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## ABSOLUTE POWERPOINT

*Can a software package edit our thoughts?*

BY IAN PARKER

Before there were presentations, there were conversations, which were a little like presentations but used fewer bullet points, and no one had to dim the lights. A woman we can call Sarah Wyndham, a defense-industry consultant living in Alexandria, Virginia, recently began to feel that her two daughters weren't listening when she asked them to clean their bedrooms and do their chores. So, one morning, she sat down at her computer, opened Microsoft's PowerPoint program, and typed:

### FAMILY MATTERS

An approach for positive change to the Wyndham family team

On a new page, she wrote:

- Lack of organization leads to confusion and frustration among all family members.
- Disorganization is detrimental to grades and to your social life.
- Disorganization leads to inefficiencies that impact the entire family.

Instead of pleading for domestic harmony, Sarah Wyndham was pitching for it. Soon she had eighteen pages of large type, supplemented by a color photograph of a generic happy family riding bicycles, and, on the final page, a drawing of a key—the key to success. The briefing was given only once, last fall. The experience was so upsetting to her children that the threat of a second showing was enough to make one of the Wyndham girls burst into tears.

PowerPoint, which can be found on two hundred and fifty million computers around the world, is software you impose on other people. It allows you to arrange text and graphics in a series of pages, which you can project, slide by slide, from a laptop computer onto a screen, or print as a booklet (as Sarah Wyndham did). The usual metaphor for everyday software is the tool, but that doesn't seem to be right here. PowerPoint is more like a suit of clothes, or a car, or plastic surgery. You take it out with you. You are judged by it—you insist on being judged by it. It is by definition a social instrument, turning middle managers into bullet-point dandies.

But PowerPoint also has a private, interior influence. It edits ideas. It is,

almost surreptitiously, a business manual as well as a business suit, with an opinion—an oddly pedantic, prescriptive opinion—about the way we should think. It helps you make a case, but it also makes its own case: about how to organize information, how much information to organize, how to look at the world. One feature of this is the AutoContent Wizard, which supplies templates—“Managing Organizational Change” or “Communicating Bad News,” say—that are so close to finished presentation you barely need to do more than add your company logo. The “Motivating a Team” template, for example, includes a slide headed “Conduct a Creative Thinking Session”:

- Ask: In what ways can we ... ?
- Assess the situation. Get the facts.
- Generate possible solutions with green light, nonjudgemental thinking.
- Select the best solution.

The final injunction is “Have an inspirational close.”

It’s easy to avoid these extreme templates—many people do—as well as embellishments like clip art, animations, and sound effects. But it’s hard to shake off AutoContent’s spirit: even the most easy-going PowerPoint template insists on a heading followed by bullet points, so that the user is shepherded toward a staccato, summarizing frame of mind, of the kind parodied, for example, in a PowerPoint Gettysburg Address posted on the Internet: “Dedicate portion of field—fitting!”<sup>76</sup> Because PowerPoint can be an impressive antidote to fear—converting public-speaking dread into moviemaking pleasure—there seems to be no great impulse to fight this influence, as you might fight the unrelenting animated paperclip in Microsoft Word. Rather, PowerPoint’s restraints seem to be soothing—so much so that where Microsoft has not written rules, businesses write them for themselves. A leading U.S. computer manufacturer has distributed guidelines to its employees about PowerPoint presentations, insisting on something it calls the “Rule of

Seven”: “Seven (7) bullets or lines per page, seven (7) words per line.”

Today, after Microsoft’s decade of dizzying growth, there are great tracts of corporate America where to appear at a meeting without PowerPoint would be unwelcome and vaguely pretentious, like wearing no shoes. In darkened rooms at industrial plants and ad agencies, at sales pitches and conferences, this is how people are communicating: no paragraphs, no pronouns—the world condensed into a few upbeat slides, with seven or so words on a line, seven or so lines on a slide. And now it’s happening during sermons and university lectures and family arguments, too. A New Jersey PowerPoint user recently wrote in an online discussion, “Last week I caught myself planning out (in my head) the slides I would need to explain to my wife why we couldn’t afford a vacation this year.” Somehow, a piece of software designed, fifteen years ago, to meet a simple business need has become a way of organizing thought at kindergarten show-and-tells. “Oh, Lord,” one of the early developers said to me. “What have we done?”

