Active projects of the CCIP are online privacy and broadband deployment. Other interests include nanotechnology, spectrum utilization and digital television, and taxation of the Internet. Past projects have included high performance computing, the national information infrastructure, and personal communications systems.

On Presidential Prose

"He writes the worst English that I have ever encountered. It reminds me of a string of wet sponges; it reminds me of tattered washing on the line; it reminds me of stale bean soup, of college yells, of dogs barking idiotically through endless nights. It is so bad that a sort of grandeur creeps into it. It drags itself out of the dark abysm of pish, and crawls insanely up to the topmost pinnacle of tosh. It is rumble and bumble. It is flap and doodle. It is balder and dash." H. L. Mencken, on Warren G. Harding, in the *Baltimore Evening Sun* (1921) as quoted in the *Penguin Dictionary of Modern Humorous Quotations* (2001), via *World Wide Words*, 25 January 2003.
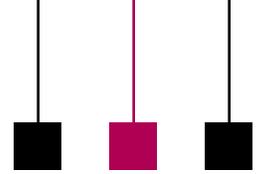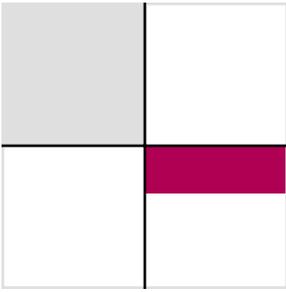
Highlights of the January AdCom Teleconference

By Jean-luc Doumont

Ah, the wonders of modern communication technology! It was a cold Saturday morning for all of us on the administrative committee, but we did not have to put on our thickest mittens to go out and convene. In fact, we did not even have to leave our homes. The concept of a virtual meeting, first tried two years ago, has indeed proven to be effective and economical. This 25 January, in addition to talking to each other on the phone for over four hours, we used our Web browsers to look together at documents and to cast votes. The only non-U.S. AdCom member (me) being coincidentally in the U.S., we did not even have to worry much about differences in time zones.

Appointments

The new year sees no change in AdCom officers. During the September 2002 meeting in Portland, Oregon, Beth Moeller and Ed Clark had been reelected as president and vice president, respectively. During this January teleconference meeting, Steve Robinson and Jean-luc Doumont were reappointed as treasurer and secretary, respectively.

As for other AdCom members, Philip Rubens was appointed to the unexpired two-year term of Mike Bridgwood, who had resigned.

With Luke Maki recently named chair of the IEEE-USA committee on communications and information policy (CCIP), our electronic information committee needed a new

chair. Mark Haselkorn took up the challenge and immediately enrolled three volunteers. We expect to hear from them soon with innovations in this area.

Other committees saw reasonably few changes. Our enthusiastic new members, Bill Albing and Bob Krull, took on membership and awards, respectively, while a not exactly new but still enthusiastic member, past-president George Hayhoe, agreed to chair nominations. For the complete list of committee chairs, conference chairs, and other positions, see *http://www.ieeepcs.org/ commadhoc.htm*.

Treasurer's Report

As new IEEE accounting formulas are phased in, our financial picture is somewhat confused. In our efforts to decrease expenses, we therefore favor solutions that give us more control. For example, we are now looking at subcontracting the printing and perhaps the distribution of our *Newsletter* and *Transactions*, currently in the hands of the IEEE.

Conferences

Surely you have seen the call for papers for IPCC 2003—at least in this *Newsletter*, perhaps even in your mailbox. Conference chair Sherry Steward is working hard to make Orlando, Florida, a memorable place for us all on 22-24 September. As an added activity this year, she and edu-

cation chair Julia Williams are planning a variety of preconference workshops. Whether you are a professional communicator or a communicating professional, some of these workshops will be just right for you, so mark Sunday, 21 September, on your calendars, too. Visit the conference Web site at *http://www.ieeepcs. org/conference*.

Besides top-notch speakers and motivated attendees, the success of our conferences stems from careful planning, starting as long as four years in advance. Bernadette Longo is booking good progress on IPCC 2004 in Minneapolis, Minnesota. For IPCC 2005, Marj Davis will take us to Limerick in Ireland, probably in July. And for IPCC 2006, Beth Moeller is exploring the possibilities in upstate New York.

> No change in officers for 2003; several changes in committee chairs.

Name Change

This time again we spent a considerable part of the meeting discussing a possible name change for PCS, as we feel that "professional communication" does not describe our field well and is hardly recognized within IEEE, where we are often confused with the Communications Society. Finding a concise yet not too restrictive denomination seems an impossible task at times but, because we think it is a crucial task for the future of our society, we keep at it, as systematically as such a creative process allows. We welcome your input, too;

read more on the name change in the president's column.

Future Meetings

In 2003 the AdCom will convene in Dallas, Texas, on 17-18 May, and in conjunction with IPCC 2003 in Orlando, Florida, on 19-20 September.

All PCS members are welcome to attend AdCom meetings. Interested in seeing your leadership at work? Just get in touch with the PCS secretary for practical arrangements.

Jean-luc Doumont is PCS secretary; JL@JLConsulting.be.

IEEE Life Member Status

To qualify as a Life member, an IEEE member must be at least 65 years old, and the sum of the member's age and the number of years of paid membership must equal or exceed 100. E-mail *Life-member@ieee.org*.

From the Editor

(continued from page 2)

"Long separated by cruel fate, star-crossed lovers raced across the grassy field toward each other like two freight trains, one having left Cleveland at 6:36 p.m. traveling at 55 mph, the other from Topeka at 4:19 p.m. at a speed of 35 mph."

"Shots rang out, as shots are wont to."

"The red brick wall was the color of a brick-red Crayola crayon."

Instructions on a bottle of Color Steps Colorant shoe dye: "Apply using quick, long, even strokes back and forth in one direction." *New Scientist*, 11 January 2003.

"…the major league ear offender, the bane of English teachers everywhere: *nucular* instead of *nuclear*." Patt Morrison on NPR's Morning Edition, 30 January 2003.

Information for Authors

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

are also welcome. Write about what you know, things that you're familiar with. If you live outside North America, consider writing about technical communication in your country. You needn't be a PCS member to contribute.

If you use a wp program, **keep your formatting simple;** multiple fonts and sizes, customized paragraphing and line spacing, personalized styles, etc. have to be filtered out before being recoded in *Newsletter* style. Headers, footers, and tables lead the casualty list. **Embed only enough specialized formatting and highlighting (boldface, italics, bullets) to show me your preferences.**

If you borrow text—more than a fair-use sentence or two—from previously published material, you are responsible for obtaining written permission for its use. Ditto for graphics. Always give credit to the author or artist.

