On Writing Well

30th Anniversary Edition

THE CLASSIC GUIDE TO WRITING NONFICTION

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Collins
An Imprint of HarperCollinsPublishers

especially—I had catapulted out of my context. . . . The successes [of the writers] gave me hope, of course, yet it was the desperate bits I liked best. I was looking for directions, gathering clues. I was especially grateful for the secret, shameful things about these women—the pain: the abortions and misalliances, the pills they took, the amount they drank. And what had made them live as lesbians, or fall in love with homosexual men, or men with wives?

The best gift you have to offer when you write personal history is the gift of yourself. Give yourself permission to write about yourself, and have a good time doing it.

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Science and Technology

Take a class of writing students in a liberal arts college and assign them to write about some aspect of science, and a pitiful moan will go around the room. "No! Not science!" the moan says. The students have a common affliction: fear of science. They were told at an early age by a chemistry or a physics teacher that they don't have "a head for science."

Take an adult chemist or physicist or engineer and ask him or her to write a report, and you'll see something close to panic. "No! Don't make us write!" they say. They also have a common affliction: fear of writing. They were told at an early age by an English teacher that they don't have "a gift for words."

Both are unnecessary fears to lug through life, and in this chapter I'd like to help you ease whichever one is yours. The chapter is based on a simple principle: writing is not a special language owned by the English teacher. Writing is thinking on paper. Anyone who thinks clearly can write clearly, about anything at all. Science, demystified, is just another nonfiction subject.

Writing, demystified, is just another way for scientists to transmit what they know.

Of the two fears, mine has been fear of science. I once flunked a chemistry course taught by a woman who had become a legend with three generations of students, the legend being she could teach chemistry to anybody. Even today I'm not much farther along than James Thurber's grandmother, who, as he recalled her in *My Life and Hard Times*, thought "electricity was dripping invisibly all over the house" from wall sockets. But as a writer I've learned that scientific and technical material can be made accessible to the layman. It's just a matter of putting one sentence after another. The "after," however, is crucial. Nowhere else must you work so hard to write sentences that form a linear sequence. This is no place for fanciful leaps or implied truths. Fact and deduction are the ruling family.

The science assignment that I give to students is a simple one. I just ask them to describe how something works. I don't care about style or any other graces. I only want them to tell me, say, how a sewing machine does what it does, or how a pump operates, or why an apple falls down, or how the eye tells the brain what it sees. Any process will do, and "science" can be defined loosely to include technology, medicine and nature.

A tenet of journalism is that "the reader knows nothing." As tenets go, it's not flattering, but a technical writer can never forget it. You can't assume that your readers know what you assume everybody knows, or that they still remember what was once explained to them. After hundreds of demonstrations I'm still not sure I could get into one of those life jackets that airline flight attendants have shown me: something about "simply" putting my arms through the straps, "simply" pulling two toggle knobs sharply downward (or is it sideways?) and "simply" blowing it up—but not too soon. The only step I'm confident I could perform is to blow it up too soon.

Describing how a process works is valuable for two reasons. It

forces you to make sure *you* know how it works. Then it forces you to take the reader through the same sequence of ideas and deductions that made the process clear to you. I've found it to be a breakthrough for many students whose thinking was disorderly. One of them, a bright Yale sophomore still spraying the page with fuzzy generalities at midterm, came to class in a high mood and asked if he could read his paper on how a fire extinguisher works. I was sure we were in for chaos. But his piece moved with simplicity and logic. It clearly explained how three different kinds of fires are attacked by three different kinds of fire extinguishers. I was elated by his overnight change into a writer who had learned to write sequentially, and so was he. By the end of his junior year he had written a how-to book that sold better than any book *I* had written.

Many other fuzzy students tried the same cure and have written with clarity ever since. Try it. For the principle of scientific and technical writing applies to all nonfiction writing. It's the principle of leading readers who know nothing, step by step, to a grasp of subjects they didn't think they had an aptitude for or were afraid they were too dumb to understand.

Imagine science writing as an upside-down pyramid. Start at the bottom with the one fact a reader must know before he can learn any more. The second sentence broadens what was stated first, making the pyramid wider, and the third sentence broadens the second, so that you can gradually move beyond fact into significance and speculation—how a new discovery alters what was known, what new avenues of research it might open, where the research might be applied. There's no limit to how wide the pyramid can become, but your readers will understand the broad implications only if they start with one narrow fact.

