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Does PowerPoint make you stupid?

By Tad Simons

Boredom is the word most often associated with Microsoft PowerPoint, the world's most popular presentation-graphics program – but *stupid* is quickly becoming the descriptor of choice for the software seemingly everyone loves to hate.

Smart publications disparage PowerPoint with glee these days. In 2001, *The New Yorker* published a piece called "Absolute PowerPoint," which depicted Americans as a growing army of intellectual zombies staring mindlessly at the screen, waiting for the next inane slide. In September 2003, *The New York Times* ran a story called "The level of discourse continues to slide," which described how a PowerPoint slide may have contributed to the mistaken conclusion, reached by NASA engineers last February, that the space shuttle Columbia could safely re-enter the Earth's atmosphere despite possible damage to its wing from a falling piece of foam upon takeoff. In December 2003, *The Times* quit mincing words and printed a story bluntly headlined "PowerPoint makes you dumb." The final two sentences of this piece, written by Clive Thompson (Dec. 14, 2003), offer a synopsis of sorts for anyone who has wondered, quite understandably, what all the

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fuss is about? "Perhaps PowerPoint is uniquely suited to our modern age of obfuscation – where manipulating facts is as important as presenting them clearly," Thompson writes. "If you have nothing to say," he concludes, "maybe you need just the right tool to help you not say it."

Tufte's timely tirade

One reason PowerPoint has received so much ridicule recently is that PowerPoint itself has transcended mere software status to become a cultural icon of contemporary communication. More than 400 million copies of the program are currently in circulation, and somewhere between 20 and 30 million PowerPoint-based presentations are given around the globe each day. And when musician/artist David Byrne, of "Stop Making Sense" fame, is giving lectures called "I ♥ PowerPoint" – as he did at the L.A. County Museum of Art in December – you know a strange threshold of cultural irony has been crossed.

Another reason for PowerPoint's sudden spike in notoriety is that the program finally caught the attention of Edward R. Tufte, a professor of information design at Yale University. Often referred to as the world's leading guru of information design, Tufte's books – *The Visual Display of Information, Envisioning Information,* and *Visual Explanations* – redefined the art of presenting information in visual form (charts, tables, graphs, etc.). No one knows more about effective data design, and no one in the field is more respected.

So when, in March 2003, Tufte published a 23-page denunciation of PowerPoint entitled "The Cognitive Style of PowerPoint," many people who had never before taken PowerPoint seriously began paying attention. It was Tufte who brought NASA's now infamous PowerPoint slide to the public's attention. It was Tufte's work that emboldened *The New York Times* to suggest that information manipulation via electronic slides may have helped Secretary of

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State Colin Powell make his case to the United Nations for declaring war on Iraq. And it is Tufte, in his 23-page screed, who uses such words as *stupid*, *smarmy*, *incoherent*, *witless*, *medieval* and *dementia* to describe the trivializing effect of PowerPoint slides on pure, defenseless data. Tufte doesn't stop short of calling PowerPoint evil – he *does* call it evil, most visibly in an excerpt published in *Wired* last year succinctly titled "PowerPoint is evil." Indeed, the photo on the pamphlet's cover is of a 1956 Russian military parade in which a statue of Stalin is depicted saying, "Next slide, please."

Tufte's criticisms

According to Tufte, PowerPoint assaults intelligence in a number of insidious ways. Among PowerPoint's sins: It locks presenters into a linear, slide-by-slide format that discourages free association and creative thinking. It imposes artificial and potentially misleading hierarchies on information. (A key bullet point indicating the abnormally large size of the foam chunk that damaged Columbia's tiles, causing it to crash, was relegated to the bottom of a crucial NASA slide, in small type.) It breaks information and data into fragments, making it more difficult to see the logical relationships between different sets of data. It encourages over-simplification by asking presenters to summarize key concepts in as few words as possible – e.g., bullet points – which can lead to gross generalizations, imprecise logic, superficial reasoning and, quite often, misleading conclusions. It imposes an authoritarian presenter/audience relationship rather than facilitating a give-and-take exchange of ideas and information. It encourages what Tufte calls "chartjunk" and "PowerPointPhluff" – i. e., uninformative or gratuitous graphics. And, above all, PowerPoint makes the people who use it look stupid.

