THE DUMBING OF AMERICA

BY DONNA M. WICKS

It's not likely that the trend toward "using" technology without any concern for "understanding" technology will reverse.

A friend of mine recently lent me a book by Paul Fussell that deals with "the dumbing of America." In Fussell's book, the author discusses what he believes is the death of American sensibility and taste.

My friend gave me the book because of my frequent laments about what I also feel is the "dumbing of America." However, my concerns arise from what I believe is a diminishing interest in "knowing" technology while there is a rapid increase in the interest in "using" technology.

Isn't it ironic that Americans (my apologies to the international reader — I only presume to be familiar with the U.S. culture) teach children it isn't polite to point and yet demand point-and-click technology?

VCRs and TVs are programmable only through on-screen menus, and personal computing software that isn't "user-friendly" doesn't stand a chance in the ever-growing market. Plug-and-play packages are gaining popularity, but from experience, I am inherently wary of any such item.

A school district in Michigan has decided to spend $60,000 to replace all the antiquated rotary telephones because children today don't understand how to use such a device. School districts all over the country are facing budget crunches and yet this district finds $60,000 so that children don't have to "think" about how to use a rotary phone.

There are numerous examples of how we have come to rely on technology to think for us. Do you know any cashier that can count out change without the assistance of the cash register. Take that same cashier's scan device away and you will spend twice as long in the checkout while he figures out how to ring up an item manually.

As an older student (I am pursuing a BSEE), I have, on many occasions, amazed my classmates with the ability to add two numbers — even when a decimal point is involved. I had two lab partners who used to tell me I scared them with my ability to do this. Never mind the fact that I am probably the last generation that didn't grow up with calculators; the inability of students to compute answers manually scares me.

In this issue's *Masters of Style* column, the Fermi practice of approximating answers is discussed. I doubt few college students today could begin to use this technique effectively.

My husband, an associate professor of electrical engineering, is often amazed at the outrageous answers students supply to test questions. He firmly believes a good engineer should have some feel for what a correct answer to the problem is before solving the problem and not resort to the plug-and-chug method.

It's not likely that the trend toward "using" technology without any concern for "understanding" technology will reverse, but engineers and technical communicators can help educate the public. Technical information should not be so watered down as to be absolutely useless. I can't tell you the number of computer manuals I've read in the past year that have said nothing with so many words (e.g., the computers-for-dummies series).

1997 IPCC

YOU SHOULD ATTEND IPCC 97 AT SNOWBIRD RESORT

... if you care about the future of professional communication.

We are at the crossroads in many ways.

* Downsizing is causing many people to join a life of contracting or consulting.

* Online and WWW-distributable documentation is slowly replacing print.

* Technical communicators are getting more involved in usability testing and interface design.

Are you prepared for the changes? Could you use a knowledge advantage? Plan now to attend.

... if you want an exciting family vacation.

While you're in meetings, let the kids roam Snowbird's mountain adventureland. Guided hiking tours, tram rides, and a heated pool will keep them entertained. And after the conference, don't hurry home. Salt Lake offers Hogle Zoo's wild animals, Wheeler Historic Farm's hayrides, Bingham Canyon Mine's house-size dump trucks, Sports Park's go-carts, and a variety of other indoor and outdoor activities. Sound like family fun? Plan now to attend.

... if you love the outdoors.

Where better to see blazing autumn foliage than right off your balcony. Snowbird is high in the Wasatch-Cache Forest, surrounded by 11,000 foot-high peaks, so early autumn mountain snowfalls are

Are you prepared for the changes? Could you use a knowledge advantage? Plan now to attend.

not unusual. Take a hike, ride a bike, or *fly* the tram to the summit. Many areas, including the Interpretive Nature Trail, are disabled-accessible. October's mild weather makes it the perfect time to visit Southern Utah's famous Color Country parks such as Arches, Bryce Canyon, Zion, and Lake Powell—all just a day's drive away. Want a natural high? Plan now to attend.

... if you want to find your roots.

You might be surprised to find yourself a part of Utah's history. A downtown Salt Lake walking tour should include a stop at the Family History Library, where you can research genealogical records from around the world. Across the street is the famous Mormon Temple, Salt Lake's number one visitor attraction. The Tabernacle, home of the Mormon Tabernacle Choir, and various nineteenth-century homes are open to visitors daily. Newly completed Pioneer Trails State Park features a whole city of replica pioneer homes and shops. Want to learn more? Plan now to attend.

... if you want to relax.

Tired of hectic travel? Snowbird is just a short drive from Salt Lake International Airport, and once you're there you never need to leave. Wake up with an invigorating morning swim in the heated pool, and an after-meeting soak in the hot tub. Sip a drink while breathing the cool, fresh, mountain air before heading for the Cliff Spa and Salon, one of the premier

MARK HASELKORN

IS TECHNICAL COMMUNICATION AT A CROSSROADS?

In my last column, I discussed some of the recent changes in the information and computer industry that stem from the decision to serve a mass market. Serving a mass market means that the information and computer industry can no longer be solely in the software and technology business.

Mass market products do not require you to read a manual or to configure a machine prior to using them. Realizing this, the information and computer industry has committed itself to putting the general public directly in touch with content— information, entertainment, and products.

In the competition to serve a mass market, the definition of value in the information and computer industry will change. In the future, value will be generated primarily through the creation of content and the design and implementation of the layer where content meets end user. Value will mean that something is useful or entertaining, and that it is easier to find, or to understand, or to use. But what do these changes mean for our field?

