A Necessary Evil:
Edward Tufte and Making the Best of PowerPoint

BY JASON BARNES AND BRIAN PATTERSON

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Brian Patterson has been a graphic designer since 1990. In 1998, he began work at DecisionQuest, a national jury research and trial consulting company. As Art Director of their Dallas office, he created and oversaw production of multimedia presentations for more than a hundred courtroom proceedings. He joined Barnes & Roberts in 2007 as a Trial Consultant where he continues to prepare clients for trial. He blogs regularly on presentation topics at www.igetlit.com.

Introduction

In our last *article* we discussed the strengths and weaknesses of Cliff Atkinson's Beyond Bullet Points method of creating presentations using Microsoft PowerPoint. While we agreed with Atkinson in much of his criticism of the way PowerPoint is used, we found a strict adherence to his method and templates ill suited to courtroom and evidentiary presentations.

On the other end of the design spectrum is *Edward Tufte*. Statistician, author and professor emeritus at Yale University, Tufte is widely considered a leading expert in information design and has authored a series of books espousing his philosophy of how best to present data to an audience.

SALES   SCIENCE

Where the Beyond Bullet Points method is well suited to the "sales" end of our spectrum, Tufte's ideas are specifically designed to benefit presentations at the "science" end. To the extent that litigation has elements of salesmanship, we were able to extract some lessons from the BPP methods. Of course, litigation relies on evidence as the foundation of all advocacy. Here, litigation presentations intersect with scientific presentations and we would do well to extract lessons from the leading authority in that field.

Tufte lists his Principles of Graphic Excellence in his book, *The Visual Display of Quantitative Information*:

"Graphical excellence is the well-designed presentation of interesting data — a matter of substance, of statistics, and of design.

Graphical excellence consists of complex ideas communicated with clarity, precision, and efficiency.

Graphical excellence is that which gives to the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.

Graphical excellence is nearly always multivariate.

And graphical excellence requires telling the truth about the data."

SECOND EDITION

The Visual Display
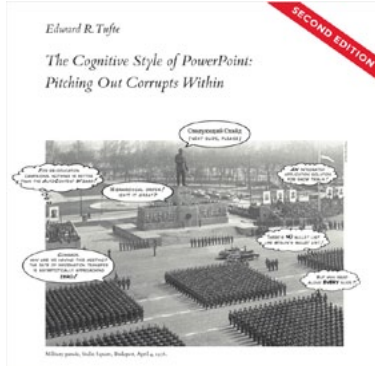of Quantitative Information