A good example is an article by Harold M. Schmeck, Jr., which ran on page 1 of the *New York Times*.

> WASHINGTON—There was a chimpanzee in California with a talent for playing ticktacktoe. Its trainers were delighted with

> this evidence of learning, but they were even more impressed by something else. They found they could tell from the animal's brain whether any particular move would be right or wrong. It depended on the chimpanzee's state of attention. When the trained animal was properly attentive, he made the right move.

Well, that's a reasonably interesting fact. But why is it worth page 1 of the *Times*? Paragraph 2 tells me:

> The significant fact was that scientists were able to recognize that state. By elaborate computer analysis of brain wave signals they were learning to distinguish what might be called "states of mind."

But hadn't this been possible before?

> This was far more ambitious than simply detecting gross states of arousal, drowsiness or sleep. It was a new step toward understanding how the brain works.

How is it a new step?

> The chimpanzee and the research team at the University of California at Los Angeles have graduated from the ticktacktoe stage, but the work with brain waves is continuing. It has already revealed some surprising insights to the brain's behavior during space flight. It shows promise of application to social and domestic problems on earth and even to improvements in human learning.

Good. I could hardly ask for a broader application of the research: space, human problems and the cognitive process. But is it an isolated effort? No indeed.

> It is part of the large ferment of modern brain research in progress in laboratories throughout the United States and abroad. Involved are all manner of creatures from men and monkeys to rats and mice, goldfish, flatworms and Japanese quail.

I begin to see the total context. But what is the purpose?

> The ultimate goal is to understand the human brain—that incredible three-pound package of tissue that can imagine the farthest reaches of the universe and the ultimate core of the atom but cannot fathom its own functioning. Each research project bites off a little piece of an immense puzzle.

So now I know where the chimp at U.C.L.A. fits into the spectrum of international science. Knowing this, I'm ready to learn more about his particular contribution.

> In the case of the chimpanzee being taught to play ticktacktoe, even the trained eye could see nothing beyond the ordinary in the wavy lines being traced on paper to represent electrical waves from an animal's brain. But through analysis by computer it was possible to tell which traces showed that the animal was about to make the right move and which preceded a mistake.
>
> An important key was the system of computer analysis developed largely by Dr. John Hanley. The state of mind that always foreshadowed a correct answer was one that might be described as trained attentiveness. Without the computer's ability to analyze the huge complexities of the recorded brain waves, the "signatures" of such states could not have been detected.

The article goes on for four columns to describe potential uses of the research—measuring causes of domestic tension, reducing drivers' rush-hour stress—and eventually it touches on work being done in many pockets of medicine and psychology. But it started with one chimpanzee playing ticktacktoe.

You can take much of the mystery out of science writing by helping the reader to identify with the scientific work being done. Again, this means looking for the human element—and if you have to settle for a chimpanzee, at least that's the next-highest rung on the Darwinian ladder.

One human element is yourself. Use your own experience to connect the reader to some mechanism that also touches his life. In the following article on memory, notice how the writer, Will Bradbury, gives us a personal handle with which to grab a complex subject:

> Even now I see the dark cloud of sand before it hits my eyes, hear my father's calm voice urging me to cry the sting away, and feel anger and humiliation burn in my chest. More than 30 years have passed since that moment when a playmate, fighting for my toy ambulance, tossed a handful of sand in my face. Yet the look of the sand and ambulance, the sound of my father's voice and the throb of my bruised feelings all remain sharp and clear today. They are the very first things I can remember, the first bits of visual, verbal and emotional glass imbedded in the mosaic I have come to know as *me* by what is certainly the brain's most essential function—memory.
>
> Without this miracle function that enables us to store and recall information, the brain's crucial systems for waking and sleeping, for expressing how we feel about things and for performing complicated acts could do little more than fumble with sensory inputs of the moment. Nor would man have a real feeling of self, for he would have no gallery of the past to examine, learn from, enjoy and, when necessary, hide away in. Yet after thousands of years of theorizing, of reading and misreading his own behavioral quirks, man is just beginning to have some understanding of the mysterious process that permits him to break and store bits of passing time.
>
> One problem has been to decide what memory is and what things have it. Linseed oil, for example, has a kind of memory. Once exposed to light, even if only briefly, it will change consistency and speed the *second* time it is exposed. It will "remember" its first encounter with the light. Electronic and fluidic circuits also have memory, of a more sophisticated kind. Built into computers, they are able to store and retrieve extraordinary amounts of information. And the human body has at least four kinds of memory. . . .