The growing focus on "content computing" and human-machine interaction means that the information industry now ponders precisely those issues that have always been the central issues of our field—the design and creation of content as well as the interaction between content and "reader." This may be good news, but it may not.

Certainly there are new opportunities, but will we be able or asked to meet them? Technical communication is a relatively young field and the expertise and contribu-

The bottom line is this: The visibility and importance of what we study and do have risen, but the visibility and importance of our field have not.

tions of our members are not yet firmly accepted throughout the information industry.

In addition, our educational programs are extremely diverse and it is not clear what permits individuals to declare themselves professionals in our field. It is entirely possible that we will not be seen as important enough or rigorous enough or visible enough to be trusted with what has become the industry's most important endeavor.

The bottom line is this: The visibility and importance of what we study and do have risen, but the visibility and importance of our field have not. If we do not rise to the occasion, others will.

If this occurs, some of the most exciting and valued aspects of technical communication will become a part of some other field or fields. The crossroads I refer to in the title lead down one fork to a far more valued, visible field but down the other fork to a future where we speak primarily to ourselves, if at all.

Do I overstate the case? Perhaps our visibility and status are on the rise. Certainly members of our field have made significant and lasting contributions working within numerous companies, government agencies, and academic institutions.

Or am I off the mark because our field is not so dependent on the information industry as I make it out to be? But if I'm right, what should be done about it? If you'd like to contribute to this important discussion, send your comments to Donna Wicks, editor, for publication in this *Newsletter*.

Get 150 minutes free for $19.95 a month.

— *Advertisement for AirTouch Cellular telephones*

HOW WE'VE CHANGED!

BY HERBERT B. MICHAELSON, IEEE Life Senior Member

O ur Professional Communication Society (PCS) has changed in several ways since its inception in 1957. At that time it was organized mainly by Eleanor McElwee, with the encouragement of Alfred N. Goldsmith, one of the founders of the Institute of Radio Engineers (IRE).

The main goal of this new group was to help IRE engineers to develop better skills in engineering writing and oral presentations. Appropriately, it was then called the IRE Professional Group on Engineering Writing and Speech (PGEWS).

Although PCS has retained that original goal of enhancing communication skills, the many developments in hardware and software technologies since 1957 have radically altered communication techniques. We are now enhancing skills that did not exist 40 years ago.

During the early years of PGEWS there were no personal computers (the first PC appeared later in 1977), few software manuals, no electronic text composition or online page formatting, no online help menus, no hypertext or hypermedia, and no satellite networks.

But in 1957, only six years after the first mainframe computer appeared, our initial National Symposium in New York City included a technical paper that hinted strongly of the forthcoming technologies that would revolutionize the world of engineering communication. It was a contribution presented by a true genius, H. Peter Luhn, who described a new method of "Automatic Creation of Literature Abstracts." At that early date in the history of word processing, this IBMer had devised a statistical method of analyzing the complete text of a journal paper, identifying those sentences having highest significance, and printing them out as an "automatic abstract."

The first issue of our *Transactions*, March 1958, which reflected our interests at the time, published some of the papers presented at the First National Symposium of the PGEWS, New York, October 21-22, 1957. Here are some of the titles:

- Engineering English Is Different
- The Challenging Field of Engineering Writing and Speech
- Should a Talk Be Read from a Prepared Manuscript?
- When You Write for the Air Force
- Technical Films—A Luxury or a Necessity?

Initially, the membership of our Society and the readership of the *Transactions* were engineer-oriented. Daniel J. McNamara, the first chairman (i.e., president) of our Administrative Committee (AdCom), noted that "a spot check of the registrations [at that first symposium] shows that about 70 percent of this audience are design and research engineers." Two years later, AdCom chairman Theodore T. (Tom) Patterson noted in the *Transactions* that more than half of the PGEWS members were engineers but less than 50 percent of our symposium attendees were engineers. In 1996 the percentages were significantly lower.

The IRE PGEWS was born in a period of rapid growth of computer engineering and software development. In 1957 an engineer's documentation was either prepared on a typewriter by a secretary or composed in a typeshop and run on a printing press. Any documents printed from a mainframe computer appeared in a single type face. Within a few years, in the middle '60s, came the beginnings of photocomposition of type fonts, early techniques of text editing, and some rudimentary page formatting.

Our *Transactions* published, in August 1968, a special issue of 15 papers on Computer-Aided Documentation, including such titles as "Digitally Coded Alphanumeric Photocomposition System" and "A Natural Language Programming System for Text Processing." These pioneering papers appeared nine years before the

CELEBRATING

40 YEARS

1957-1997

The many developments in hardware and software technologies since 1957 have radically altered communication techniques.

FAQS AND FAQTOIDS

JOAN G. NAGLE

Joan Nagle has been active in PCS since 1985. She has edited the Society's Transactions and has served on the Editorial Board of the IEEE Press. She is currently working on her second book.

While our backs were turned ... or at least mine was ... a new way of communicating arose.

While our backs were turned ... or at least mine was; you may have been more perceptive ... a new way of communicating arose. If we, as communicators, didn't develop this method, we at least need to be aware of it.

"Some of these new TLAs and FLAs you run across when you're hooked into an ISP or a BBS really get you ROTFL. But a lot of them are so SMTOE that I'd almost prefer to communicate F2F, you know, ITRW.

"And if you don't understand that paragraph, we'd have to say you are so OOIB that you ought to RTM."

This batch of alphabet soup, say Brit Hume and T.R. Reid in the *Atlanta Journal/Constitution*, is standard online (that is, e-mail) lingo that is of interest to linguists and English professors as well as to personal computer users.

