



Managing Yourself

The Science of Strong Business Writing

by Bill Birchard



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The Science of Strong Business Writing

Lessons from neurobiology

by Bill Birchard

Illustrations by MARTINA PAUKOVA



Experience

Advice and Inspiration



STRONG WRITING SKILLS are essential for anyone in business. You need them to effectively communicate with colleagues, employees, and bosses and to sell any ideas, products, or services you're offering.

Many people, especially in the corporate world, think good writing is an art—and that those who do it well have an innate talent they've nurtured through experience, intuition, and a habit of reading often and widely. But every day we're learning more about the science of good writing. Advances in neurobiology and psychology show, with data and in images, exactly how the brain responds to words, phrases, and stories. And the



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criteria for making better writing choices are more objective than you might think.

Good writing gets the reader's dopamine flowing in the area of the brain known as the reward circuit. Great writing releases opioids that turn on reward hot spots. Just like good food, a soothing bath, or an enveloping hug, well-executed prose makes us feel pleasure, which makes us want to keep reading.

Most of the rules you learned in school—"Show, don't tell" or "Use the active voice"—still hold. But the reasons they do are now clearer. Scientists using MRI and PET machines can literally see how reward regions clustered in the midbrain light up when people read certain types of writing or hear it spoken aloud. Each word, phrase, or idea acts as a stimulus, causing the brain to instantly answer a stream of questions: Does this promise value? Will I like it? Can I learn from it?

Kent Berridge, a pioneering University of Michigan psychologist and neuroscientist, notes that researchers originally believed that the reward circuit largely handled sensory cues. But, he explains, "it's become clear in the past 50 years from neuroimaging studies that all kinds of social and cultural rewards can also activate this system."

Whether it's a succinct declarative statement in an email or a complex argument in a report, your own writing has the potential to light up the neural circuitry of your readers' brains. (The same is true if you read the words to an audience.) The magic happens when prose has one or more of these characteristics: It's simple, specific, surprising, stirring, seductive, smart, social, or story-driven. In my work as an author and a

writing coach for businesspeople, I've found those eight S's to be hallmarks of the best writing. And scientific evidence backs up their power.

SIMPLICITY

"Keep it simple." This classic piece of writing advice stands on the most basic neuroscience research. Simplicity increases what scientists call the brain's "processing fluency." Short sentences, familiar words, and clean syntax ensure that the reader doesn't have to exert too much brainpower to understand your meaning.

By contrast, studies have shown that sentences with clauses nested in the middle take longer to read and cause more comprehension mistakes. Ditto for most sentences in the passive voice. If you write "Profits are loved by investors," for example, instead of "Investors love profits," you're switching the standard positions of the verb and the direct object. That can cut comprehension accuracy by 10% and take a tenth of a second longer to read.

Tsuyoshi Okuhara, of the University of Tokyo, teamed with colleagues to ask 400 people aged 40 to 69 to read about how to exercise for better health. Half the group got long-winded, somewhat technical material. The other half got an easy-to-read edit of the same content. The group reading the simple version—with shorter words and sentences, among other things—scored higher on self-efficacy: They expressed more confidence in succeeding.

Even more noteworthy: Humans learn from experience that simpler explanations are not always right, but

they *usually* are. Andrey Kolmogorov, a Russian mathematician, proved decades ago that people infer that simpler patterns yield better predictions, explanations, and decisions. That means you're more persuasive when you reduce overdressed ideas to their naked state.

Cutting extraneous words and using the active voice are two ways to keep it simple. Another tactic is to drill down to what's really salient and scrap tangential details. Let's say you have researched crossover markets and are recommending options in a memo to senior leaders. Instead of sharing every pro and con for each market—that is, taking the exhaustive approach—maybe pitch just the top two prospects and identify their principal pluses and minuses.

SPECIFICITY

Specifics awaken a swath of brain circuits. Think of "pelican" versus "bird." Or "wipe" versus "clean." In one study, the more-specific words in those pairs activated more neurons in the visual and motor-strip parts of the brain than did the general ones, which means they caused the brain to process meaning more robustly.