Enemy of narrative, friend of incoherence, PowerPoint imposes "an attitude of commercialism that turns everything into a sales

pitch," Tufte claims. Furthermore, "PowerPoint will not do for serious presentations," he says – and any "serious person" who uses it runs the risk of, well, not being taken seriously.

Such criticisms of PowerPoint are not new. That PowerPoint slides can be simple-minded and dull is no great revelation. Tufte's contribution is to explain why, and to do it in such a damning, vitriolic way that curious people who don't normally read polemics on data design are suddenly paying attention. Tufte also takes the unprecedented step of asserting that a world of ideas shared primarily by PowerPoint slides isn't just boring, it's dangerous.

Ignored or ignorant?

As compelling as Tufte's analysis is, however, it is strangely off-target and misleading in its own way. To anyone familiar with PowerPoint, the most striking thing about Tufte's essay is how naïve he seems to be about the extent of PowerPoint's true capabilities, which he either purposely ignores or is genuinely ignorant of.

"It's clear to me that Tufte has never actually used PowerPoint himself," says Cliff Atkinson, an independent management consultant and president of Sociablemedia.com, a Web site dedicated to the intelligent use of multimedia. "He can't see the PowerPoint forest for the bullet-point trees."

Indications that Tufte himself is largely unfamiliar with how PowerPoint works or how it is used in everyday presentations aren't hard to find. Tufte piles shovelfuls of scorn on two aspects of PowerPoint – the AutoContent wizard and its premade templates – that hardly anyone but a beginner ever uses. He portrays the use of bullet points as practically a requirement of PowerPoint, rather than an option. In assessing the information value of any given PowerPoint slide, he sneers at the "statistical stupidity" of PowerPoint charts because they can't be crammed with as many pieces of data as, say,

an actuarial table – when, in fact, they can (it's just not a very good idea). And he all but completely ignores the fact that most PowerPoint slides are designed to be projected onto a large screen, in front of an audience.

"Tufte is right to criticize PowerPoint paradigms that result in people presenting certain types of information in limiting, linear ways," says Atkinson. "But there is no reason why the bullet-point mindset has to prevail. There's no reason why PowerPoint has to be used in the ways Tufte describes." The notion that PowerPoint exercises some sort of punitive, authoritarian power over presenters – a power that can't be resisted – is pure bunk, Atkinson says.

Atkinson isn't alone in his criticisms of Tufte. Many people in the presentation community – designers, coaches, consultants and frequent presenters – have read Tufte's booklet and come away feeling a similar mixture of admiration and puzzlement: admiration for the precision and dexterity of Tufte's mind, and puzzlement as to why he has directed so much heated invective at PowerPoint, when the "evil" Tufte describes is really ill-prepared, poorly delivered presentations in general.

Don Norman, a professor of art and design at Northwestern University and author of *The Design of Everyday Things* and *Emotional Design*, is a frequent user of PowerPoint who disagrees with most of Tufte's assertions.

"Tufte is correct in that most talks are horrible and most PowerPoint slides are bad – but that's not PowerPoint's fault. Most writing is awful, too, but I don't go railing against pencils or chalk," Norman says. "What Tufte misses completely is the fact that PowerPoint slides are meant to be used within the context of a talk. Talks are by their very nature superficial. You can't pack a tremendous amount of dense information in them, because then they become deadly dull."

Is denser better?