Well, the reason we use PCs is that we want to move forward ... as quickly as possible. And we don't want to take the time to type out phrases like BTW (by the way) and TMOT (trust me on this).

TLAs and FLAs are, respectively, three- and four-letter acronyms. [Although the latter, of course, could be a five-letter acronym, such as ROTFL (rolling on the floor laughing)] Hume and Reid call FLA a TLA, but such reverberating redundancies tend to make my teeth hurt.

Since this column always aims to be on the LEOT (leading edge of technology), and educational as well, the Curmudgeon has compiled a lexicon of TLAs/FLAs in current use, as well as some that should be if they aren't. As follows:

F2F	face to face
VM2VM	voice mail to voice mail
BUTD	back up the document
BUYHD	back up your hard drive
TYDBU	tough! you didn't back up
FAQ	frequently asked question
FUD	frequently unhelpful documentation
GAL	get a life
GAG	get a grip
GOH	get outta here
IMHO	in my humble opinion
IMHEO	in my highly esteemed opinion
IYWO	in your worthless opinion
ITRW	in the real world
AOTA	as opposed to academia
OOIB	out of it, buddy
OOTW	out of this world
OAP	on another planet
PITA	pain in the anatomy
RTM	read the manual
RTFM	intensified version of above
SMTOE	sets my teeth on edge
STEM	sets the earth moving
SMTHG	sets me to helpless giggling
TBA	to be announced
TBD	to be determined
TBCAP	to be changed after printing
WADR	with all due respect
WANR	with absolutely no respect
WDYMH	what do you mean here?
RTWT	rewrite the whole thing
WOB	way over budget
WOS	way off schedule
RBASI	revise budget and schedule immediately
YJHBE	your job has been eliminated
YNWHA	you never worked here anyway

1997 IPCC

No matter what other exciting and fun activities motivate you to attend the conference, the professional benefits alone are worth the trip.

European-style spas in the country. Massage. Aromatherapy. Hydrotherapy. Wraps. Skin Treatments. Hair and nail styling. Ready to indulge yourself? Plan now to attend.

... if you want to keep active.

From natural to extreme, there is something to get your heart pumping. If running on pristine trails isn't enough, and tennis or racquetball doesn't wear you out, go climb a mountain—Snowbird's guides will help you find just the right one. Still looking for adventure? Try in-line skating, paragliding, orienteering, or that most challenging of games: golf. Do you agree that conventions should be fun? Plan now to attend.

... if you like to shop.

Bring your wallet and a comfortable pair of shoes. After you've explored Snowbird's diverse boutiques you should head for incredible shopping opportunities in the Salt Lake City area. ZCMI Center Mall, the nation's first department store, and Crossroads Plaza face each other downtown. Two miles from there are Trolley Square's 80 trendy shops, restaurants, and theaters incorporated into the city's historic trolley car barns. Nearby

Mormon Handicraft features beautiful quilts and other handmade items, and at Gardner Historic Village nineteenth century homes have been turned into shops offering American country collectibles. Art collectors can browse through 15 art galleries located downtown. And that's just a start. Ready to shop? Plan now to attend.

... if you like the arts.

The Grammy Award-winning Mormon Tabernacle Choir performs weekly. The Utah Symphony attracts music lovers to Abravanel Concert Hall. Ballet West and Utah Opera perform on the stage of the historic Capitol Theatre. The University of Utah's Pioneer and Babcock Theaters head a list of numerous theatrical groups. Salt Lake also boasts top quality museums for adults and children. Best of all, the city is safe to explore even at night, is well lit, and has easy-to-find addresses. Do you enjoy good music, dance, or theatre? Plan now to attend.

... if you want to get ahead in business.

No matter what other exciting and fun activities motivate you to attend the conference, the professional benefits alone are worth the trip. Are you ready to learn? Plan now to attend.

FOR MORE INFORMATION

On...	Via the Internet...	By Telephone...	By Mail...
IPCC 97	http://www.ieee.org/pcs/pcsindex.html	(801) 378-2296	Karl Smart Conference Chair Brigham Young Univ. 567 TNRB Provo, UT 84602
Snowbird Resort	http://www.snowbird.com/html/home.htm	(801) 742-2222	7350 Wasatch Blvd. Salt Lake City, UT 84121
Salt Lake Convention & Visitor's Bureau	http://www.saltlake.org/	(801) 521-2868	180 South West Temple Salt Lake City, UT 84101
Utah Travel Council	http://www.travel.org/utah.html	(801) 538-1030	Council Hall Council Salt Lake City, UT 84114

HOW TO DELIVER WINNING PRESENTATIONS

CHERYL REIMOLD

Cheryl teaches courses and workshops for PCS on this and other communication topics. For information, c.reimold@ieee.org.

To sell your ideas and recommendations, you need to step out of that abstract space and establish honesty, trust, and goodwill.

Part 1: The Magic of Connection

Do you wish you were a powerful, persuasive presenter? Do you envy people who can address a large audience with casual ease and charm, as though conversing with a few good friends? In this series, I will show you how to turn wish into reality and become one of that select group of exceptional presenters. It's surprisingly simple, as you'll see — and you don't need any special "natural talent."

The role of preparation

Of course, *preparation* is an enormous help and, in fact, this series builds on an earlier one ("Preparing outstanding presentations") that offered guidelines on strong preparation, including effective visuals. When your material is tailored to your audience and organized to encourage a strong start and variety, you'll find it much easier to get and stay connected with your listeners.