Years ago scientists thought our brains decoded words as symbols. Now we understand that our neurons actually "embody" what the words mean: When we hear more-specific ones, we "taste," "feel," and "see" traces of the real thing.

Remarkably, the simulation may extend to our muscles too. When a team led by an Italian researcher, Marco Tettamanti, asked people to listen to sentences related to the mouth, hand, and



leg—“I bite an apple”; “I grasp a knife”; “I kick the ball”— the brain regions for moving their jaws, hands, and legs fired.

Using more-vivid, palpable language will reward your readers. In a recent letter to shareholders, Amazon CEO Jeff Bezos didn’t say, “We’re facing strong competition.” Channeling Tettamanti’s research, he wrote, “Third-party sellers are kicking our first-party butt. Badly.”

Another specificity tactic is to give readers a memorable shorthand phrase to help them retain your message. Malcolm Gladwell coined “the tipping point.” Management gurus W. Chan Kim and Renée Mauborgne came up with “blue ocean strategy”; essayist Nassim Nicholas Taleb, “black swan event.”

SURPRISE

Our brains are wired to make nonstop predictions, including guessing the next word in every line of text. If your writing confirms the readers’ guess, that’s OK, though possibly a yawner. Surprise can

make your message stick, helping readers learn and retain information.

Jean-Louis Dessalles, a researcher in artificial intelligence and cognitive science at Télécom Paris, conducted an experiment that demonstrated people’s affinity for the unexpected. He asked participants to read short, unfinished narratives and consider different possible endings for each. For example, one story read: “Two weeks after my car had been stolen, the police informed me that a car that might be mine was for sale on the internet....The phone number had been identified. It was the mobile phone number of....” The choices were (a) “my office colleague,” (b) “a colleague of my brother’s,” or (c) “someone in my neighborhood.” For 17 of 18 stories, the vast majority of people preferred the most unexpected ending (in this example, the work colleague). They didn’t want a story that fulfilled their predictions.

So reward your readers with novelty. Jonah Berger and Katherine Milkman, of the Wharton School, saw the impact of



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surprising content when they examined nearly 7,000 articles that appeared online in the *New York Times*. They found that those rated as surprising were 14% more likely to be on the newspaper’s “most-emailed” list.

Readers appreciate unusual word-play, too. A good example is John McPhee’s characterization of World War II as a “technological piñata.” Or consider how a Texas-based conglomerate described itself in its 2016 shareholder letter: “Think of Biglari Holdings as a museum of businesses. Our preference is to collect masterpieces.”

STIRRING LANGUAGE

You may think you’re more likely to persuade with logic, but no. Our brains process the emotional connotations of a word within 200 milliseconds of reading it—much faster than we understand its meaning. So when we read emotionally charged material, we reflexively react with feelings—fear, joy, awe, disgust, and so forth—because our brains have been trained since hunter-gatherer times to respond that way. Reason follows. We then combine the immediate feeling and subsequent thought to create meaning.

How sensitive are we to emotion? Experiments show that when people hear a list of words, they often miss a few as a result of “attentional blinks” caused by limits in our brain processing power. But we don’t miss the emotionally significant words. With those there are no blinks.

So when you write your next memo, consider injecting words that package feeling and thought together. Instead of saying “challenge the competition,”