Forty years ago, a workplace meeting was a discussion with your immediate colleagues. Engineers would meet with other engineers and talk in the language of engineering. A manager might make an appearance—acting as an interpreter, a bridge to the rest of the company—but no one from the marketing or production or sales department would be there. Somebody might have gone to the trouble of cranking out mimeographs—that would be the person with purple fingers.

But the structure of American industry changed in the nineteen-sixties and seventies. Clifford Nass, who teaches in the Department of Communications at Stanford, says, “Companies weren’t discovering things in the laboratory and then trying to convince consumers to buy them. They were discovering—or creating—consumer demand, figuring out what they convince consumers they need, then going to the labora-

tory and saying, ‘Build this!’ People were saying, ‘We can create demand. Even if demand doesn’t exist, we know how to market this.’ SpaghettiOs is the great example. The guy came up with the jingle first: ‘The neat round spaghetti you can eat with a spoon.’ And he said, ‘Hey! Make spaghetti in the shape of small circles!’”

As Jerry Porras, a professor of organizational behavior and change at Stanford Graduate School of Business, says, “When technologists no longer just drove the product out but the customer sucked it out, then you had to know what the customer wanted, and that meant a lot more interaction inside the company.” There are new conversations: Can we make this? How do we sell this if we make it? Can we do it in blue?

America began to go to more meetings. By the early nineteen-eighties, when the story of PowerPoint starts, employees had to find ways to talk to colleagues from other departments, colleagues who spoke a different language, brought together by SpaghettiOs and by the simple fact that technology was generating more information. There was more to know and, as the notion of a job for life eroded, more reason to know it.

In this environment, visual aids were bound to thrive. In 1975, fifty thousand overhead projectors were sold in America. By 1985, that figure had increased to more than a hundred and twenty thousand. Overheads, which were developed in the mid-forties for use by the police, and were then widely used in bowling alleys and schools, did not fully enter business life until the mid-seventies, when a transparency film that could survive the heat of a photocopier became available. Now anything on a sheet of paper could be transferred to an overhead slide. Overheads were cheaper than the popular alternative, the 35-mm. slide (which needed graphics professionals), and they were easier to use. But they restricted you to your typewriter’s font—rather, your secretary’s typewriter’s font—or your skill with Letraset and a felt-tipped pen. A

businessman couldn't generate a handsome, professional-looking font in his own office.

In 1980, though, it was clear that a future of widespread personal computers—and laser printers and screens that showed the very thing you were about to print—was tantalizingly close. In the Mountain View, California, laboratory of Bell-Northern Research, computer-research scientists had set up a great mainframe computer, a graphics workstation, a phototypesetter, and the earliest Canon laser printer, which was the size of a bathtub and took six men to carry into the building—together, a cumbersome approximation of what would later fit on a coffee table and cost a thousand dollars. With much trial and error, and jogging from one room to another, you could use this collection of machines as a kind of word processor.

Whitfield Diffie had access to this equipment. A mathematician, a former peacenik, and an enemy of exclusive government control of encryption systems, Diffie had secured a place for himself in computing legend in 1976, when he and a colleague, Martin Hellman, announced the discovery of a new method of protecting secrets electronically—public-key cryptography. At Bell-Northern, Diffie was researching the security of telephone systems. In 1981, preparing to give a presentation with 35-mm. slides, he wrote a little program, tinkering with some graphics software designed by a B.N.R. colleague, that allowed you to draw a black frame on a piece of paper. Diffie expanded it so that the page could show a number of frames, and text inside each frame, with space for commentary around them. In other words, he produced a storyboard—a slide show on paper—that could be sent to the designers who made up the slides, and that would also serve as a script for his lecture. (At this stage, he wasn't photocopying what he had produced to make overhead transparencies, although scientists in other facilities were doing that.) With a few days' effort, Diffie had pointed the way to PowerPoint.