> Deadlines are the 15th of the odd-numbered months.

The *Newsletter* issues on our Web site (*http://www.ieeepcs.org/news letter.html*) can be used as examples. Issues are posted about one month after distribution of the print version and now have active e-mail, Web, and table-of-contents links.

I prefer to receive articles by e-mail; most WordPerfect, Word (except XP), RTF (rich text format), and ASCII files are acceptable. My addresses are in the boilerplate at the bottom of page 2 along with our copyright notice.

Deadlines

The 15th day of each odd-number month is the deadline for publication in the succeeding odd-number month. For example, the deadline is 15 May for the July/August issue, 15 July for the September/October issue, etc. You won't be far off (and never late) if you observe the Ides of May, July, September, and so on.

Professional Communication Delegation to China

By George F. Hayhoe

In October 2002 I led a People to People delegation of 15 professional communicators and four guests on a 10-day tour of the People's Republic of China. The People to People Foundation, founded by U.S. President Dwight D. Eisenhower in 1957, sponsors scientific, cultural, and educational exchanges with the goal of increasing understanding between nations, one person at a time.

Language Differences

As our bus drove from the Beijing airport to our hotel, I was surprised to see highway and street signs that include both Chinese and English. Beijing is preparing to host the 2004 Olympic Summer Games and the government wants to make it easier for visitors to navigate the city. Our guide told us that by 2004 all licensed taxi drivers in Beijing will be able to speak basic English.

In Beijing and Shanghai, billboards, shop signs, and street signs typically include both Chinese and English, but not as often in Guilin, the third (and much smaller and more rural) city on our itinerary. Many of the people—especially the young people—whom we met spoke surprisingly fluent English.

We visited a second grade classroom in Guilin, part of an experiment to introduce English instruction into the elementary school curriculum (Chinese students typically don't begin their study of English until middle school or high school) and discovered that we were able to carry on conversations with these six- and seven-year olds. Much to their delight (and ours) we followed them to the school courtyard where we played counting games, sang English songs, and learned more about the children and their families.

> Use of English is far more extensive than expected.

We were fortunate to have Lu Ping as our national guide during our time in China. A very capable English translator, he had served as translator for Jiang Zemin, now the president of China, when Jiang was mayor of Shanghai. But we found that in some of our meetings with Chinese counterparts, translation was not necessary.

On our very first morning in Beijing we met with the leaders of the Beijing Section of the Institute of Electrical and Electronics Engineers. These gentlemen, all of whom appeared to be in their 60s and 70s, spoke excellent English, and we were able to engage in one of the most fascinating discussions of the trip without the interruptions that are inevitable when translation is required.

The next day, when we met with the Chinese Association of Science and Technology Communication (CASTC), we discovered that many of the mostly middle-aged members of this group, who were educated during the Cultural Revolution, were not as fluent, and some spoke little English at all.

Differences in Professional Practice

Our professional exchanges were at the heart of the delegation's tour of China. In addition to the meetings with the IEEE section and with the Chinese Association of Science and Technology Communication at Tshingua University in Beijing, we also held discussions with Beijing E-C Translation Ltd. (a company that specializes in localizing software documentation and user interfaces), the Beijing Association for Science and Technology, faculty and students at Shanghai Jiao Tong University, USActive (a company that helps Western businesses establish a presence in China), and faculty and students at Guilin University of Electronic Technology. These sessions pointed out both how much we have in common with our Chinese counterparts and how differently we perceive and practice technical communication.

The People to People professional communication delegation met with representatives of the IEEE Beijing Section, including section chair Professor Zong Sha.

Design Resources

By Elizabeth Weise Moeller

While reviewing some older columns, I realized I've been pretty negative lately. There is a lot of bad stuff out there. There is also a lot of really great stuff, too. Even neophyte designers can find some helpful information they can understand.

Remembering Why We Use the Web

Going back to the ideas of Vannevar Bush, the reason for connecting computers was to share information. Tim Berners-Lee, the acknowledged father of the WWW, even said it was about information. As technology has progressed, however, we're seeing sites that want to entertain. Sharing information is often the least of their worries (see my January/February 2003 *Newsletter* column, "Bad Content Is Bad Content").

Content is often lost in the effort to *design* the user experience. Users don't want an experience—they want information. They want content. They want to find what they are looking for as quickly as possible. They don't want your idea of an experiential Web site adventure—unless they're playing games, and that's a whole 'nother ball game.

Design Resources

So, where to go for good resources on Web design? These are some of my favorites:

For the latest in HTML and CSS markup standards, the World Wide Web Consortium is the only place to go (*http://www.w3c.org*). The W3C was founded in 1994 by Tim Berners-Lee at the MIT Laboratory for Computer Science in collaboration with CERN. The organization works to develop technical standards for the Web infrastructure to promote their long term goal of universal access.

For articles, columns, commentary, and software reviews, About.com's Web design section (*http:// webdesign.about.com/cs/ design/*) is a great starting point. This site is organized by design topic. You will be able to find everything from beginner resources to more complicated programming resources.

For Web typography (which is not the same as print typography), CSS, and graphics, Web Page Design for Designers (*http://www.wpdfd.com*) is a great resource. The site includes articles and links to other resources for designers.

For Web usability, many people point to Jakob Nielsen's biweekly AlertBox column (*http://www.alertbox.com*). Much of the information is useful and it is entertaining to see how far the Web has come since his early 1996 columns. Usable Web (*http://www. usableweb.com*) is another usability resource. It holds links to a number of good usability resources, including books and articles. (A note on the Usable Web home page says that it is not currently being updated, however.)

For tips and techniques, WebMonkey (*http://hotwired.lycos.com/webmon key/design/*) provides information on everything from authoring to design, multimedia, e-businesses, programming, and back-end-tool resources. The current featured tutorial (*http:// hotwired.lycos.com/webmonkey/ design/site_building/tutorials/tutorial 2.html*) is on site optimization— something many Web sites could benefit from. An optimized site is one that is created so that it will download as fast as possible.

> Users don't want an experience— they want information.

For code testing, site monitoring, and site previewing, I like NetMechanic (*http:// www.netmechanic.com*), which provides both free and fee-based tools to validate your code and monitor your site in the search engines. I like its browser photo tool that will take a digital photo of your site in various browser-machine-resolution configurations. The photos are displayed on a Web site so you can get a feel for what your site looks like in Netscape on Macintosh or Internet Explorer on a PC. The W3C also has an excellent HTML validator at *http://validator. w3c.org*.

For browser testing and compliance, visit the Browser Archive at evolt.org (*http://browsers.evolt.org*). This site has downloadable versions of several browsers back to version 1 of Mosaic, the original Web browser, from NCSA.