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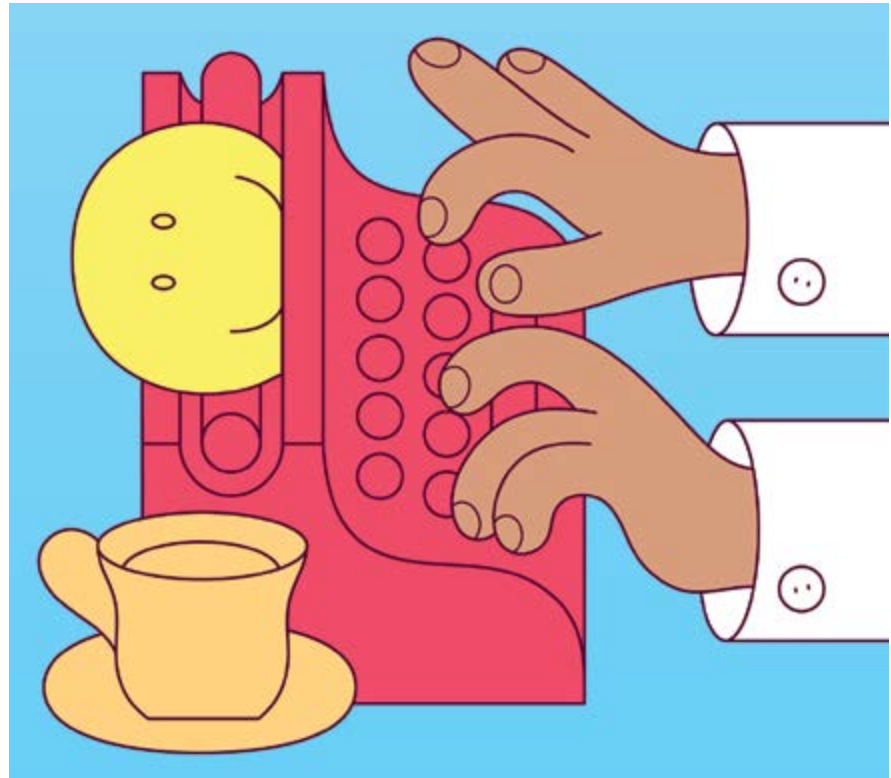
you might use “outwit rivals.” In lieu of “promote innovation,” try “prize ingenuity.” Metaphor often works even better. Canadian researchers Andrea Bowes and Albert Katz tested relatively bland phrases like “What a very good idea!” and “Be careful what you say” against more-evocative expressions like “What a gem of an idea!” and “Watch your back.” Readers reacted more strongly to the latter.

Just a small touch can drive the neural circuits for emotion. So before you start composing, get your feelings straight, along with your facts. Zeal for your message will show through. And if you express your emotion, readers will feel it.

SEDUCTIVENESS

As humans, we’re wired to savor anticipation. One famous study showed that people are often happier planning a vacation than they are after taking one. Scientists call the reward “anticipatory utility.” You can build up the same sort of excitement when you structure your writing. In experiments using poetry, researchers found that readers’ reward circuitry reached peak firing several seconds before the high points of emphatic lines and stanzas. Brain images show preemptive spikes of pleasure even in readers with no previous interest in poetry.

You can generate a similar reaction by winding up people’s curiosity for what’s to come. Steve Jobs did this in his famous “How to Live Before You Die” commencement address to Stanford University’s class of 2005. “I never graduated from college,” he began. “Truth be



told, this is the closest I’ve ever gotten to a college graduation. Today I want to tell you three stories from my life. That’s it. No big deal. Just three stories.” Are you on the edge of your seat to hear what the three stories are?

So start a report with a question. Pose your customer problem as a conundrum. Position your product development work as solving a mystery. Put readers in a state of uncertainty so that you can then lead them to something better.

SMART THINKING

Making people feel smart—giving them an “aha” moment—is another way to please readers. To show how these sudden “pops” of insight activate the brain, researchers have asked people to read three words (for example, “house,” “bark,” and “apple”) and then identify a fourth word that relates to all three, while MRI machines and EEGs record their brain activity. When the study participants arrive at a solution (“tree”),

brain regions near the right temple light up, and so do parts of the reward circuit in the prefrontal cortex and midbrain. The readers’ delight is visible. Psychological research also reveals how people feel after such moments: at ease, certain, and—most of all—happy.

How can you write to create an aha moment for your readers? One way is to draw fresh distinctions. Ginni Rometty, formerly IBM’s CEO, offered one with this description of the future: “It will not be a world of man versus machine; it will be a world of man plus machine.”