One key concept that Tufte prizes, and – according to him – PowerPoint slides lack almost completely, is "information density." Information density is a measure of how much statistical data is contained in a given space – and for Tufte, more is definitely better. Huge tables with lots of rows and columns are Tufte's idea of a beautiful chart. To make his point – that PowerPoint charts are low-content abominations – Tufte compares PowerPoint's information density with that of other information sources, such as *The Wall Street Journal* and The New York Times. Tufte pegs the average number of data elements on a PowerPoint chart at 12, based on sample charts taken from 28 textbooks on PowerPoint. This is just slightly higher than the information density of graphics in a 1982 edition of the Russian newspaper *Pravda* (presumably confirming PowerPoint's spooky kinship with propaganda), and considerably fewer than *The Wall Street Journal* or *The New York Times*, which have an average of 112 and 120 data elements per graphic, respectively.

What Tufte conveniently overlooks is that, unlike the publications against which he compares it, PowerPoint is not primarily a textual medium, like a newspaper or magazine – PowerPoint is a visual medium. As Don Norman points out, "Text is the last thing people should put on a PowerPoint slide. In fact, I would argue that supporting visuals – charts, diagrams, illustrations, photos and video – are the only things that should appear on a slide. Everything Tufte talks about should be distributed in handouts – and, for creating handouts, Tufte has some excellent suggestions."

Another fact Tufte overlooks is that it is entirely possible to import into PowerPoint an Excel spreadsheet with hundreds, if not thousands, of boxes in it. One can also scan a chart or table and bring it into PowerPoint as a JPEG image. There is nothing preventing the use of PowerPoint in this way – except that if one projects such a table on a large screen, it is

going to be difficult to read, painful to look at, and contain more information than most audiences are willing to decipher or digest.

What's missing from Tufte's picture?

But perhaps the most egregious error Tufte makes is failing to consider that people who listen to presentations aren't all mind; they have hearts, too.

"It's almost as if Tufte believes that if people see the numbers and get the information they need, they're going to automatically make the right decision," observes Atkinson. "But there is a political, emotional, persuasive dimension to most corporate communication. The right decision isn't always obvious, and the best ideas don't always prevail all by themselves. They often need the push of a persuasive presentation." In other words, a *sales pitch* (two words Tufte abhors).

Atkinson is an advocate of "experience design," a relatively new field, separate from Tufte's statistical design or regular graphic design, that takes everything about a presentation into account, not just the slides, and focuses on the total "experience" of the delivered material.

"The criteria for success is different with experience design," explains Atkinson. "The presenter has to be a producer of experiences, of multiple media – their voice, the sound system, the audience, all the different media they use – and orchestrate it to create a full experience for the audience."

This appreciation for the gestalt of a presentation – how all the elements of a presentation work together – is, in a nutshell, what's missing from Tufte's analysis. There is also a self-serving aspect of Tufte's whole enterprise that is a bit off-putting. Besides counseling people to avoid reading bullet points out loud, Tufte's advice to those who might aspire to overcome PowerPoint's deficiencies amounts to: "Ditch PowerPoint, buy my books

and take my course."

Now what do you do?

This apparent disconnect between Tufte's generally praiseworthy principles of statistical presentation and how, in his essay, these principles are twisted to histrionically eviscerate PowerPoint itself, has created a bit of a conundrum for presentation designers, particularly those who admire Tufte. As Karl Keller, a principal of Communication Partners, a presentation consulting firm in Evanston, Ill., puts it in an essay he and fellow consultant Barbara Shwom wrote to refute Tufte: "The great man has spoken. Now what do I do?"

For designers who agree with Tufte on many things, but disagree vehemently with his opinions on PowerPoint, parsing the great man's argument has become something of a parlor sport. This is Keller and Shwom's own dissection: "Throughout his monograph, and in postings on his Web site, Tufte again and again vilifies PowerPoint, portraying the software program as inherently malevolent, with users as "victims" of its corrupting effects. Tufte seems to believe that PowerPoint turns clear-thinking adults into addle-headed boobs. The question we ask is this: Is PowerPoint at fault for making presenters 'stupid,' or do stupid presentations instead stem from a lack of logic and a lack of rhetorical design and skill?"