Diffie has long gray hair and likes to wear fine English suits. Today, he works for Sun Microsystems, as an internal consultant on encryption matters. I recently had lunch with him in Palo Alto, and for the first time he publicly acknowledged his presence at the birth of PowerPoint. It was an odd piece of news: as if Lenin had invented the stapler. Yes, he said, PowerPoint was "based on" his work at B.N.R. This is not of great consequence to Diffie, whose reputation in his own field is so high that he is one of the few computer scientists to receive erotically charged fan mail. He said he was "mildly miffed" to have made no money from the PowerPoint connection, but he has no interest in beginning a feud with an old friend. "Bob was the one who had the vision to understand how important it was to the world," he said. "And I didn't."

Bob is Bob Gaskins, the man who has to take final responsibility for the drawn blinds of high-rise offices around the world and the bullet points dashing across computer screens inside. His account of PowerPoint's parentage does not exactly match Diffie's, but he readily accepts his former colleague as "my inspiration." In the late nineteen-seventies and early eighties, Gaskins was B.N.R.'s head of computer-science research. A former Berkeley Ph.D. student, he had a family background in industrial photographic supplies and grew up around overhead projectors and inks and gels. In 1982, he returned from a six-month overseas business trip and, with a vivid sense of the future impact of the Apple Macintosh and of Microsoft's Windows (both of which were in development), he wrote a list of fifty commercial possibilities—Arabic typesetting, menus, signs. And then he looked around his own laboratory and realized what had happened while he was away: following Diffie's lead, his colleagues were trying to make overheads to pitch their projects for funding, despite the difficulties of using the equipment. (What you saw was not at all what you got.) "Our mainframe was buckling under the load," Gaskins says.

He now had his idea: a graphics program that would work with Windows and the Macintosh, and that would put together, and edit, a string of single pages, or "slides." In 1984, he left B.N.R., joined an ailing Silicon Valley software firm, Forethought, in exchange for a sizable share of the company, and hired a software developer, Dennis Austin. They began work on a program called Presenter. After a trademark problem, and an epiphany Gaskins had in the shower, Presenter became PowerPoint.

Gaskins is a precise, bookish man who lives with his wife in a meticulously restored and furnished nineteenth-century house in the Fillmore district of San Francisco. He has recently discovered an interest in antique concertinas. When I visited him, he was persuaded to play a tune, and he gave me a copy of a forthcoming paper he had co-written: "A Wheatstone Twelve-Sided 'Edeophone' Concertina with Pre-MacCann Chromatic Duet Fingering." Gaskins is skeptical about the product that PowerPoint has become—AutoContent and animated fades between slides—but he is devoted to the simpler thing that it was, and he led me through a well-preserved archive of PowerPoint memorabilia, including the souvenir program for the PowerPoint reunion party, in 1997, which had a quiz filled with in-jokes about font size and programming languages. He also found an old business plan from 1984. One phrase—the only one in italics—read, "Allows the content-originator to control the presentation." For Gaskins, that had always been the point: to get rid of the intermediaries—graphic designers—and never mind the consequences. Whenever colleagues sought to restrict the design possibilities of the program (to make a design disaster less likely), Gaskins would overrule them, quoting Thoreau: "I came into this world, not chiefly to make this a good place to live in, but to live in it, be it good or bad."

PowerPoint 1.0 went on sale in April, 1987—available only for the Macintosh, and only in black-and-white. It gen-

erated text-and-graphics pages that a photocopier could turn into overhead transparencies. (This was before laptop computers and portable projectors made PowerPoint a tool for live electronic presentations. Gaskins thinks he may have been the first person to use the program in the modern way, in a Paris hotel in 1992—which is like being the first person ever to tap a microphone and say, “Can you hear me at the back?”) The Macintosh market was small and specialized, but within this market PowerPoint—the first product of its kind—was a hit. “I can’t describe how wonderful it was,” Gaskins says. “When we demonstrated at trade shows, we were mobbed.” Shortly after the launch, Forethought accepted an acquisition offer of fourteen million dollars from Microsoft. Microsoft paid cash and allowed Bob Gaskins and his colleagues to remain partly self-governing in Silicon Valley, far from the Microsoft campus in Redmond, Washington. Microsoft soon regretted the terms of the deal; PowerPoint workers became known for a troublesome independence of spirit (and for rewarding themselves, now and then, with beautifully staged parties—caviar, string quartets, Renaissance-period fancy dress).