Another strategy is to phrase a pragmatic message so that it also evokes a perennial, universal truth. The late Max De Pree, founder and CEO of the office furniture company Herman Miller, had a knack for speaking to employees this way. In *Leadership Is an Art* he wrote: “The first responsibility of a leader is to define reality. The last is to say thank you. In between the two, the leader must become a servant and a debtor.” That’s wisdom not just for business



Few things beat a good anecdote. Functional MRI scans show that when a story begins, listeners' brains immediately begin glowing in a specific pattern.

managers but for parents, teachers, coaches—anyone in a guiding role.

SOCIAL CONTENT

Our brains are wired to crave human connection—even in what we read. Consider a study of readers' responses to different kinds of literary excerpts: some with vivid descriptions of people or their thoughts, and others without such a focus. The passages that included people activated the areas of participants' brains that interpret social signals, which in turn triggered their reward circuits.

We don't want just to read about people, though—we want to understand what they're thinking as quickly as possible. A study led by Frank Van Overwalle, a social neuroscientist at Vrije Universiteit Brussel, found that readers infer the goals of people they're reading about in under 350 milliseconds, and discern their character traits within 650 milliseconds.

One way to help readers connect with you and your writing is to reveal more traces of yourself in it. Think voice, worldview, vocabulary, wit, syntax, poetic rhythm, sensibilities. Take the folksy—and effective—speeches and letters of Berkshire Hathaway CEO Warren Buffett. His bon mots include “Someone's sitting in the shade today because someone planted a tree a long time ago,” “It's only when the tide goes out that you discover who's been swimming naked,” and “Beware of geeks bearing formulas.”

Remember also to include the human angle in any topic you're discussing. When you want to make a point about a supply-chain hiccup, for example, don't frame the problem as a “trucking

disconnect.” Write instead about mixed signals between the driver and dispatcher.

Another simple trick to engage readers is to use the second person (“you”), as I've done throughout this piece. This can be particularly helpful when you're explaining technical or complicated material. For example, psychologist Richard Mayer and colleagues at the University of California, Santa Barbara, ran experiments with two versions of an online presentation on the respiratory system. Each included 100 words of spoken text paired with simple animations. But one version used the impersonal third person (“During inhaling, *the* diaphragm moves down, creating more space for *the* lungs...”), while the other was more personal (“*your* diaphragm” and “*your* lungs”). People who listened to the latter scored significantly higher than their counterparts on a test that measured what they had learned.

STORYTELLING

Few things beat a good anecdote. Stories, even fragments of them, captivate extensive portions of readers' brains in part because they combine many of the elements I've described already.

Research by Uri Hasson at Princeton reveals the neural effect of an engaging tale. Functional MRI scans show that when a story begins, listeners' brains immediately begin glowing in a specific pattern. What's more, that grid reflects the storyteller's exactly. Other research shows that, at the same time, midbrain regions of the reward circuit come to life.


Experiments by behavioral scientists at the University of Florida produced

similar results. Brain images showed heightened activity in reward regions among people who read 12-second narratives that prompted pleasant images. (A sample narrative: “It's the last few minutes of the big game and it's close. The crowd explodes in a deafening roar. You jump up, cheering. Your team has come from behind to win.”)

When you incorporate stories into your communications, big payoffs can result. Consider research that Melissa Lynne Murphy did at the University of Texas, looking at business crowdfunding campaigns. She found that study participants formed more-favorable impressions of the pitches that had richer narratives, giving them higher marks for entrepreneur credibility and business legitimacy. Study participants also expressed more willingness to invest in the projects and share information about them. The implication: No stories, no great funding success.

THE EIGHT S's can be your secret weapons in writing well. They're effective tools for engaging readers because they trigger the same neural responses that other pleasurable stimuli do. And you probably understand their value intuitively because millions of years of evolution have trained our brains to know what feels right. So cultivate those instincts. They'll lead you to the writer's version of the Golden Rule: Reward readers as you would yourself. ☺

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 **BILL BIRCHARD** is a business writer and writing coach. His sixth book, tentatively titled *Eight Secrets from Science for Aspiring Writers*, is in progress.