For those who want to fix what's broken, Vincent Flanders has two Web sites that can help. The original Web Pages That Suck (*http://www.web*

pagesthatsuck.com) is still a great resource for learning what *not* to do with your site. His second site, Fixing Your Web Site (*http://www.fixingyour website.com*), provides discussion of "mystery meat navigation," design disasters, and accessibility issues— and how to make sure your site avoids pitfalls many others fall into.

Finally, for those who just want to know what's cool today: Cool Home Pages (*http://www.coolhomepages. com*). These are not all great from a usability or accessibility standpoint, but you can see some interesting designs here. And their Design Academy does provide some good information.

One thing you can learn from all these resources is that there is no one right way to design a Web site. However, if you use good coding practices and the structure is in place, you will create a much better site.

Elizabeth Weise Moeller is president of PCS. She owns Interactive Media Consulting, LLC (+1 518 587 5107, 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.

Delegation to China

For example, in our session with the IEEE leaders, a Chinese software engineer deplored the state of manuals in his country. He said that the Chinese should teach software engineering students how and what to write, and that the Chinese must develop standards for software documentation and then follow them. But he noted that in China most software engineers prefer engineering work to writing. We in the North American delegation found ourselves nodding frequently in agreement with many of those observations.

We found some notable differences, however, in our meeting with the Chinese Association of Science and Technology Communication. Most members of CASTC are journalists, editors, publishers, and information scientists, and the majority spend their time communicating about science and technology to the general public. In contrast, most professional and technical communicators in North America are employed by corporations to document hardware or software.

We also had a very interesting discussion with faculty at the Guilin University of Electronic Technology, who wanted to know exactly what kinds of work the members of our delegation do. When we explained that we helped companies make their products easier for consumers to use, one of our Chinese counterparts asked how what we do differs from advertising.

As we experienced it on this trip, China is a fascinating mixture of the familiar and the exotic—of modern skyscrapers seen from a centuries-old traditional garden, of expressways and narrow alleys, of capitalism rapidly evolving from socialism. We learned most of all that it is a place to which we want to return soon.

George Hayhoe is professor of technical communication and director of the M.S. degree program in technical communication management at Mercer University. He is also immediate past president of PCS.

PCS Author Receives Awards

Two STC awards of merit in its 2001-2002 technical publications competition were presented by the Toronto, Canada, chapter to Debbie Davy for articles published in the PCS *Newsletter:* "How to Communicate with SMEs" [*subject matter experts*], July/August 2002 issue; and "Successful Technical Writing: It's a Mind Game," September/October 2002.

Ronald J. Nelson

Stephen Hawking's Style, in a Nutshell

Stephen Hawking's third book—the first two were the immensely popular *A Brief History of Time* (1988) and *Black Holes and Baby Universes and Other Essays* (1993)—is *The Universe in a Nutshell* (New York: Bantam Books, 2001).* His proven ability to reach a large audience has again been demonstrated with this book. To articulate brilliant theoretical physics in language accessible to the layperson is an amazing feat, and Hawking achieves that objective admirably.

Adherence to the rules of writing is a worthwhile goal for those learning how to write. Even seasoned writers generally work within the prescribed confines of grammar and mechanics. But extraordinary writers, who are—not coincidentally—extraordinary thinkers, leave lesser writers (and thinkers) in their intellectual dust as they use some rules and ignore others. Although Stephen Hawking is in this last category, he masterfully brings lay readers up to speed.

The justification for his approach must be his desire to share the principles that he believes govern the universe with those brave enough to ponder them. The concepts involved are, to understate the case, challeng-

> Hawking's book… encourages intellectual and personal growth— a worthy objective for any professional document.

ing. Some of them are commonly spoken of, like acceleration, big bang theory, black hole, atom, Doppler effect, DNA, radiation, neutron, and proton, with varying degrees of understanding. Other concepts— brane, string theory, virtual particle, fermion, curled-up dimension, blue shift, red shift, and M-theory, to list a few—are not what one would call no-brainers.

One of his most effective techniques for reaching the reader is his ample use of full-color illustrations. Concepts must be visualized to make them comprehensible; this point is true a fortiori with deeply complex ideas. Not only does Hawking ensure that apt visuals are placed near the written text to be illuminated, but also he places them in different positions on the page, thereby achieving visual variety. They thus compellingly involve the reader's eyes and mind in the process of elucidating subject matter at every juncture. Not only that, but he also uses sidebars, explanatory notes, arrows, and other graphic devices to encourage the reader to explore the topic beyond the confines of the text.

In his foreword to *The Universe in a Nutshell*, Hawking says of *A Brief History* of Time that it is "organized in a linear fashion, with most chapters following and logically depending on the preceding chapters." Such an approach had mixed success with readers of that book. For *Universe* he used a more organic approach. It is

"more like a tree: Chapters 1 and 2 form a central trunk from which the other chapters branch off. The branches are fairly independent of each other and can be tackled in any order after the central trunk." They correspond to subjects that he has thought about or researched since the appearance of *A Brief History*.

Throughout *Universe* Hawking's content is delivered with characteristic clarity (even in discussing uncertainties), modesty, humor, and immersion in the adventure of scientific exploration. Pontification is utterly alien to the book.

Chapter 1 covers fundamental information about Albert Einstein and his contributions of specific relativity (absence of gravitational influences) in 1905 and general relativity (gravitational influences in terms of curvature of space-time) in 1915. With seeming effortlessness Hawking speaks of uncertainties in plain language. For example, in describing Einstein's childhood, he conveys factual information while allowing for difference of opinion: "Albert was no child prodigy, but claims that he did poorly at school seem to be an exaggeration." And in explaining the basis for Einstein's theory of relativity, Hawking does so with absolute clarity: "Einstein's postulate that the laws of nature should appear the same to all freely moving observers was the foundation of the theory of relativity, so called because it implied that only relative motion was important."

In the same chapter Hawking notes that, in keeping with one of Einstein's

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* He has also recently coauthored a marvelous book, *The Future of Space-time* (New York: Norton, 2002), which contains one essay by each coauthor: Hawking, Kip Thorne, Igor Novikov, Timothy Ferris, and Alan Lightman. Hawking's essay is entitled "Chronology Protection: Making the World Safe for Historians."

1905 papers, if two accurate clocks were flown around the world in opposite directions, they would return showing slightly different times. This fact suggests that a person could live longer by flying continuously to the east "so that the plane's speed is added to the earth's rotation." Then with gentle humor he adds, "However, the tiny fraction of a second one would gain would be more than canceled by eating airline meals."