PowerPoint had been created, in part, as a response to the new corporate world of interdepartmental communication. Those involved with the program now experienced the phenomenon at first hand. In 1990, the first PowerPoint for Windows was launched, alongside Windows 3.0. And PowerPoint quickly became what Gaskins calls “a cog in the great machine.” The PowerPoint programmers were forced to make unwelcome changes, partly because in 1990 Word, Excel, and PowerPoint began to be integrated into Microsoft Office—a strategy that would eventually make PowerPoint invincible—and partly in response to market research. AutoContent was added in the mid-nineties, when Microsoft learned that some would-be presenters were uncomfortable with a blank PowerPoint page—it was hard to get started. “We said, ‘What we need is some automatic content!’” a former Microsoft developer recalls, laughing.

“‘Punch the button and you’ll have a presentation.’” The idea, he thought, was “crazy.” And the name was meant as a joke. But Microsoft took the idea and kept the name—a rare example of a product named in outright mockery of its target customers.

Gaskins left PowerPoint in 1992, and many of his colleagues followed soon after. Now rich from Microsoft stock, and beginning the concertina-collecting phase of their careers, they watched as their old product made its way into the heart of American business culture. By 1993, PowerPoint had a majority share of the presentation market. In 1995, the average user created four and a half presentations a month. Three years later, the monthly average was nine. PowerPoint began to appear in cartoon strips and everyday conversation. A few years ago, Bob Gaskins was at a presentations-heavy conference in Britain. The organizer brought the proceedings to a sudden stop, saying, “I’ve just been told that the inventor of PowerPoint is in the audience—will he please identify himself so we can recognize his contribution to the advancement of science?” Gaskins stood up. The audience laughed and applauded.

Cathleen Belleville, a former graphic designer who worked at PowerPoint as a product planner from 1989 to 1995, was amazed to see a clip-art series she had created become modern business icons. The images were androgynous silhouette stick figures (she called them Screen Beans), modelled on a former college roommate: a little figure clicking its heels; another with an inspirational light bulb above its head. One Screen Bean, the patron saint of PowerPoint—a figure that stands beneath a question mark, scratching its head in puzzlement—is so popular that a lawyer at a New York law firm who has seen many PowerPoint presentations claims never to have seen one without the head-scratcher. Belleville, herself, has seen her Beans all over the world, reprinted on baseball caps, blown up fifteen feet high in a Hamburg bank. “I told my mom, ‘You know, my artwork is in danger of being more famous than the “Mona

Lisa.”’” Above the counter in a laundromat on Third Avenue in New York, a sign explains that no responsibility can be taken for deliveries to doorman buildings. And there, next to the words, is the famous puzzled figure. It is hard to understand the puzzlement. Doorman? Delivery? But perhaps this is simply how a modern poster clears its throat: Belleville has created the international sign for “sign.”

According to Microsoft estimates, at least thirty million PowerPoint presentations are made every day. The program has about ninety-five per cent of the presentations-software market. And so perhaps it was inevitable that it would migrate out of business and into other areas of our lives. I recently spoke to Sew Meng Chung, a Malaysian research engineer living in Singapore who got married in 1999. He told me that, as his guests took their seats for a wedding party in the Goodwood Park Hotel, they were treated to a PowerPoint presentation: a hundred and thirty photographs—one fading into the next every four or five seconds, to musical accompaniment. “They were baby photos, and courtship photos, and photos taken with our friends and family,” he told me.

I also spoke to Terry Taylor, who runs a Web site called eBibleTeacher.com, which supplies materials for churches that use electronic visual aids. “Jesus was a storyteller, and he gave graphic images,” Taylor said. “He would say, ‘Consider the lilies of the field, how they grow,’ and all indications are that there were lilies in the field when he was talking, you know. He used illustrations.” Taylor estimates that fifteen per cent of American churches now have video projectors, and many use PowerPoint regularly for announcements, for song lyrics, and to accompany preaching. (Taylor has seen more than one sermon featuring the head-scratching figure.) Visitors to Taylor’s site can download photographs of locations in the Holy Land, as well as complete PowerPoint sermons—for example, “Making Your Marriage Great”:

- Find out what you are doing to harm your marriage and heal it.
- Financial irresponsibility
- Temper
- Pornography
- Substance abuse
- You name it!