The magic triangle of power

The real secret to powerful delivery is a strong, positive, uninterrupted *connection* with the audience. Figure 1 shows the three sides of this connection.
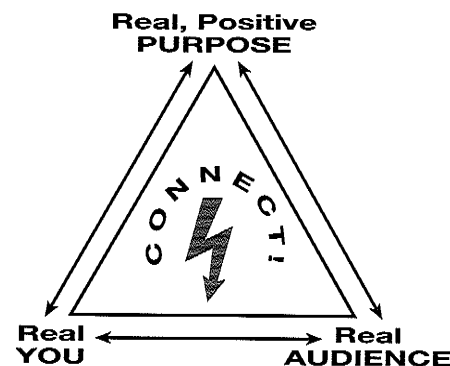
Figure 1. The "magic triangle of power"

There is a great temptation to treat a presentation as something artificial: a "production," show, or lecture. When you fall into that trap, two unfortunate

things happen. One, you feel strangely divorced from the presentation, because it isn't really *you* giving the audience something — it's an abstract event playing itself out with your "participation." In particular, you tend to lose sight almost immediately of your purpose and of your audience. Two, your listeners relate to your presentation in the same abstract, noncommittal way. They sense your lack of honest involvement and respond in kind. As a result, you will have a hard time reaching them and getting results.

To sell your ideas and recommendations, you need to step out of that abstract space and establish honesty, trust, and goodwill. That's what the magic triangle is all about: Remind yourself of what you're there to achieve, dare to be yourself (at your best, of course), and *enjoy making continuous contact* with the real people in your audience. You don't need any special skills to do this — you just need the right *focus*. And once you learn how to stay within that magic triangle, you'll surpass many "polished" presenters who don't understand the prime importance of connection.

So, remember: For truly powerful delivery, connect the *real* you with the *real* audience, for a *real* purpose, and don't let anything break that connection.

Achieving the connection with the audience

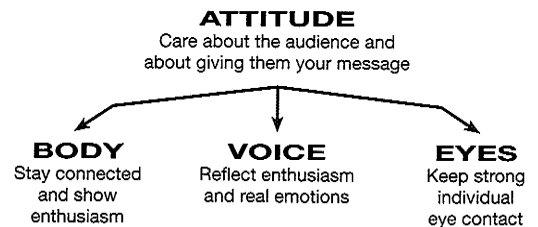To build your connection with the audience, you first of all need the right

Figure 2. The four elements of persuasive connection with the audience

No Full Stop

New rules on verb separation grant some small relief to writers stuck at their desk trying to reach the end of a caterpillar word.

It may, which is more than likely, have the world's attention escaped, but the German language — a tricky one to write, because of its elaborate compoundwordbuildingsystem, profligate use of Capital Letters for Nouns, not to mention its archaïc use of diacritical marks such as the umlaut, nay its beta-like character for double-s — is destined, none too soon, to be modernised, that being the decision this week [Dec. 1995] reached by ministers from Germany's 16 *Länder* (states), which, unanimously, strict rules on the obligatory use of commas have decided, so that these rules, now numbering 52, should be much reduced, specifically to nine.

The ministers ducked the opportunity to Germanise foreign borrowings, so that Germans will not henceforth eat in a *Restorant,* as some wanted, nor study *Filosofie.* That baroque double-s becomes an ordinary "ss" when preceded by a short vowel, as in the commonplace *dass.* Otherwise it stays, baroque as ever. New rules on verb separation grant some small relief to writers stuck at their desk trying to reach the end of a caterpillar word: instead of deciding to *sitzenbleiben* (remain sitting), they will now *sitzen bleiben.* All told, it is a modest reform, as the national desire for consensus requires. But capitals march proudly on: As well as starting all nouns, they now start adjectives standing in for nouns.

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Curmudgeon's Corner

Some, like FAQ (frequently asked question) have moved into pretty general usage, even in speech. Brit and Reid have heard "BTW" spoken, even though it takes longer to say than "by the way" (five syllables versus three). And they saw a poster advertising a rock concert, one corner of which was labeled "FAQ Box"; it contained such information as date, place, and ticket price.

Be advised: If you use TLAs/FLAs in either e-mail or conversation, you run the risk of your audience's not understanding the message you've sent. But that's true of all our messages … as we communicators know well.

Tools of the Trade

attitude. Then you need to *express* that attitude with your body, voice, and eyes. Figure 2 sums up the four elements of connection.

Attitude is by far the most important factor. If you can manage to keep your mind focused on giving your listeners something that is valuable to them and on liking and respecting each member of the audience, you will naturally do the right things with your body, face, voice, and eyes. So again, no special skills are necessary; all you need is a willingness to like people and to do something for them. If you think you can develop that willingness, then you can become an outstanding presenter.

In future columns, we will look in more detail at each of these four elements of connection, as well as at special issues, such as handling notes, visuals, and questions.

THE SWEET SPOT IN TIME

Editor's Note: *It is said that a picture can be worth a thousand words. With this in mind, the* Newsletter *welcomes Michael Brady as a regular columnist. Brady aims to show that a thousand words can be better than a picture. He will address assorted topics, under the title "Floccinaucinihilipilification," the longest regular word in English. But he will remain an enigma of sorts, with no photo or bio appearing with his column. As always, the* Newsletter *invites comments from readers.*

> *Floccianuchinihili-pilification means "the action or habit of estimating as worthless."*

> *When the ball sings off the racquet, when the putt rolls straight at the cup, when the dive knifes into the water, we feel the exhilaration of having performed to perfection.*

The stands are packed. Joe Slugger is at bat with two strikes. The pitch — then "wham!" You hear it; the crowd hears it. The outfielders run to catch the ball, even though they see that it will clear the fence, 450 feet from home.