Chapter 2, The Shape of Time, reconciles the ideas of how general relativity gives time a shape with quantum theory. He begins the chapter with questions, metaphors, an allusion, and point-of-view shifts (generally regarded as a flaw), but achieves the higher goal of involving the reader in important content: "What is time? Is it an ever-rolling stream that bears all our dreams away, as the old hymn says? Or is it a railroad track? Maybe it has loops and branches, so you can keep going forward and yet return to an earlier station on the line." Hawking is unable to define what time actually is, because of his acceptance of the positivist position put forth by Karl Popper and others, namely, that "A good theory will describe a large range of phenomena on the basis of a few simple postulates and will make definite predictions that can be tested. If the predictions agree with the observations, the theory survives that test, though it can never be proved to be correct. On the other hand, if the observations disagree with the predictions, one has to discard or modify the theory. (At least, that is what is supposed

to happen. In practice, people often question the accuracy of the observations and the reliability and moral character of those making the observations.)" The reader comes to have a feel for Hawking's good, solid, common sense in what he writes—certainly a welcome trait in these chaotic days.

In the title chapter Hawking begins with an epigraph from *Hamlet*, act 2, scene 2: "I could be bounded in a nutshell/and count myself a king of infinite space…." Hawking comments that "Hamlet may have meant that although we human beings are very limited physically, our minds are free to explore the whole universe, and to go boldly [note how he avoids the split infinitive] where even *Star Trek* fears to tread—bad dreams permitting."

From that springboard he probes important questions that stretch the mind (as any worthwhile document should), like "Is the universe actually infinite or just very large?" and "How could our finite minds comprehend an infinite universe?" In an effort to comprehend the universe, he makes telling observations (as should the writer of any document). Up to the 20th century it was thought that the universe was constant in time, but if that were true the stars would have been radiating for an infinite time and would have heated up the universe to their temperature. We would have no night because the sky would be as bright as the sun. That fact "implies that the universe could not have existed for-

ever in the state we see today. Something must have happened in the past to make the stars light up a finite time ago, which means that the light from very distant stars has not had time to reach us yet."

Thanks to our ability to analyze light from other galaxies with the aid of the Hubble telescope, we know that most galaxies are moving away from us on Earth, and the farther they are from us the faster they move away. In fact, "…every galaxy is moving away from every other galaxy. The universe is expanding." Of course, conversely, the galaxies must have been much closer in the past, and Hawking connects these facts to justify the big bang theory. He explains how Einstein's theory of relativity can be combined with Richard Feynman's idea of multiple histories to form a more complete picture of the universe. In the process of explanation, Hawking also draws on the notions of imaginary time history without boundary (a sphere) and real time that expands in an inflationary manner (relating it all to the banking industry), as well as vacuum energy (that exists even in apparently empty space) and matter density. After the cancellation of positive and negative energies, Hawking posits "a small, finite amount of vacuum energy left over," roughly equivalent to the cosmological constant that Einstein regarded as his greatest mistake. Ultimately Hawking postulates "how the behavior of the vast universe can be understood in terms of its

> Extraordinary writers… use some rules and ignore others.

Krazy Kommunikation

By Robert Stahl
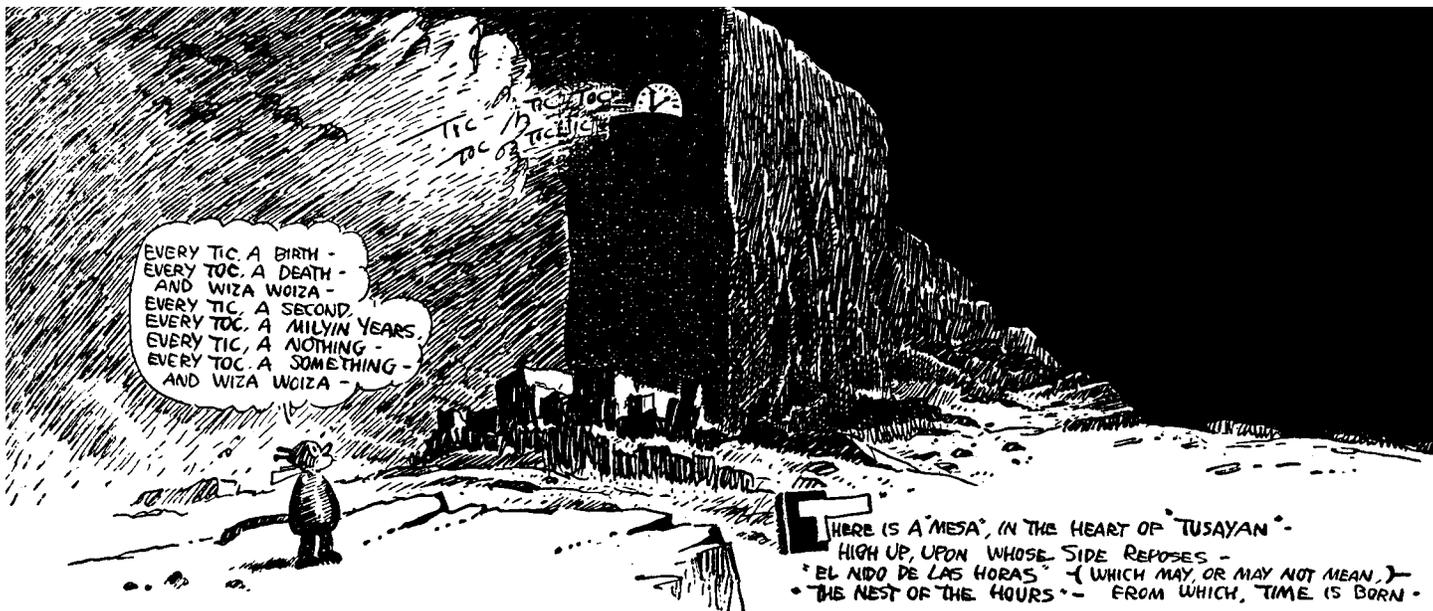
KRAZY KAT by George Herriman, 15 March 1925. Used with permission of the publisher: *http://www.fantagraphics.com*, +1 800 657 1100.

A colleague once remarked that, as an editor of high-tech military equipment manuals in the early 1990s, he was asked to explore comic strips as a means of communication. In a world of increasingly complex equipment and diminishing reading skills, the simple comic strip might ensure comprehension for readers who cannot grasp a message couched in the conventional mix of technical text and graphics.

Notwithstanding the scoffing of the literary establishment, the question is valid. Comic strips often outdo plain text in putting a message across. Were that not so, neither *Dilbert* nor *Peanuts* would be as popular as they are today. If truth be told, the best comic strips are those that clothe complexities in simple garb.