When PowerPoint is used to flash hymn lyrics, or make a quick pitch to a new client, or produce an eye-catching laundromat poster, it's easy to understand the enthusiasm of, say, Tony Kurz, the vice-president for sales and marketing of a New York-based Internet company, who told me, "I love PowerPoint. It's a brilliant application. I can take you through at exactly the pace I want to take you." There are probably worse ways to transmit fifty or a hundred words of text, or information that is mainly visual—ways that involve more droning, more drifting. And PowerPoint demands at least some rudimentary preparation: a PowerPoint presenter is, by definition, not thinking about his or her material for the very first time. Steven Pinker, the author of "The Language Instinct" and a psychology professor at the Massachusetts Institute of Technology, says that PowerPoint can give visual shape to an argument. "Language is a linear medium: one damn word after another," he says. "But ideas are multidimensional. ... When properly employed, PowerPoint makes the logical structure of an argument more transparent. Two channels sending the same information are better than one."

Still, it's hard to be perfectly comfortable with a product whose developers occasionally find themselves trying to suppress its use. Jolene Rocchio, who is a product planner for Microsoft Office (and is upbeat about PowerPoint in general), told me that, at a recent meeting of a nonprofit organization in San Francisco, she argued *against* a speaker's using PowerPoint at a future conference. "I said, 'I think we just need her to get up and speak.'" On an earlier occasion, Rocchio said, the same speaker had tried to use PowerPoint and the projector didn't work, "and everybody was, like, cheering. They just wanted to hear this woman speak, and they wanted it to be

from her heart. And the PowerPoint almost alienated her audience."

This is the most common complaint about PowerPoint. Instead of human contact, we are given human display. "I think that we as a people have become unaccustomed to having real conversations with each other, where we actually give and take to arrive at a new answer. We present to each other, instead of discussing," Cathy Belleville says. Tad Simons, the editor of the magazine *Presentations* (whose second-grade son used PowerPoint for show-and-tell), is familiar with the sin of triple delivery, where precisely the same text is seen on the screen, spoken aloud, and printed on the handout in front of you (the "leave-behind," as it is known in some circles). "The thing that makes my heart sing is when somebody presses the 'B' button and the screen goes black and you can actually talk to the person," Simons told me.

In 1997, Sun Microsystems' chairman and C.E.O., Scott McNealy, "banned" PowerPoint (a ban widely disregarded by his staff). The move might have been driven, in part, by Sun's public-relations needs as a Microsoft rival, but, according to McNealy, there were genuine productivity issues. "Why did we ban it? Let me put it this way: If I want to tell my forty thousand employees to attack, the word 'attack' in ASCII is forty-eight bits. As a Microsoft Word document, it's 90,112 bits. Put that same word in a PowerPoint slide and it becomes 458,048 bits. That's a pig through the python when you try to send it over the Net." McNealy's concern is shared by the American military. Enormously elaborate PowerPoint files (generated by presentation-obsessives — so-called PowerPoint Rangers) were said to be clogging up the military's bandwidth. Last year, to the delight of many under his command, General Henry H. Shelton, the chairman of the Joint Chiefs of Staff, issued an order to U.S. bases around the world insisting on simpler presentations.

PowerPoint was developed to give public speakers control over design decisions. But it's possible that those speakers should be making other, more im-

portant decisions. "In the past, I think we had an inefficient system, where executives passed all of their work to secretaries," Cathy Belleville says. "But now we've got highly paid people sitting there formatting slides—because it's more fun to do that than concentrate on what you're going to say. It would be much more efficient to offload that work onto someone who could do it in a tenth of the time, and be paid less. Millions of executives around the world are sitting there going, 'Arial? Times Roman? Twenty-four point? Eighteen point?'"