What happened? Aside from what the sports media may say, basic physics and biomechanics underpin Joe's perfect homer. They also underpin those moments of physical excellence that we all have felt. When the ball sings off the racquet, when the putt rolls straight at the cup, when the dive knifes into the water, we feel the exhilaration of having performed to perfection.

Describing that perfection is daunting, which may be why there are so many books on sports. Amongst them, one book stands out as a landmark of the genre, *The Sweet Spot in Time* by John Jerome (New York, Summit Books, 1980). The first part of the title, "sweet spot," is the physical site in any bat, racquet, or club that gives a wonderful sensation to the user when it connects flawlessly with the ball. The word "time" comes from Jerome's realization that a flawless connection can be made only if the sweet spot and the ball are both at the right place at the right time. He trimmed the issue to its basics in space-time.

The sweet spot works because it's right, in space-time. Luciano Pavarotti masters the space-time of his vocal apparatus; an artisan's every movement in space is timed just right. There's arguably no more succinct way to describe the apex of a physical performance.

Succinct explanations have become Jerome's hallmark. He writes mostly on science and technology, yet he uses the language of everyday speech. He writes to inform, yet he is not didactic. He is versed in his subjects, yet he is neither hectoring nor arrogant. He has honed his style to reflect the title of his best-known work. In every sentence, every paragraph, there is a "sweet spot" — the right word in the right place at the right time that connects flawlessly with the reader.

He gained those skills circuitously. Born and raised in Texas, he earned a B.A. in literature and then set out to be a writer. His first jobs including teaching English in high school and editing a newspaper.

In the mid 1960s, he was the managing editor of *Car and Driver* and then of *Skiing*. In those posts, where communication efficiency is measured directly in circulation figures, he found that he had the recipe for connecting with readers. So in 1967 he became a full-time author and freelance writer. He has been at it ever since.

Perhaps the stage was set in the early 1960s, when he was as a technical writer for Martin-Marietta on the Titan project. So though he admits it was tough, being a communicator in the PCS sense was the catalyst that gave his career direction. An unsung spinoff of technical writing may be that it lays a solid foundation.

Author's Note:
Floccianuchinihilipilification means "the action or habit of estimating as worthless."

It was first used by English poet William Shenstone (1714-63).

I chose it as a double-entendre, by taking a cue from French writer Jules Renard (1864-1910). Renard was the first writer of truly tight texts, in which he deliberately eliminated superfluous words. That's a worthy goal in all professional writing.
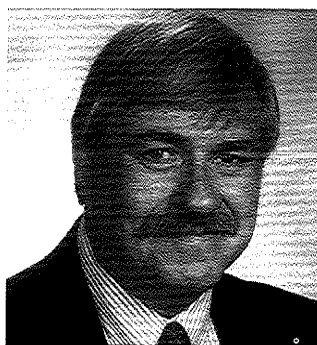
MAKING PHYSICS ACCESSIBLE TO THE LAYPERSON: HANS CHRISTIAN VON BAEYER

RONALD J. NELSON

Hans Christian von Baeyer, chancellor professor of physics at the College of William and Mary, is the author of three books published by Random House: *Rainbows, Snowflakes, and Quarks: Physics and the World Around Us* (1984); *Taming the Atom: The Emergence of the Visible Microworld* (1992); and *The Fermi Solution: Essays in Science* (1993). Currently, he is at work on a popular book on thermodynamics. Over the years, he has written numerous essays for popular magazines like *Reader's Digest, Discover*, and *The Sciences*, serving as a contributing editor to the latter two publications.

Perhaps von Baeyer's most impressive contribution to the world of physics — apart from his legacy to students — is his ability to transform complex physical phenomena into readily accessible language for the lay reader. His thorough understanding of physics and his natural enthusiasm for the subject enable him to convey an infectious vitality to the reader.

That talent is suggested, for example, in the titles of his essays in *Rainbows, Snowflakes, and Quarks*: "Motion," "Gravity," "The Rainbow," "Sky Colors," "Waves," "Whirlpools," "Lightning," "The Compass," "Snowflakes," "Atoms," "Warmth," and "The Measure of Things." Each title intimates a directness, a simplicity, and a tight focus on the essence of the phenomenon under consideration.

Rainbows, Snowflakes, and Quarks begins with von Baeyer's "Introduction: The Nature of Physics," in which he speaks of his aim ("to bring physics closer to the humanities by examining some familiar experiences of nature") and audience ("This book is written for people who have art, and would add a little science"). As he states, "Although theoretical physics has become sophisticated, the ways of thinking and the underlying assumptions have not."

> *Perhaps von Baeyer's most impressive contribution to the world of physics is his ability to transform complex physical phenomena into readily accessible language for the lay reader.*

Accordingly, he traces many of the themata of physics: the "unspoken premises, prejudices, assumptions based on intuition; they are persistent motifs or subconscious biases that guide the thinking of even the most objective scientists." Examples include the search for symmetry, the hypothesis that matter consists of discrete atoms, the contrasting view that the world is a continuum, the role of the observer's point of view, and the belief that a single, consistent mathematical description of nature is possible.

He stresses the need for the scientist to employ analogies, word models, allusions, and historical anecdotes to engage the imagination of the lay reader. If the science writer is successful in his or her endeavors, "a little of the sense of wonder bordering on reverence that nature inspires in scientists" may be conveyed to the reader.