Arguably, the best of the lot is *Krazy Kat*, a strip that died with its creator, George Herriman (1881-1944), nearly 60 years ago. Herriman's recipe was deceptively simple. The cast of *Krazy Kat* is small and the plot invariable, based on the eternal triangle. Krazy loves Ignatz Mouse, but Ignatz spurns and frequently throws bricks at Krazy. Policeman Offissa Pupp loves Krazy and seeks to protect "her" (Herriman said Krazy was neuter), often by locking up Ignatz. The stark, surrealistic stage is based on the Arizona desert, and on it loom monoliths and artifacts that predate modern sci-fi. The straightforward lingo is a mix of contemporary and archaic English, with tidbits of French and Spanish. Using these simple components, Herriman created innumerable

variations in the 30-plus years that the strip ran in newspapers.

The strip never sold well, but it was sought after by intellectuals, particularly Dadaists and surrealists, who appreciated its unfailing stream of incongruous events and associations. Ernest Hemingway, H. L. Mencken, and Pablo Picasso were fans, as was William Randolph Hearst, who put the strip in his 30 some newspapers. By an incongruous twist befitting of *Krazy Kat* itself, like *Citizen Kane* it came to be regarded as the greatest ever of its genre. Outside of a nigh complete newsprint collection at the San Francisco Academy of Comic Art, little original *Krazy Kat* survives. All the more fortunate, then, that a year ago cartoon publisher Fantagraphics Books of Seattle released

Peter Reimold and Cheryl Reimold

Tips for Making Writing Easier

Part 1: The Five-Minute Miracle

Have you noticed lately that you seem to be required to do more work but with no more time in which to do it? The load steadily increased, but someone forgot to add another hour to the day to make it possible. "Too much work—not enough time!" is the cry we hear everywhere we go these days, and we have decided to do something about it.

No, we have not found a way to give you 25 hours in a day, but we may be able to shave off some precious minutes that you could use for a valuable pursuit (such as sleeping). In this series we will offer tips for making the communication part of your workday a little easier and less time-consuming. We start with writing.

In the rush-to-win world of business today, written documents have generally become shorter, for the simple reason that no one seems to have the time to read anything long. Quick e-mails have replaced two-page memos and even sometimes progress reports (occasionally with disastrous results, as they can so easily disappear). Reports and proposals have shrunk in size, if not importance. The challenge, in this environment, is to get a lot of information into a very short space. This is not an easy task. It usually feels like trying to squeeze a size 10 foot into a size 6 shoe.

How can we do it easily and—more important—quickly? The answer is the Five-Minute Miracle.

The Five-Minute Miracle

The Five-Minute Miracle is just a simple conversation. It takes place between you and your reader.

In your mind you say to your reader, "I want to tell you about…(the subject of your e-mail or short report)." Doing this immediately clarifies for you the subject of your report.

Let's say you are writing a short report, primarily to top executive readers, on a customer survey you have just completed. You would begin, "I want to tell you about the results of our customer satisfaction survey."

You imagine your reader responding, "I have only one minute. What do you want to tell me about it?"

Then you set the timer for five minutes.

Use the first minute to tell your reader your main message: *what* you have accomplished, determined, or discovered and *why* it matters to the reader (if this is not obvious). Please note an important point here: If you have to struggle to find the significance of your information *for that reader*, you are probably choosing the wrong main message. For instance, if you start a report to executives with a description of a new technical method you used for your latest survey, you will soon realize that those readers will be deeply underwhelmed. Tell them first what your analysis found and why it matters to the work and success of the company. Save the technical details for technical readers.

In our example you might say the following to start your report: "Eighty percent of our customers are 'very pleased' with the performance of our new product A, according to our latest customer satisfaction survey. The biggest areas for improvement are after-sale service and product reliability under extremely heavy use."
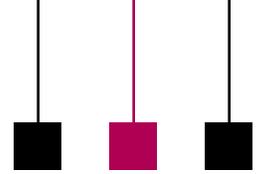
Then imagine your reader looking at his or her watch and deciding that your message is worth pursuing a bit more. Let the reader ask you two critical questions that he or she would want clarified after thinking over your main message. Answer these two questions in a couple of sentences. The questions and your answers should take four minutes or less.

In our example two critical questions might be these: Why did you do this survey? What is the practical significance of these results?

> The Five-Minute Miracle is a simple conversation between you and your reader.

It is a good idea to ask and answer those questions orally and record what you say. If you think you will not take the time or the trouble to do that, just run the questions through your head and answer them on paper.

Writing down your main message (and being sure of its significance *to the reader*) and your answers to the reader's most pressing questions will give you a solid, short missive. You can always append tables and analyses to back up your claims. The Five-Minute Miracle will work for an e-mail, a short report, an executive summary, or a short introductory proposal.

Just imagine being able to draft those in five minutes.

The actual document will probably take you 10 or 15 minutes, as you will want to edit the language and perhaps refine the thought.

Why Does It Work?

The Five-Minute Miracle works because it enables you to cut through all the information you have and pull out only that which your reader wants to know. It puts the focus on the reader and makes you answer the questions he or she would have when faced with a new piece of information, namely:

• What is this?
• Why does it matter?
• How can we use it?
• What else do I need to know about it?

This method saves both you and your reader a great deal of time and aggravation spent either writing or reading facts that confuse or do not matter to that reader. Try it and let us know how it works for you; we'd love to hear from you.

Cheryl and Peter Reimold have been teaching communication skills to engineers, scientists, and business-people for 20 years. Their firm, PERC Communications (+1 914 725 1024, perccom@aol.com), offers businesses consulting and writing services, as well as customized in-house courses on writing, presentation skills, and on-the-job communication skills. Visit their Web site at http://www.allaboutcommunication.com.

Masters of Style

history in imaginary time, which is a tiny, slightly flattened sphere. It is like Hamlet's nutshell, yet this nut encodes everything that happens in real time."

Perhaps the most engaging aspect of the book is Hawking's persistent, logical attempts to come to grips with haunting questions like "Is time travel possible? Could an advanced civilization go back and change the past?" His objective is to develop a Theory of Everything, which is M-theory. The latter is like a jigsaw puzzle—involving the five string theories and supergravity within a single theoretical framework—in which we have many of the pieces in the periphery but a hole of indeterminate size and shape in the middle. It is there where we are unable to go at this time.

Although Hawking's book is tough going, it does stretch the mind and so encourages intellectual and personal growth—a worthy objective for any professional document. Professional documents of course must be comprehensible and have definite conclusions; they should also, I believe, allow room for exploration of unknown or imperfectly known aspects of the topic. Whenever we deal with imponderables like human beings or the universe, we are wise to articulate ourselves with modesty and acknowledgment of the complexity of life.