EDWARD R. TUFTE
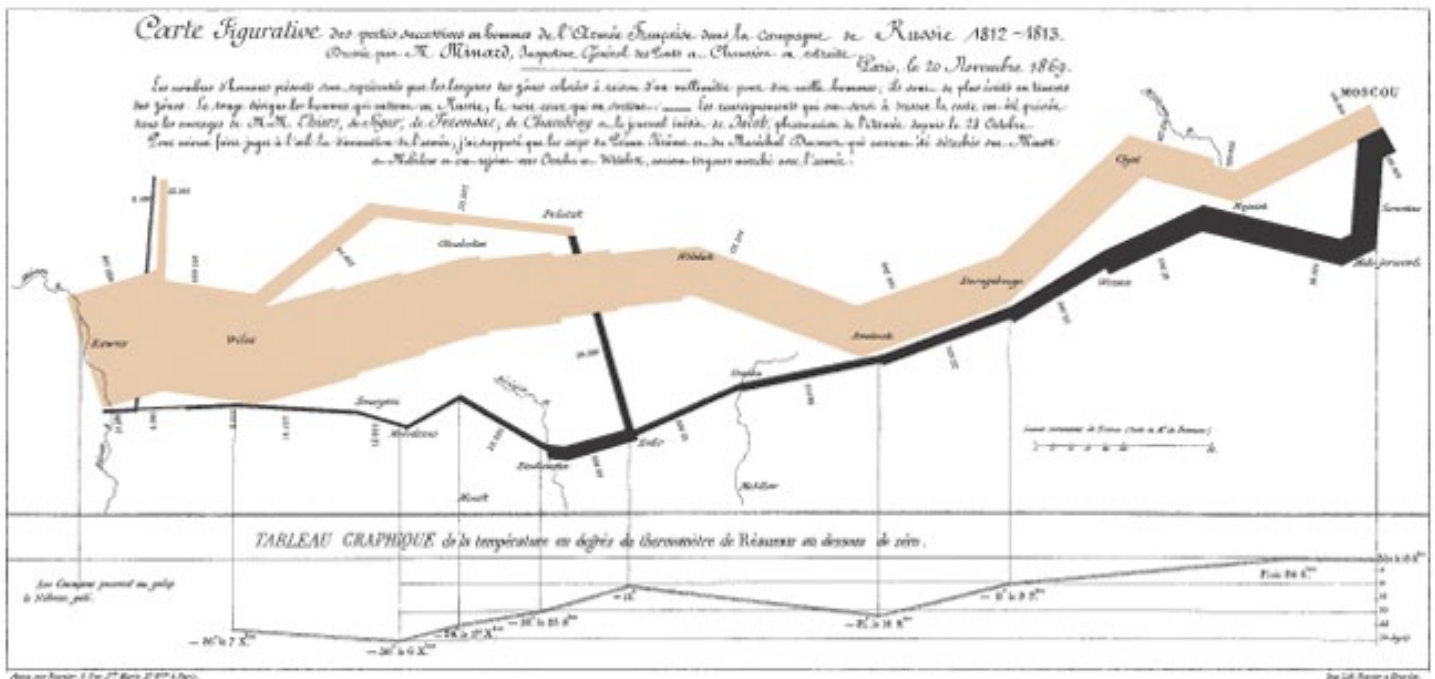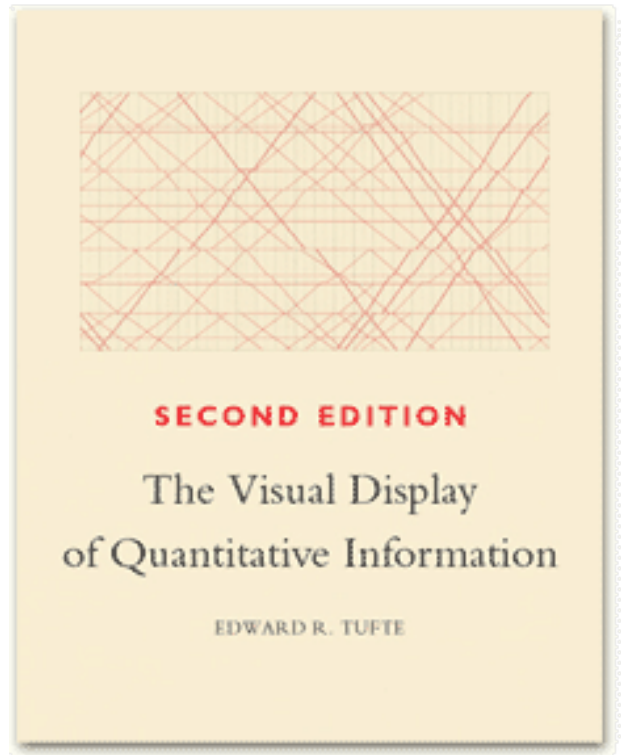
Tufte has written little on creating graphics for litigation. There are, however, a few threads on his website that touch on graphics for trial (here *http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=00013o* and here *http://www.edwardtufte.com/bboard/q-and-a-fetch-msg?msg_id=0002RP*), and he discusses a chart used in the 1987 trial of John Gotti in <u>Envisioning Information</u>.

Tufte's near-silence on courtroom graphics is not surprising given that his focus is generally toward creating data-dense graphics for analysis by a technical audience, whereas in court we are presenting persuasive arguments to a lay audience. While many of his principles on data integrity apply to any information graphic, his preference for reports and dense data tables, printed and given to the audience for analysis, is rarely applicable for jury presentations.

CRIMINAL ACTIVITY OF GOVERNMENT INFORMANTS			
CRIME	CARDINALE	LOFARO	MALONEY
MURDER	X	X	
ATTEMPTED MURDER		X	X
HEROIN POSSESSION AND SALE	X	X	
COCAINE POSSESSION AND SALE	X		X
MARIJUANA POSSESSION AND SALE			
GAMBLING BUSINESS		X	
ARMED ROBBERIES	X		X
LOANSHARKING		X	
KIDNAPPING			X
EXTORTION			X
ASSAULT	X		X
POSSESSION OF DANGEROUS WEAPONS	X	X	X
PERJURY		X	
COUNTERFEITING			
BANK ROBBERY			X
ARMED HIJACKING			
STOLEN FINANCIAL DOCUMENTS			X
TAX EVASION			
BURGLARIES	X	X	
BRIBERY		X	
THEFT: AUTO, MONEY, OTHER			X
BAIL JUMPING AND ESCAPE			X
INSURANCE FRAUDS			
FORGERIES			
PISTOL WHIPPING A PRIEST	X		
SEXUAL ASSAULT ON MINOR			
RECKLESS ENDANGERMENT			

Edward R. Tufte

The Cognitive Style of PowerPoint: Pitching Out Corrupts Within

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While he hasn't written extensively on litigation graphics, he has written quite a bit on PowerPoint, the presentation software often used in the courtroom, and this is useful for us to examine. His article in Wired magazine titled *"PowerPoint Is Evil,"* and the essay, *"The Cognitive Style of PowerPoint: Pitching Out Corrupts Within,"* lay out his criticisms of PowerPoint and it's weaknesses as a presentation tool – especially as a method for conveying technical data. It is the specifics of these criticisms, not the broader work of Tufte, that we want to address in this article and apply to presentations designed for the courtroom.