In "Sky Colors" (from *Rainbows*), for example, von Baeyer masterfully addresses questions like, "Why is the sky blue? Why is the sunset red? Why are the clouds white?" He does so by employing a technique that every professional communicator should use: whatever it takes to rouse the reader out of lethargy.

In this case, von Baeyer actively involves the reader by discussing the universality of curiosity ("Curiosity, like hunger, is a powerful and necessary instinct. Without a sense of wonder, the mind would starve. When curiosity is allowed to flourish, it develops into the passion for knowledge and understanding that lies at the root of science") and calling attention to the popularity of nature books — especially field guides — evidence of that "universal interest" in the phenomena of the world.

People are not just eager to classify things taxonomically — they want to go from "What?" to "Why?" And so, von Baeyer mentions "a sort of field guide to physics": Jearl Walker's *The Flying Circus of Physics*,

a book that encourages questioning and suggests answers (2nd edition) — a must read. He then goes on to explain that the sky is blue and the sunset red because of the scattering of light from small particles, proven by a simple experiment that can be performed in the kitchen.

The title essay from *The Fermi Solution*, on the other hand, fascinates by its anecdotal narration related to Enrico Fermi, whose method of thinking through problems is well worth employing in any number of circumstances. Asking such questions as "How many piano tuners are there in Chicago?" and "What is the circumference of the Earth?" Fermi would make logical assumptions and then estimate the answers for a workable way of dealing with the problem.

An approximate answer to the latter question, for example, can be arrived at by remembering that the distance across the United States is about 3,000 miles and that the time difference between the two coasts is three hours. Since there are 24 hours in a day, then there must be about 8 times 3,000 miles as the circumference of the world. The actual circumference is 24,902.45 miles at the equator. The beauty of Fermi's solution is that it engages the mind, rather than settles for the minimal thought process involved in looking up the figure.

The current issue of *The Sciences* (Jan./Feb. 1997) contains von Baeyer's column *Physika*, in which he discusses a difficult concept, "The Quantum Eraser." Tracing the contributions of Albert Einstein, Sir Isaac Newton, and Louis de Broglie leading up to the invention of quantum mechanics in 1925, von Baeyer makes the wave-particle duality of atomic objects come alive.

The professional communicator who desires to transform complexities into elegant, clear prose can learn much from Hans Christian von Baeyer.

He records how arguments about what it all meant raged until the third quarter of this century, when quantum electrodynamics (QED) accurately described how electrons (particles of electricity) interacted with photons (particles of light). In this mathematically dependent theory, particles and waves are unimportant, being replaced by "quantons." Von Baeyer takes the reader through the intricacies of Thomas Young's double-slit experiment of 1801 on the wave nature of light, which is shown to be the basis of further experiments not only on various kinds of waves but also on electrons.

He then guides the reader through challenging concepts like "interference patterns," "the uncertainty principle," "complementarity," "the quantum eraser," "fringe visibility," and "predictability" — all of which come into play to establish the findings that "particulateness and waviness turn out to be degrees of the same underlying property of a quanton" and "a quanton is not a wave or a particle, but both and neither."

Von Baeyer concludes with a recommendation that progress in this field can be stimulated by heuristic experiments to train the intuition of physicists to reach a more profound knowledge of quantons. This column stretches the reader's mind into lofty intellectual regions.

In conclusion, the professional communicator who desires to transform complexities into elegant, clear prose can learn much from Hans Christian von Baeyer. As my high-school math teacher used to say, "A word to the wise is sufficient." So,
  "Read on, Macduff,
    And damn'd be him that first cries,
    'Hold, enough!'"

THE DUMBING OF AMERICA

It is a double-edged sword to be sure. If information is too complex, the average reader will not bother with it, but if it is too simplistic, the reader gains no benefit.

There has to be a middle ground. Perhaps as technical communicators, that is where our focus should be. What do you think?

How the Cost of Communicating Has Changed

By William P. Kehoe

In the beginning the organization was run by an Administrative Committee (AdCom) made up of a group of 18 (the current size of the AdCom is 21) who served a three-year term, six running for election each year. The early AdCom meetings were bimonthly, usually in the New York City area. The 1996 AdCom met three times: in Seattle, Washington; Salt Lake City, Utah; and Saratoga Springs, New York (after IPCC 96).

In the early years, items relating to numbers — membership, finances, dues, symposia, *Transactions* and *Newsletter* costs, etc. — were the main focus of the AdCom as they struggled to get the organization established. In 1957, Group membership cost $2 and there were 468 members. The Group's first treasurer, Herb Michaelson, remembers vividly that "at the end of the first year we were in the red only by less than a dollar!" From there membership grew rapidly — to 1090 in 1958, 1520 in 1959, and to 1973 by 1961. Current membership hovers around 2400. Dues did not increase nearly as rapidly. In 1963, dues were raised to $3, to $4 in 1971, and to $6 in 1972; they are currently $17.

Although funding was difficult to come by in the early years, some costs were reasonable, especially by today's standards. The minutes from a 1959 meeting show that 35 000 copies of a 1959 symposium pro-

gram were mailed at a bulk rate of one cent each. A two-day Michigan symposium had registration fees of $7.50 for members and $10 for non-members. (That fee pales when compared with the current member conference registration fee of $325.) Lunch cost an additional $2.10 and dinner was $3.00.

The budget in 1963 was $8700 and included income from the IEEE, membership fees, and sale of publications. Expenses included publication costs, membership services charges, and miscellaneous items. The PCS budget for 1997 is $217 000 and includes many additional line items such as our conference (IPCC) income and expenses.