In the glow of a PowerPoint show, the world is condensed, simplified, and smoothed over—yet bright and hyper-real—like the cityscape background in a PlayStation motor race. PowerPoint is strangely adept at disguising the fragile foundations of a proposal, the emptiness of a business plan; usually, the audience is respectfully still (only venture capitalists dare to dictate the pace of someone else's slide show), and, with the visual distraction of a dancing pie chart, a speaker can quickly move past the laughable flaw in his argument. If anyone notices, it's too late—the narrative presses on.

Last year, three researchers at Arizona State University, including Robert Cialdini, a professor of psychology and the author of "Influence: Science and Practice," conducted an experiment in which they presented three groups of volunteers with information about Andrew, a fictional high-school student under consideration for a university football scholarship. One group was given Andrew's football statistics typed on a piece of paper. The second group was shown bar graphs. Those in the third group were given a PowerPoint presentation, in which animated bar graphs grew before their eyes.

Given Andrew's record, what kind of prospect was he? According to Cialdini, when Andrew was PowerPointed, viewers saw him as a greater potential asset to the football team. The first group rated Andrew four and a half on a scale of one to seven; the second rated him five; and the PowerPoint group rated him

six. PowerPoint gave him power. The experiment was repeated, with three groups of sports fans that were accustomed to digesting sports statistics; this time, the first two groups gave Andrew the same rating. But the group that saw the PowerPoint presentation still couldn't resist it. Again, Andrew got a six. PowerPoint seems to be a way for organizations to turn expensive, expert decision-makers into novice decision-makers. "It's frightening," Cialdini says. He always preferred to use slides when he spoke to business groups, but one high-tech company recently hinted that his authority suffered as a result. "They said, 'You know what, Bob? You've got to get into PowerPoint, otherwise people aren't going to respond.' So I made the transfer."

Clifford Nass has an office overlooking the Oval lawn at Stanford, a university where the use of PowerPoint is so widespread that to refrain from using it is sometimes seen as a mark of seniority and privilege, like egg on one's tie. Nass once worked for Intel, and then got a Ph.D. in sociology, and now he writes about and lectures on the ways people think about computers. But, before embarking on any of that, Professor Nass was a professional magician—Cliff Conjure—so he has some confidence in his abilities as a public performer.

According to Nass, who now gives PowerPoint lectures because his students asked him to, PowerPoint "lifts the floor" of public speaking: a lecture is less likely to be poor if the speaker is using the program. "What PowerPoint does is very efficiently deliver content," Nass told me. "What students gain is a lot more information—not just facts but rules, ways of thinking, examples."

At the same time, PowerPoint "lowers the ceiling," Nass says. "What you miss is the process. The classes I remember most, the professors I remember most, were the ones where you could watch how they thought. You don't remember what they said, the details. It was 'What an elegant way to wrap around a problem!' PowerPoint takes that away. PowerPoint gives you the outcome, but it removes the process."

"What I miss is, when I used to lecture without PowerPoint, every now and then I'd get a cool idea," he went on. "I remember once it just hit me. I'm lecturing, and all of a sudden I go, 'God! "The Wizard of Oz"! The scene at the end of "The Wizard of Oz"!'" Nass, telling this story, was almost shouting. (The lecture, he later explained, was about definitions of "the human" applied to computers.) "I just went for it—twenty-five minutes. And to this day students who were in that class remember it. That couldn't happen now: 'Where the hell is the slide?'"

PowerPoint could lead us to believe that information is *all* there is. According to Nass, PowerPoint empowers the provider of simple content (and that was the task Bob Gaskins originally set for it), but it risks squeezing out the provider of process—that is to say, the rhetorician, the storyteller, the poet, the person whose thoughts cannot be arranged in the shape of an AutoContent slide. "I hate to admit this," Nass said, "but I actually removed a book from my syllabus last year because I couldn't figure out how to PowerPoint it. It's a lovely book called 'Interface Culture,' by Steven Johnson, but it's very discursive; the charm of it is the throwaways. When I read this book, I thought, My head's filled with ideas, and now I've got to write out exactly what those ideas are, and—they're not neat." He couldn't get the book into bullet points; every time he put something down, he realized that it wasn't quite right. Eventually, he abandoned the attempt, and, instead of a lecture, he gave his students a recommendation. He told them it was a good book, urged them to read it, and moved on to the next bullet point. ♦

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