That's a fine lead. Who doesn't possess some cluster of vivid images that can be recalled from an inconceivably early age? The reader is eager to learn how such a feat of storage and retrieval is accomplished. The example of the linseed oil is just piquant enough to make us wonder what "memory" really is, and then the writer reverts to the human frame of reference, for it is man who has built the computer circuits and has four kinds of memory himself.

Another personal method is to weave a scientific story around someone else. That was the appeal of the articles called "Annals of Medicine" that Berton Roueché wrote for many years in *The New Yorker.* They are detective stories, almost always involving a victim—some ordinary person struck by a mystifying ailment—and a gumshoe obsessed with finding the villain. Here's how one of them begins:

> At about 8 o'clock on Monday morning, Sept. 25, 1944, a ragged, aimless old man of 82 collapsed on the sidewalk on Dey Street, near the Hudson Terminal. Innumerable people must have noticed him, but he lay there alone for several minutes, dazed, doubled up with abdominal cramps, and in an agony of retching. Then a policeman came along. Until the

policeman bent over the old man he may have supposed that he had just a sick drunk on his hands; wanderers dropped by drink are common in that part of town in the early morning. It was not an opinion that he could have held for long. The old man's nose, lips, ears and fingers were sky-blue.

By noon, eleven blue men have been admitted to nearby hospitals. But never fear: Dr. Ottavio Pellitteri, field epidemiologist, is on the scene and telephoning Dr. Morris Greenberg at the Bureau of Preventable Diseases. Slowly the two men piece together fragments of evidence that seem to defy medical history until the case is nailed down and the villain identified as a type of poisoning so rare that many standard texts on toxicology don't even mention it. Roueché's secret is as old as the art of storytelling. We are in on a chase and a mystery. But he doesn't start with the medical history of poisoning, or talk about standard texts on toxicology. He gives us a man—and not only a man but a blue one.

Another way to help your readers understand unfamiliar facts is to relate them to sights they *are* familiar with. Reduce the abstract principle to an image they can visualize. Moshe Safdie, the architect who conceived Habitat, the innovative housing complex at Montreal's Expo '67, explains in his book *Beyond Habitat* that man would build better than he does if he took the time to see how nature does the job, since "nature makes form, and form is a by-product of evolution":

> One can study plant and animal life, rock and crystal formations, and discover the reasons for their particular form. The nautilus has evolved so that when its shell grows, its head will not get stuck in the opening. This is known as gnomonic growth; it results in the spiral formation. It is, mathematically, the only way it can grow.
>
> The same is true of achieving strength with a particular material. Look at the wings of a vulture, at its bone formation. A most intricate three-dimensional geometric pattern has evolved, a kind of space frame, with very thin bones that get thicker at the ends. The main survival problem for the vulture is to develop strength in the wing (which is under tremendous bending movement when the bird is flying) without building up weight, as that would limit its mobility. Through evolution the vulture has the most efficient structure one can imagine—a space frame in bone.

"For each aspect of life there are responses of form," Safdie writes, noting that the maple and the elm have wide leaves to absorb the maximum amount of sun for survival in a temperate climate, whereas the olive tree has a leaf that rotates because it must preserve moisture and can't absorb heat, and the cactus turns itself perpendicular to light. We can all picture a maple leaf and a cactus plant. With every hard principle, Safdie gives us a simple illustration:

> Economy and survival are the two key words in nature. Examined out of context, the neck of the giraffe seems uneconomically long, but it is economical in view of the fact that most of the giraffe's food is high on the tree. Beauty as we understand it, and as we admire it in nature, is never arbitrary.

Or take this article about bats, by Diane Ackerman. Most of us know only three facts about bats: they're mammals, we don't like them, and they've got some kind of radar that enables them to fly at night without bumping into things. Obviously anyone writing about bats must soon get around to explaining how that mechanism of "echo-location" works. In the following passage Ackerman gives us details so precise—and so easy to relate to what we know—that the process becomes a pleasure to read about:

It's not hard to understand echo-location if you picture bats as calling or whistling to their prey with high-frequency sounds. Most of us can't hear these. At our youngest and keenest of ear, we might detect sounds of 20,000 vibrations a second, but bats can vocalize at up to 200,000. They do it not in a steady stream but at intervals—20 or 30 times a second. A bat listens for the sounds to return to it, and when the echoes start coming faster and louder it knows that the insect it's stalking has flown nearer. By judging the time between echoes, a bat can tell how fast the prey is moving and in which direction. Some bats are sensitive enough to register a beetle walking on sand, and some can detect the movement of a moth flexing its wings as it sits on a leaf.