Some things have not changed from the early years. In 1962 it "was recommended that...the Membership Committee try to find out why membership has dropped, and to discover ways of attracting new members" — something the present Membership Committee has on its agenda. And in 1964 a two-day seminar on *Writing Improvement Programs for Engineers* was held (at a cost of $30 per person). Helping engineers communicate more effectively is the basic reason for the existence of today's PCS and this theme is prevalent at all of our IPCCs.

Note: Bill Kehoe has been PCS treasurer since 1986.

In 1957, Group membership cost $2 and there were 468 members.

Celebrating

40 Years

1957–1997

IEEE Life Membership

Many of PCS's senior members are supporting our 40th anniversary *Newsletter* issues with reminiscences and other information. In some cases they have earned the title of IEEE Life Member (or Senior Member or Fellow according to their previous grade of Membership).

Being a Life Member means that one's years of age (at least 65) plus years of IEEE membership totals at least 100 years.

The principal advantage of Life Membership is *no more dues!*

— Rudy Joenk

HOW OUR NAME HAS CHANGED

BY RUDY JOENK

Because our anniversary "reminiscers" tend to begin their stories with a review of our many name changes, and their reviews show minor differences, I "borrowed" those portions and then checked the Professional Communication Society (PCS) minutes on file at IEEE Headquarters in Piscataway, New Jersey, and asked a few questions and came up with the following chronology.

PCS had its start in 1957 as the Institute of Radio Engineers (IRE) Professional Group on Engineering Writing and Speech (PGEWS); see "The Beginning of PCS" in the January/February issue of this *Newsletter*, Vol. 41, No. 1. The first Administrative Committee (AdCom) meeting was on May 28, 1957.

On January 1, 1963, the American Institute of Electrical Engineers (AIEE) and the Institute of Radio Engineers (IRE) merged to form the Institute of Electrical and Electronics Engineers (IEEE). The Professional Groups of the IRE became the basis for the Technical Groups of the IEEE.

As a consequence of that merger our name became the IEEE Professional Technical Group on Engineering Writing and Speech. Note that Professional and Technical modify Group rather than Engineering Writing and Speech.

During the first quarter of 1964 the IEEE decided to drop those two adjectives. At the first subsequent AdCom meeting, April 29, 1964, our name was listed as the IEEE Group on Engineering Writing and Speech.

In early 1971 the AdCom voted on the big change, to the IEEE Group on Professional Communication. This name is largely attributed to James M. Lufkin, then chair of the Ways and Means Committee (also AdCom chair in 1968 and 1975). Because the IEEE Executive Committee didn't approve the change until mid-December, the new name became effective January 1, 1972.

Finally, on January 1, 1978, at the urging of the IEEE, most of the Groups became Societies, so our name was changed once more, to the IEEE Professional Communication Society.

And this may not be the last change. Current AdCom president Mark Haselkorn has argued strongly to replace Professional with Technical; see "Time for Change" in the May/June 1996 *Newsletter*, Vol. 40, No. 3.

Celebrating

40

YEARS

1957–1997

HOW WE'VE CHANGED!

introduction of the first personal computer, Radio Shack's Tandy 380, and 13 years before IBM released its first PC model.

Today, 40 years after the birth of our predecessor Group, the profession of technical communication has developed new interests, as has PCS. The Society reflects those new interests even though our original 1957 goal of enhancing communication skills is unchanged. Our current *Transactions* and our annual IPCC proceedings include topics that could not have been anticipated in the days of PGEWS: communication practices in aerospace,

the techniques of telecommuting, publishing on CD-ROM and the Web, online information retrieval, computer-mediated collaboration among writers, and corporate communication in cyberspace.

How we've changed!

Note: Herb Michaelson was a member of the committee that in 1957 petitioned the IRE to form the Professional Group on Engineering Writing and Speech. He was treasurer of the Group from 1957 to 1960 and editor of the *Transactions* from 1960 to 1962. He had joined the IRE in 1949.

CORRECTION
Dr. Alfred Goldsmith's name appeared incorrectly on pages 12 and 13 in the January/February issue of this Newsletter.

HOW PGEWS STARTED

BY RUDY JOENK

Much enthusiasm was stirred up and participants went forth that night with strong feelings of present accomplishment and great promise for the future.

This article is adapted almost verbatim from a reminiscence of Charles A. Meyer published in the April 1977 *Newsletter* (Vol. 20, No. 2) for the 20th anniversary of the Society (then Group). Mr. Meyer chaired the March 19, 1957, meeting that led to the formation of the Institute of Radio Engineers (IRE) Professional Group on Engineering Writing and Speech (PGEWS); he also chaired the Administrative Committee (AdCom) in 1966. He joined the IEEE (then IRE) in 1953 and is a Life Senior Member.

Reflecting on that March 19 meeting, Mr. Meyer wrote:

The report on this preliminary meeting is an interesting document not only for what was discussed but also because of the people who attended. It is apparent that strong headquarters [Institute of Radio Engineers] support came from Dr. [Alfred N.] Goldsmith and Dr. [Walter R. G.] Baker.