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Krazy Kommunikation

a compilation* of all 104 full-page black-and-white Sunday strips of 1925-1926, regarded by *Krazy Kat* connoisseurs to be Herriman's prime.

Aside from being entertained by the strips, we professional communicators might ponder their simplicity. Like the drawing from the strip of 15 March 1925, even so profound a matter as time can be both intriguing and digestible.

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* Bill Blackbeard (editor), *Krazy & Ignatz, 1925-1926*, Seattle, Fantagraphics Books, 2002, 119 pages softcover, ISBN 1-56097-386-2, USD 14.95.

"I always have a quotation ready. It saves original thinking."

—*Dorothy Sayers*
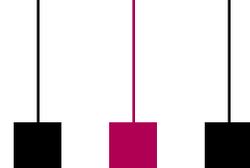
Jean-luc Doumont

We... We... We...

Scientists and engineers alerted to the inaccuracy of passive-voice statements such as *It is believed* may well decide to do something about it. Recognizing that the occasional first-person verbs they encounter in their reading are more useful than distracting, the participants of my training programs thus set their minds on using "we." Alas, many of them go overboard in the attempt, saturating their texts with first persons. Clearly, not all "we" are created equal. Some are usefully replaced by other constructions. Some are simply ambiguous: To whom do they refer?

The more "we" there are, the less each of them is worth.

The first-person taboo, like most myths, is not totally unfounded. Because the grammatical subject typically expresses the sentence's topic, a sequence of first-person sentences suggests that the authors are talking about…themselves. Such a writing style might understandably irritate readers looking for research outcomes, not autobiographies.

As argued before ("Scientists and Engineers Never Do Anything" in the January/February 2003 *Newsletter*), the concern is to clarify the agent when the agent matters, not to turn blindly every passive voice into an active one for a supposed improvement in readability. Replacing *The temperature was measured* by *We measured the temperature* thus hardly helps, for the reader is unlikely to care about who carried out the measurement. Saying something about the measured temperature (an active voice, but in third person) is then a better alternative.

Clarifying the agent may not require placing the authors in subject position. Among the adequately accurate alternatives, I found two that scientists and engineers are usually more comfortable with. One is to use the first person, not in the main clause, but in a subordinate one, as in *The algorithm we have developed uses…*. The other is to shun the verbal form at the benefit of a possessive adjective, as in *Our algorithm uses…*. In both cases the sentence focuses on the algorithm, not the authors (in contrast to *We use…*), yet it involves them somehow (in contrast to *The algorithm uses…*). This subtle implication is perhaps most appropriate for conclusions (*Our algorithm outperforms…*), where authors usually want to underline achievements without sounding arrogant.

To give the first person its highest added value, I recommend using it for the authors' role as researchers, not as writers. The rhetorical statement *In this section, we describe…* can thus be replaced by *This section describes…*. Despised by some as inaccurate—documents don't do anything; people do—this construct turns out to be no more ambiguous than other useful metaphors, and it appropriately places the topic (the document or part thereof) in subject position. Of course, some rhetorical statements are unnecessary: The sentence *Finally, we would like to mention four limitations of our model* can be replaced by *Our model has four limitations.* Let's talk science and technology, not rhetoric.

To my knowledge, the first person plural is universally understood to mean "we, the authors," unless otherwise specified. When meant differently, it becomes ambiguous, as in the following two cases.

First, the use of a plural by a single author is obviously inaccurate. Perhaps the author refers to himself or herself? This use being typical of kings and popes, I am always surprised to hear that writers think they are being less arrogant by writing "we" to mean "I." Perhaps the author wishes to include others? These need to be specified, for example as *My colleagues and I*, further correctly referred to as "we." The identification of agents is crucial for Ph.D. degree theses, as the single author must prove that he or she is a good researcher, not just that the work done (by whom?) is good research.

Second, the use of "we" to mean "you the reader and we the authors," as in *If we replace x^2 by y*, may be appropriate for a tutorial, but is typically less so for documents reporting the authors' work. Different instances of "we" do not mix well.

First persons hold much promise for effective writing. Still, the more "we" there are in a document, the less each of them is worth. Let us use them with discrimination.

Dr. Jean-luc Doumont teaches and provides advice on professional speaking, writing, and graphing. For over 15 years, he has helped audiences of all ages, backgrounds, and nationalities structure their thoughts and construct their communication (http://www.JLConsulting.be).

The Twists and Turns of Effective Presentations

By Jason Palmeri and Paul Tuten

While persuasive technical presentations are both important and lucrative, they are also very challenging to deliver effectively. To meet a presentation's persuasive objective (think: Win the contract), the audience members need to find the presentation both clear and compelling. If audiences were homogenous, the task would be relatively straightforward. Instead, the professional communicator will likely encounter an audience with widely divergent knowledge and beliefs about the appropriate application of a technology within their organizational context.

In writing, professional communicators can address multiple audiences by creating skimable documents that can be read at different levels, ranging from brief summary to extensive description. A presentation, however, is not skimable; you can't fast-forward a presenter (although we've all had moments when we would have liked to do so). How then can a professional communicator craft a technical presentation that is both persuasive and interesting for a diverse audience?

Many communicators we have seen tend to address this issue by providing general business summaries at the beginning and end of the presentation, filling the middle with intensive technical description. Confronted with a deluge of unfamiliar and complex information in the body of a presentation, some audience members tune out the whole message. Seeking to avoid this pitfall, other persuasive technical presenters speak entirely on a general macro level. While presenters who talk in generalities may hold an audience's attention, they also may decrease their authority as subject matter experts because they are not explicitly displaying their detailed technical knowledge.

Riding the Presentation Roller Coaster

If a presentation is too general or too technically specific, the presenter risks losing a part of her audience. To keep an entire audience on track with a presentation, we suggest that the speaker conceive of the presentation as a roller coaster—as an exciting, fast-paced event in which the audience moves quickly back and forth between the depths of technological description and the heights of business application. By frequently switching between technical and general business discourse, the speaker can create a presentation that is thrilling for diverse audiences members—a presentation that neither alienates the technically oriented people with too much generality nor bores or confuses the business-oriented with superfluous technical detail.

Building the Roller Coaster

A good roller coaster contains many different kinds of thrills. While there are more complex thrills (the upside down loops), we must first start with the basic up-and-down thrill, the building block of the roller coaster presentation. To build a series of up

> Move back and forth between the depths of technological description and the heights of business application.

and down thrills into a presentation, the professional communicator must:

1. Break technical information into discrete chunks

Yes, we know, technical information is all interrelated. Nevertheless, you must break it down to discrete points. The depths of technology are thrilling only if you stay there just a short time.