That's my idea of sensitive; I couldn't ask a writer to give me two more wonderful examples. But there's more to my admiration than gratitude. I also wonder: how many other examples of bat sensitivity did she collect—dozens? hundreds?—to be able to choose those two? Always start with too much material. Then give your reader just enough.

> As the bat closes in, it may shout faster, to pinpoint its prey. And there's a qualitative difference between a steady, solid echo bouncing off a brick wall and the light, fluid echo from a swaying flower. By shouting at the world and listening to the echoes, bats can compose a picture of their landscape and the objects in it which includes texture, density, motion, distance, size and probably other features, too. Most bats really belt it out; we just don't hear them. This is an eerie thought when one stands in a silent grove filled with bats. They spend their whole lives yelling. They yell at their loved ones, they yell at their enemies, they yell at their dinner, they yell at the big, bustling world. Some yell faster, some slower, some louder, some softer. Long-eared bats don't need to yell; they can hear their echoes perfectly well if they whisper.

Another way of making science accessible is to write like a person and not like a scientist. It's the same old question of being yourself. Just because you're dealing with a scholarly discipline that's usually reported in a style of dry pedantry is no reason why you shouldn't write in good fresh English. Loren Eiseley was a naturalist who refused to be cowed by nature as he passed on to us, in *The Immense Journey*, not only his knowledge but his enthusiasms:

> I have long been an admirer of the octopus. The cephalopods are very old, and they have slipped, protean, through many shapes. They are the wisest of the mollusks, and I have always felt it to be just as well for us that they never came ashore, but—there are other things that have.
>
> There is no need to be frightened. It is true that some of the creatures are odd, but I find the situation rather heartening than otherwise. It gives one a feeling of confidence to see nature still busy with experiments, still dynamic, and not through or satisfied because a Devonian fish managed to end as a two-legged character with a straw hat. There are other things brewing and growing in the oceanic vat. It pays to know this. It pays to know there is just as much future as past. The only thing that doesn't pay is to be sure of man's own part in it.

Eiseley's gift is that he helps us to feel what it's like to be a scientist. The central transaction in his writing is the naturalist's love affair with nature, just as in Lewis Thomas's writing it's the cell biologist's love of the cell. "Watching television," Dr. Thomas wrote in his elegant book *Lives of a Cell*, "you'd think we lived at bay, in total jeopardy, surrounded on all sides by human-seeking germs, shielded against infection and death only by a chemical technology that enables us to keep killing them off. We explode clouds of aerosol, mixed for good luck with deodorants, into our noses, mouths, underarms, privileged crannies—even into the insides of our telephones." But even at our most paranoid, he says, "we have always been a relatively minor interest of the vast microbial world. The man who catches a meningococcus is in considerably less danger for his life, even without chemotherapy, than the meningococci with the bad luck to catch a man."

Lewis Thomas was scientific proof that scientists can write as well as anybody else. It's not necessary to be a "writer" to write well. We think of Rachel Carson as a writer because she launched the environmental movement with a book, *Silent Spring.* But Carson wasn't a writer; she was a marine biologist who wrote well. She wrote well because she was a clear thinker and had a passion for her subject. Charles Darwin's *The Voyage of the Beagle* is not only a classic of natural history; it's a classic of literature, its sentences striding forward with vividness and vigor. If you're a student with a bent for science or technology, don't assume that the English department has a monopoly on "literature." Every scientific discipline has a fine literature of its own. Read the scientists who write well in fields that interest you—for example, Primo Levi *(The Periodic Table)*, Peter Medawar *(Pluto's Republic)*, Oliver Sacks *(The Man Who Mistook His Wife for a Hat)*, Stephen Jay Gould *(The Panda's Thumb)*, S. M. Ulam *(Adventures of a Mathematician)*, Paul Davies *(God and the New Physics)*, Freeman Dyson *(Weapons and Hope)*—and use them as models for your own writing. Imitate their linear style, their avoidance of technical jargon, their constant relating of an arcane process to something any reader can visualize.