The required petition was submitted, an additional meeting was held on April 30 (see "Pre-Official Meeting of PGEWS" in the January/ February 1997 *Newsletter*, Vol. 41, No. 1), and, after approval for formation of the Group by the IRE Executive Committee, the first Administrative Committee meeting was held on Tuesday, May 28, 1957. That date, hence, can be considered the Group's birthday.
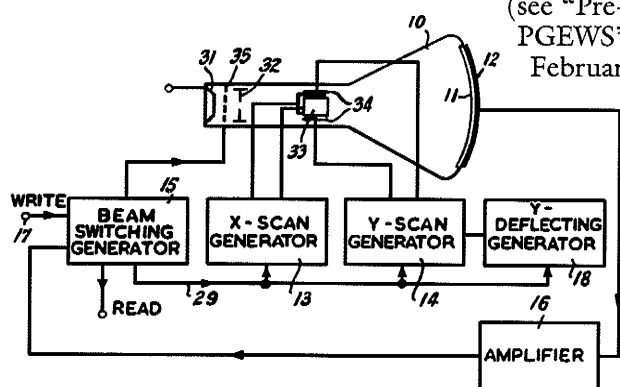
Electronic Storage Devices
October 8, 1957 • Patent No. 2,809,325
Inventors: F.C. Williams & T. Kilburn

In addition to the official meetings duly recorded in minutes, I can well recall that there were many communications—written, telephonic, and face-to-face—at small discussion sessions during and after

luncheons and dinners, before and after the official preliminary meeting in March.

To me, the most memorable of such sessions was one held at a round table in a corner of a small restaurant on Macdougal Street in Greenwich Village. The meeting place was suggested by Eleanor McElwee who was the prime mover in the organization effort. There were about eight at the meeting.

It started at an early dinner hour and continued on and on. It ended only because several of us had to catch the last train back home. I don't dare to list the names of the attendees for fear of an omission, but those attending did eventually become members of the first Administrative Committee and served long and diligently.

It was at this meeting that most of the major and minor points necessary for a viable petition to IRE Headquarters were hammered out in an open, free-wheeling discussion punctuated with humor and buoyed with appropriate libations.

But perhaps more important than the literary or forensic efforts at this particular session, much enthusiasm was stirred up and participants went forth that night with strong feelings of present accomplishment and great promise for the future.

If any present [1977] members wish to make a pilgrimage to this "Mermaid Tavern," this "Les Deux Magots" [The Two Monkeys—a Parisian Left Bank cafe that once was host to Ernest Hemingway and Jean-Paul Sartre] of the Group's salad days, it is still there, known then and now as the "Mona Lisa." The same round table is waiting on the left side near the entrance as one comes in from Macdougal Street, waiting to accommodate energetic groups with ideas and plans ready for launching.

Note: The Mona Lisa Tavern didn't survive the second 20 years of PCS's existence, but Mr. Meyer did, and he sent us his best wishes for a happy anniversary and continued good work.

SIGDOC/IPCC 97

CROSSROADS

IN COMMUNICATION

SIGDOC 97 (October 19-22, 1997) — IPCC 97 (October 22-24, 1997)
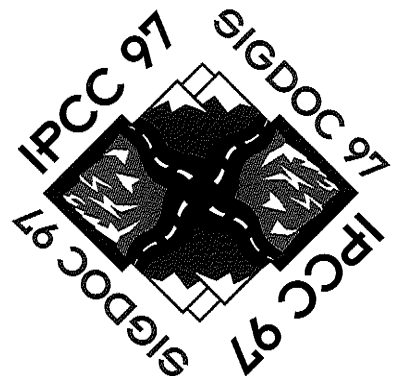
ACM's Special Interest Group on Documentation (SIGDOC) and IEEE's Professional Communication Society (PCS) are hosting a linked conference with a shared theme "Crossroads in Communications." SIGDOC 97 and IPCC 97 (International Professional Communication Conference) provide a forum for individuals with varied backgrounds and interests to explore issues related to technical communication.

As we near the 21st century, we face many important crossroads that affect what we do and how we do it:
* Downsizing is causing many people to leave full-time jobs for a life of contracting.
* Online documentation is challenging print as the dominant documentation media.
* The increasing popularity of the Internet is encouraging document distribution through the Web.
* New technology and corporate reengineering are changing how we and others define and view technical communication.
* Changing job roles provide technical communicators with the opportunity to develop new skills.

Meet with us at Snowbird Conference Center and Resort—set in the pristine Wasatch Mountains east of Salt Lake City, Utah—to talk about these crossroads (and others) we face as technical communicators. Plan now to attend.

Check out our websites: http://www.acm.org/sigdoc/sigdoc97 and http://www.ieee.org/pcs/pscindex.html

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THE CASE OF THE EXTRA VOLUME

Alert readers of this *Newsletter* may wonder why this year's volume of the *Newsletter* is number 41, whereas we're celebrating only our 40th anniversary.

The embarrassing truth is a 1988 goof: Issue number 1 in 1988 was properly assigned to volume 31, but numbers 2, 3, and 4 were promoted to volume 32. Then 1989 started (and ended, fortunately) with volume 33. So since then we have been one volume "high."

—Rudy Joenk

COMING IN THE NEXT ISSUE...

In the May/June issue of the PCS *Newsletter*, there will be feature articles on...

- Communication as a Core Competency
- IPCC 97
- PCS's 40th anniversary

NEWSLETTER SCHEDULE

To submit articles, write:

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Contributions are welcome. Send proposals for columns to the editor.
E-mail and ASCII files are preferred.

Issue	Deadline	Issue	Deadline
July/Aug. 1997	9 May 1997	Jan./Feb. 1998	7 Nov. 1997
Sep./Oct. 1997	3 July 1997	Mar./Apr. 1998	9 Jan. 1998
Nov./Dec. 1997	5 Sep. 1997	May/June 1998	6 Mar. 1998

IEEE
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