2. Start at the summarizing heights

Begin each chunk of technical information by briefly addressing the benefit it offers. Answer questions such as, How can this technological feature help the stakeholders' business? Or, more simply, What problem does this feature solve? (Hint: You should focus on *what* it does, not *how* it does it.)

3. Descend through visuals

Start the technical description by showing a visual representation of how the technology works. Be sure to include the end user in the visual. This makes the description less intimidating and more relevant because you are *showing* how it directly relates to the user's needs. Keep the user-centric context at the forefront because it helps guide less technical audience members.

4. Plunge into detail

Briefly speak to the technophiles about the details. This is when you get to show off your jargon-laden technological knowledge. Even in

Five Steps to Better Indexes

Having spent much of the early spring gallivanting around the western hemisphere in pursuit of unconventional joy (and finding quite a bit of it), the Professor finds herself at somewhat of a loss for topics that peeve her. So, at the request of several of her esteemed colleagues, the Professor decided to address indexing.

The Professor is sure that each of you has experienced frustration over bad indexing. Perhaps you went to an index of a book to find a specific tidbit of information, only to find that the tidbit listed eight page numbers where you could find nonspecific information about that tidbit. For example:

Venus, climate 12, 66, 72, 91, 99, 102, 202, 444

You want to know how hot it is on Venus. But you might need to look at eight different pages to find out. Some of us have even mastered a method for handling these situations. We rise to the challenge by checking the body of the book, flipping back to the index to get the next page number, back to the book, and so on.

Another time you might have looked in your publishing tool's online help index to find out how to change the default font. You were happy to see an index entry for *font, default,* yet when you opened the topic, it explained how to edit a template, which you don't remember asking for information about.

You don't want your users to be frustrated when they seek informa-

tion from the indexes that you create. You want them to find the information the first time they look for it. And because some users go to the index first when they are looking for something specific, you must pay attention to your indexing. The Professor cannot guarantee that the following tips will ensure that your users find their information straightaway. However, if you follow this advice, you will be closer to that goal.

1. Provide distinctly worded entries

Consider the online index that has the following entries:

metadata
    about
    description
    introduction
    overview

If you were looking in the index for a general discussion of how metadata is used in a warehouse, which topic would you select? Who knows? You might need to look at each topic to find what you are looking for (assuming that the information is even provided). If the online index includes the title of each help topic, your choices might be narrowed.

What is the solution to this problem? Don't create index entries in isolation. The problem shown in the previous example is a result of a compilation index developed by several people. Coordination between contributors can ensure that the subentries are distinct:

metadata
    exporting, overview
    importing, overview
    in federated systems, description
    warehouse, description

2. Index only significant occurrences of a topic

If the entry says *font, default* but the topic is about editing a template (and doesn't mention the word *font* anywhere in the topic), then the entry is not pointing to a topic that contains significant information about the default font. Make sure that the information you are indexing is important enough that someone following your entry would find the information useful. Just because a parameter is mentioned in the syntax of a command does not mean that instance is important to index. Will a user look specifically for that particular keyword, and is the information substantive? If yes, provide an entry. Otherwise, you are wasting your time, and possibly (and worse) the user's.

3. Use wording that users are likely to look for

Have you ever gone to the *U* section of an index to look for information about how to *use* a particular thing? The Professor didn't think so, yet she sees many instances of first-level entries of *using*. She has even seen *understanding*, and lacks an understanding of what task such an entry points to. If you want to index a topic that describes how to use the goocher, the entry should be *<i1>goochers <i2>using*. Preferably, though, you

> Indexes should lead to relevant information rather than frustration.
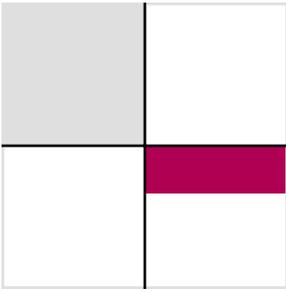
would have a real task that the user performs with the goocher, and index it accordingly, such as *<i1>goochers <i2>creating gizmos*.

As for *understanding*, remove this word from all the information that you write; when users want to understand something, they look under the name of the thing they want to understand: *<i1>goochers <i2>description <i2>relationship to gizmos*. And they do not need to be told that they must understand something.

4. Provide synonyms

You know that your product is referred to throughout its publications as a database manager. Yet you also know that throughout the database industry, your product belongs to the class known as relational database manage-

ment systems. If you index one term, index them both. Being knowledgeable about your product and its competitors (by doing competitive evaluations of their product information, of course!) is an excellent way to identify important synonyms to include in your index.

5. Follow consistency guidelines and do peer reviews of combined indexes

The problem noted in rule 1 would not exist if index creators consistently followed a set of standards and looked at the compiled index. If four writers are indexing information that describes metadata, the odds are that they'll come up with four different terms that mean *description*.

You can decrease those odds by following guidelines for consistent

index entries. (If the guidelines don't exist, it's time to rattle your editor's cage.) Hold peer reviews or "indexing bees" in which everyone involved in creating the index reviews the index. Do this early enough so that you can spot problems and fix them before publication time.

And finally, always be sure to have your index reviewed by an editor.

Copyright 2002 by IBM Corporation. Used with permission. Professor Grammar is an advisor to the IBM Santa Teresa Laboratory Editing Council. Each month she sends a lesson to the technical writers at the Laboratory. Many of the Professor's lessons are based on tenets described in the Prentice-Hall book Developing Quality Technical Information: A Handbook for Writers and Editors, recently authored by the Council.

Persuasive Presentations

these depths, though, you should still define your acronyms for less savvy audience members. (Hint: Don't just spell out the acronyms; define in plain language what idea or concept they represent.)

5. Come up through analogy

As you come out of the depths, it is a good idea to make an analogy comparing the technological product, process, or function you just described to a common aspect of daily life. By doing so you can ensure that your entire audience remains secure on the roller coaster and has not been bounced from the track by technological details.

6. End in the narrative heights

End the chunk of technical information by telling a story of how this (or a similar) technology was successfully applied in a business setting. In this way you demonstrate your knowledge of customer needs and you return the focus to business benefits (the primary selling point in most persuasive technical presentations).

In many ways the roller coaster presentation draws upon foundational professional communication research on clearly and concisely presenting information to diverse groups of users. Yet, while much technical communication focuses on exposition,

this model emphasizes persuasion designed to generate revenue. By directly increasing their organization's bottom line, professional communicators enhance their own value.