Here's an article called "The Future of the Transistor," in *Scientific American*, by Robert W. Keyes, who holds a doctorate in physics and is a specialist in semiconductors and information-processing systems. About 98 percent of people who hold a doctorate in physics can't write their way out of a petri dish, but that's not because they can't. It's because they *won't.* They won't deign to learn to use the simple tools of the English language—precision instruments as refined as any that are used in a physics lab. This is Keyes's lead:

> I am writing this article on a computer that contains some 10 million transistors, an astounding number of manufactured items for one person to own. Yet they cost less than the hard disk, the keyboard, the display and the cabinet. Ten million staples, in contrast, would cost about as much as the entire computer. Transistors have become this cheap because during the past 40 years engineers have learned to etch ever more of them on a single wafer of silicon. The cost of a given manufacturing step can thus be spread over a growing number of units.
>
> How much longer can this trend continue? Scholars and industry experts have declared many times in the past that some physical limit exists beyond which miniaturization could not go. An equal number of times they have been confounded by the facts. No such limit can be discerned in the quantity of transistors that can be fabricated on silicon, which has proceeded through eight orders of magnitude in the 46 years since the transistor was invented.

Take one more look at the sequential style. You'll see a scientist leading you in logical steps, one sentence after another, along the path of the story he set out to tell. He is also enjoying himself and therefore writing enjoyably.

I've quoted from so many writers, writing about so many facets of the physical world, to show that they all come across first as people: men and women finding a common thread of humanity between themselves and their specialty and their readers. You can achieve the same rapport, whatever your subject. The principle of sequential writing applies to every field where the reader must be escorted over difficult new terrain. Think of all the areas where biology and chemistry are intertwined with politics, economics, ethics and religion: AIDS, abortion, asbestos, drugs, gene splicing, geriatrics, global warming, health care, nuclear energy, pollution, toxic waste, steroids, cloning, surrogate motherhood and dozens of others. Only through clear writing by experts can the rest of us make educated choices as citizens in these areas where we have little or no education.

I'll close with an example that sums up everything this chapter has been about. Reading in my morning paper about the National Magazine Awards for 1993, I saw that the winner in the highly prized category of reporting, edging out such heavyweights as *The Atlantic Monthly, Newsweek, The New Yorker* and *Vanity Fair,* was a magazine called *I.E.E.E. Spectrum,* which I had never heard of. It turned out to be the flagship magazine of the Institute of Electrical and Electronics Engineers, a professional association with 320,000 members. According to its editor, Donald Christiansen, the magazine was once full of integral signs and acronyms, its articles often unfathomable even to other engineers. "There are 37 different identifiable disciplines within I.E.E.E.," he said. "If you can't describe something in words, our own people can't understand each other."

In making his magazine accessible to 320,000 engineers, Christiansen also made it accessible to the general reader, as I found when I tracked down the award-winning article, "How Iraq Reverse-Engineered the Bomb," by Glenn Zorpette. It's as good a piece of investigative reporting as I've read—the best kind of nonfiction writing in the service of informed public knowledge.

Constructed like a detective story, it describes the efforts of the International Atomic Energy Agency (I.A.E.A.) to monitor the secret program whereby the Iraqis almost built an atomic bomb and to explain how they came so close. Thus the article was both a work of science history and a political document, one that

was still hot, for Iraqi research was conducted—and presumably continued until the fall of Saddam Hussein—in violation of the I.A.E.A.'s disclosure rules; much of the bomb-making material was illicitly acquired from various industrial nations, including the United States. The *Spectrum* article focuses on a technique known as E.M.I.S. (electromagnetic isotope separation), which was being carried out at a research complex south of Baghdad called Al Tuwaitha:

> The EMIS program surprised not only the IAEA, but the Western intelligence agencies. With this technique a stream of uranium ions is deflected by electromagnets in a vacuum chamber. The chamber and its associated equipment are called a calutron. The heavier U–238 ions are deflected less than the U–235 ions, and this slight difference is used to separate out the fissile U–235. However, "what in theory is a very efficient procedure is in practice a very, very messy affair," said Leslie Thorne, who recently retired as field activities manager on the IAEA action team. Invariably, some U–238 ions remain mixed with the U–235, and ion streams can be hard to control.

O.K. That's very clear. But *why* is the process so messy? *Why* are the ion streams hard to control? The writer obliges. He never forgets where he left his readers in the previous paragraph and what they want to know next.