For example, even worse than a simple list of bullet points, for Tufte, is a list of bullets revealed, one by one, in what he dubs "the dreaded build sequence." However, an intelligently presented "build," particularly if it is used on a chart, can focus people's attention on the appropriate data element at the appropriate time. It can also help people appreciate the relationship between different pieces of data, and make each piece of data more meaningful to an audience – which is precisely what a graphic is supposed to do, according to Tufte.

In any case, say Keller and Shwom, PowerPoint (the tool) is not to blame; it's the presenter who uses the tool poorly who is at fault. "A communicator must take personal responsibility for designing the best information display possible," insist Keller and Schwom. And where did they get such a bold idea? Ironically, from being fans of Edward Tufte for the past 20 years. (*Note*: Tufte's answer to the tool argument is that mere misuse of PowerPoint cannot account for the abominations it creates. It's simply the wrong tool for the job, Tufte would argue – like using a fork to do open heart surgery.)

Exploria

Another fan of Edward Tufte's who has created his own response to the limitations and liabilities of PowerPoint is Leo Herbette, president and founder of a Hartford, Conn.-based company called Exploria.

As a fully tenured professor of medicine and a consultant to many pharmaceutical companies, Herbette endured hundreds of PowerPoint presentations, most of them awful, he says. So awful, in fact, that Herbette decided to leave academia and start a company dedicated to creating a better, more effective presentation-graphics engine for medical professionals – graphics based, in part, on Edward Tufte's principles of visual design.

The result was the Physician's Speakers Bureau, a "global information deployment system" featuring interactive 3D slides, movies, animations and documents, all of which are connected to a central server and presented via Exploria's Modular Multimedia interface, a PowerPoint-like presentation window that gives the presenter the flexibility to present any and all media elements available in a custom-designed database. The system has been so well received in the medical community that Exploria is beginning to license it to organizations in other industries as well.

One of the problems with PowerPoint that Tufte cites, and Herbette tried to solve, is the difficulty of "layering" information properly, so that the relationship between individual pieces of information is clearly illustrated. PowerPoint's slide-by-slide sequencing fragments important pieces of connected information, Tufte argues. But with Herbette's system, a bullet-point can open up to reveal a deeper explanation, which can then transition into a movie or 3D animation, which can have any number of documents, in any format, attached to it as well – all on one slide.

"With our system, any information element can be connected to any other information element, in any kind of media or format," explains Herbette. "This allows the presenter to reveal successive layers of information and retain the cognitive connections between those layers, for as many layers as they need." Furthermore, says Herbette, "different presenters can actually use the same slide and, if they want to, present the information in a completely different order – whatever order best suits their needs."

Overcoming idiocy

For the average presenter, the problem with Exploria's solution is that it can cost anywhere from $50,000 to $500,000. Which, after all is vented and discussed, leads most of us back to square one: stuck with PowerPoint and wondering how to avoid the demons of idiocy while, little by little, improving our own skills with this useful but confounding tool.

The first step is to realize that bad presentations were happening well before PowerPoint was invented, says Dave Paradi, a presentation consultant who estimates that, on average, a company of 250 people wastes almost a half-million dollars a year on poor PowerPoint habits. The second step, says Paradi, is to "cleanse people of their addiction to text." (He agrees with Tufte that bullet points should be banished.) The

third step is for people to not only learn *how* to use such special PowerPoint features as animations, builds and timings, but *when* and *why*. Finally, says Paradi, people need to awaken themselves to the power of a well-designed, well-structured, well-delivered presentation – and work as hard as they can to make it happen.

Even Edward Tufte would have a hard time arguing with that.

Tad Simons is editor-in-chief of Presentations *magazine.*

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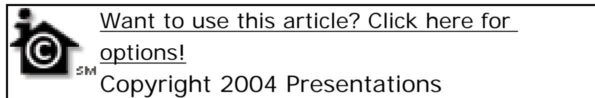

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