Paul, an AT&T employee and information systems doctoral student, is a subject matter expert and frequent presenter on networking technologies, specifically virtual private networks. Jason is an experienced professional writer/trainer and a graduate student in rhetoric and professional communication at Ohio State University. Paul can be reached at tuten@nova. edu; Jason is available at palmeri. 2@osu.edu.

Forum 2003 Preparation in High Gear

By Ron Blicq

The steering committee is working steadily to ensure that everything will be in place in good time for Forum 2003. The conference will be in Milan, Italy, 30 June to 2 July. As program chair, I am delighted with the quality of proposals received and the variety of subjects that will be presented.

To date (it's 10 January as I write) I have accepted proposals for 108 presentations from technical communicators in 16 countries. Approximately one-third of the presentations will be discussion sessions or best-practice information sessions, while two-thirds will be Idea Market presentations. Idea Markets offer the unique presentation style developed by Ulf Andersson in Sweden 30 years ago, which is now a hallmark of Forum conferences. (For more information see the descriptions at either the INTECOM Web site (*http://www.intecom.org*) or the Forum Web site (*http://www.forum 2003.org*).

Broad Range of Topics

The presentations fall into 11 topic areas, under these general headings:

- Adapting to Cultural Differences
- Careers in Technical Communication
- Controlled Language and Structured Documentation
- Education and Training in Technical Communication
- Managing in an International Technical Communication Setting
- Multimedia and Web Design
- Research and Technical Communication Tools
- Testing for Usability
- Translation Issues
- Writing for International Audiences
- Writing International Online Documentation

For brief abstracts of the papers, click on the preliminary program at either of the Web sites.

Prestigious Keynote Speakers

We have engaged two keynote speakers, one from Europe and one from North America. Both have unique information to convey and are well known as international presenters.

- *The Cross-Cultural Challenge: Segmentation, Strategies, and Statistics*

  Jean-luc Doumont is based in Brussels, Belgium, and helps audiences in many countries structure their thoughts and construct their communications for greater effectiveness. Jean-luc is a member of the PCS administrative committee and a regular contributor to the PCS *Newsletter*. He was one of the team representing PCS at the Popov-PCS colloquium in Suzdal, Russia, in 2001, and he also presents regularly at PCS conferences.

- *Away With Words! Can the Globe Become Fluent in Visual Language?*

  Patrick Hofmann has become well known internationally for his energetic, interactive presentations. For Quarry Integrated Communications near Toronto, Ontario, Canada, he helps clients involved in globalization and translation use visual communications to reach across cultural borders. He has made keynote presentations in Canada, Finland, Russia, and the U.S. and is scheduled to speak to technical communicators in New Zealand later this year.

And, of Course, There Is Milano…

Many of the presenters tell me they plan to combine attending the conference with an early summer vacation in southern Europe. In Milan they will be within easy reach of both the Mediterranean coastline and the Austrian Alps. PCS member and *Newsletter* columnist Cheryl Reimold is enthusiastic about Milan, where she lived for quite some time, and praises it as an attractive city with unique features. She writes:

Come to *la bella Milano* and discover treasures that will take your breath away:

- *The Last Supper*, as Leonardo conceived it (within 100 yards of the conference site!)
- The red and blue tones in the stained glass windows of the gothic Duomo, some of the most heart-stoppingly beautiful in all of Europe
- Michelangelo's last, unfinished sculpture—a monumental work of power and sorrow—*La Rondanini Pieta*
- The best hot chocolate *anywhere* at a café in that shoppers' heaven, the Galleria Vittorio Emanuele
- A medieval world of quiet contemplation at the Certosa di Pavia, a monastery just outside Milan
- Two of Europe's most sublime lakes, Lago di Como and Lago di Garda, barely an hour away

And remember, Switzerland is only a short train ride or drive from Milan.

Forum 2003 offers an ideal opportunity to hear what is being done by technical communicators in other parts of the world and to experience the warm climes of northern Italy. Don't miss it; the next Forum conference won't occur until 2006.

Ron Blicq is a long-term member of PCS, a previous AdCom member, and the current president of INTECOM. He is a senior consultant with RGI Learning and lives in Winnipeg, Manitoba, Canada. He can be contacted at forum@rgilearning.com.

Coming Up

IPCC 2003 in Orlando is not far off. We are planning an exciting conference in the tourist capital of the world and one of the prime technology growth centers in the country.

We have received many proposals for presentations and workshops on the program topic, The Shape of Knowledge, and our committee will begin reviewing them immediately after the **15 March deadline**. We already have several academics on the committee but would like more nonacademic professional representation. If you are interested in helping to review proposals, e-mail me at *pdombrow@ mail.ucf.edu*. In fact, if you would like to be involved in any other way, let me know that, too. We are also looking for a few more sponsors.

J. Peter Kincaid, principal scientist at the Institute for Simulation and Training (IST) in the University of Central Florida (UCF) research park, as keynote speaker will tell us about the latest research on controlled language in simulation and training. The January *IEEE Spectrum* points out that defense and security areas such as IST is involved in are growth areas, so Kincaid's presentation should be timely and relevant. Our other speakers, **Dr. Dan Jones** of UCF's technical writing program and **Bill Horton** of industry fame, will also provide experienced, practical insights and a balance of academic and nonacademic perspectives.

After the conference, or before, enjoy the world class entertainment, dining, and shopping opportunities that Orlando is famous for, such as Walt Disney World®, SeaWorld, Universal Studios, and Cirque du Soleil (presenting La Nouba). I can personally attest to world class dining and first-rate blues music, and there's a whole

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lot I have yet to experience. We are also looking into the possibility of a tour of Kennedy Space Center, which for the technology minded is fully the equal of other tourist destinations. Sherry Steward has been very busy making arrangements to ensure that the conference will be polished and pleasant for us all.

Check the Web site *http://www.ieee pcs.org/conference* for details.

See you in Orlando!

IMRAD buried Review of The Chicago guide to communicating science. M Brady. S L Montgomery. Doing qualitative research Thousand Oaks: Sage. D Silverman. The rhetoric of science in practice-experiences from Nordic research on subject-oriented texts and text cultures. K L Berge. The format commonly referred to as IMRAD now predominates, particularly in biomedical disciplines. However, many scientific disciplines use the same structure. What is IMRAD? IMRAD is an acronym standing for: Introduction. Methods (or, sometimes â€˜Materials and Methodsâ€™). Abstract Most scientic papers are prepared according to a format called IMRAD. The term represents the rst letters of the words Introduction, Materials and Methods, Results, And, Discussion. It indicates a pattern or format rather than a complete list of headings or components of research papers; the missing parts of a paper are: Title, Authors, Keywords, Abstract, Conclusions, and References.