> The two different isotopic materials accumulate in cup-shaped graphite containers. But their accumulation in the two containers can be thrown off wildly by small variations in the power to, and temperature of, the electromagnets. Thus in practice the materials tend to spatter all over the inside of the vacuum chamber, which must be cleaned after every few dozen hours of operation.

That's anybody's idea of messy. But has this process, nevertheless, ever worked?

> Hundreds of magnets and tens of millions of watts are needed. During the Manhattan Project, for example, the Y–12 EMIS facility at Oak Ridge in Tennessee used more power than Canada, plus the entire U.S. stockpile of silver; the latter was used to wind the many electromagnets required (copper was needed elsewhere in the war effort). Mainly because of such problems, U.S. scientists believed that no country would ever turn to EMIS to produce the relatively large amounts of enriched material needed for atomic weapons. . . .
>
> The discovery of the Iraqi EMIS program had much of the drama of a good spy novel. The first clue apparently came in the clothing of U.S. hostages held by Iraqi forces at Tuwaitha. After the hostages were released, their clothes were analyzed by intelligence experts, who found infinitesimal samples of nuclear materials with isotopic concentrations producible only in a calutron. . . .
>
> "Suddenly we found a live dinosaur," said Demetrios Perricos, deputy head of the IAEA's Iraq action team.

Even in the midst of such high technology the writer never loses the human ingredient. This isn't a story about "science"; it's a story about people doing science—a gang of clandestine bombmakers and a team of high-tech cops. The quote about the dinosaur is pure gold, a metaphor we can all understand. Even a child knows that dinosaurs aren't around anymore.

With the inevitability of good detective work, the article builds to the outcome that has been the whole point of the investigation: the discovery that Iraq, "not limiting itself to producing weapons-grade materials, was concurrently struggling to build a deliverable weapon around the material, a daunting task known as weaponization." First we are told what options exist for anyone attempting that task:

> The two basic types of atomic bombs are gun devices and implosion weapons. The latter are much more difficult to design and build, but provide higher explosive yields for a given amount of fissile material. IAEA investigators have found no evidence that Iraq was actively pursuing a gun device; it is clear, they say, that they concentrated their money and resources on an implosion device, and had even started work on fairly advanced implosion designs.

What's an implosion device? Read on:

> In an implosion device the fissile material is physically compressed by the force of a shock wave created with conventional explosives. Then, at just the right instant, neutrons are released, initiating the ultrafast fission chain reaction—an atomic blast. Thus the main elements of an implosion device are a firing system, an explosive assembly, and the core. The firing system includes vacuum-tube-based, high-energy discharge devices called krytons that are capable of releasing enough energy to detonate the conventional explosive. The explosive assembly includes "lenses" that precisely focus the spherical, imploding shock wave on the fissile core, within which is a neutronic initiator. The IAEA had amassed ample evidence that the Iraqis had made progress in each of these areas.

Speaking of compression, that paragraph is a gem of tight linear writing, successively explaining the implosion device and its three main elements. But how (we now want to know) was the I.A.E.A.'s evidence amassed?

> Iraq's attempts to import krytons from CSI Technologies, Inc., San Marcos, Calif., made news in March 1990, when two Iraqis were arrested at London's Heathrow airport after an 18-month "sting" operation involving U.S. and British Customs. Several years before that, however, Iraq did manage to get weapons-quality capacitors from other U.S. concerns, and also produced its own capacitors. . . .

I rest my case—or, rather, I let *Spectrum* rest it for me. If a scientific subject of that complexity can be made that clear and robust, in good English, with only a few technical words, which are quickly explained (kryton) or can be quickly looked up (fissile), *any* subject can be made clear and robust by all you writers who think you're afraid of science and all you scientists who think you're afraid of writing.

16

Business Writing

Writing in Your Job

If you have to do any writing in your job, this chapter is for you. Just as in science writing, anxiety is a big part of the problem and humanity and clear thinking are a big part of the solution.

Although this is a book about writing, it's not just for writers. Its principles apply to everyone who is expected to do some writing as part of his or her daily employment. The memo, the business letter, the administrative report, the financial analysis, the marketing proposal, the note to the boss, the fax, the e-mail, the Post-it—all the pieces of paper that circulate through your office every day are forms of writing. Take them seriously. Countless careers rise or fall on the ability or the inability of employees to