PowerPoint's Technical Limitations

One area of Tufte's criticism deals with the technical limitations of the program. There are virtually no software packages without certain drawbacks, but PowerPoint has major flaws that interfere with its main purpose as a presentation tool.

For example, it handles typography poorly. Unlike a design program such as Adobe Illustrator, the person creating the PowerPoint slides has little control over line spacing and letter spacing, and the general clumsiness of the text boxes and fonts can make reading text on a slide difficult for the audience. Labeling illustrations, charts and diagrams in PowerPoint is also challenging. This is true for tables as well, which tend to be either too crowded or too sparse unless they are heavily customized by the user.

The poor typography is amplified by the low resolution of PowerPoint slides. As Tufte notes:

> *"PP slides projected up on a wall are very low resolution — compared to paper, 35mm slides, and the immensely greater capacities of the human eye-brain system. Impoverished space leads to over-generalizations, imprecise statements, slogans, lightweight evidence, abrupt and thinly-argued claims"*

It is unfair to blame PowerPoint for low resolution, since resolution is determined by the monitor or projector and not by the software. However, though higher resolution monitors and projectors are becoming increasingly available, we are still limited by what's available in a particular courtroom, most often the old standard of 1024 x 768 pixels.
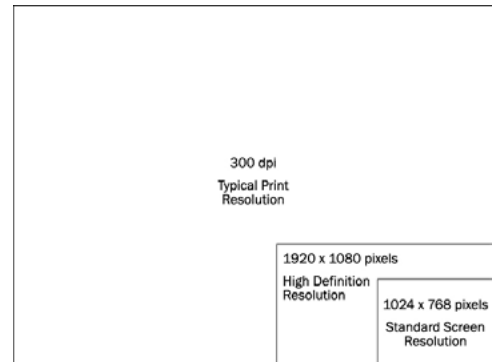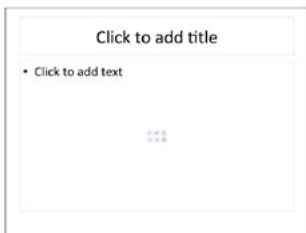
Tufte also blames PowerPoint for being too linear, which is simply untrue. You can jump to any slide at any time during a presentation should the circumstances demand. Presentations are certainly experienced by the audience in a linear fashion, though, because they are given over time, which is a fundamentally linear construct. Using a slide projector, printed boards or a white-board does not change the underlying directionality of time. Tufte argues in favor of printed reports, which can be studied and analyzed – frontwards, backwards and upside-down – at the discretion of each individual audience member. But, that is not a presentation and it certainly lies beyond what can be done under the rules of court.

The Cognitive Style of PowerPoint

Technical limitations are just a small part of what Tufte sees as PowerPoint's flaws. Far more serious is the way the program pushes certain defaults on the user, encouraging bad choices by the designer and presenter. This is what he is referring to when he talks about PowerPoint's "cognitive style."

The first and most dangerous of these defaults occurs when you create a new presentation. You are presented with an empty slide with placeholders for content in the form of a title and a bullet list. The user's inclination is to begin typing their presentation into the space provided, creating a text-heavy hierarchy of abbreviated points. The user is then in the thrall of PowerPoint's cognitive style, thinking in lists, not thinking of how to engage and inform the audience. This often carries through to the live presentation as well, when the presenter then uses their slides as a teleprompter, reading bullets to a bored and disinterested audience.

Tufte also dislikes what he calls PowerPoint "Phluff," the predesigned templates, layouts and clip art that comes with the program. It isn't that he doesn't think slides should be visually appealing, but the ready-made designs that come with the program draw attention to the wrong thing, often overwhelming the content.

Another of his major complaints is PowerPoint's weakness in dealing with statistical data, in that it utilizes what he calls "chartjunk." Tufte writes:

> *"Everything is wrong with these smarmy, incoherent graphs: uncomparative, thin data-density, chartjunk, encoded legends, meaningless color, logotype branding, indifferent to content and evidence. Chartjunk is a clear sign of statistical stupidity; use these designs in your presentation, and your audience will quickly and correctly conclude that you don't know much about data and evidence."*
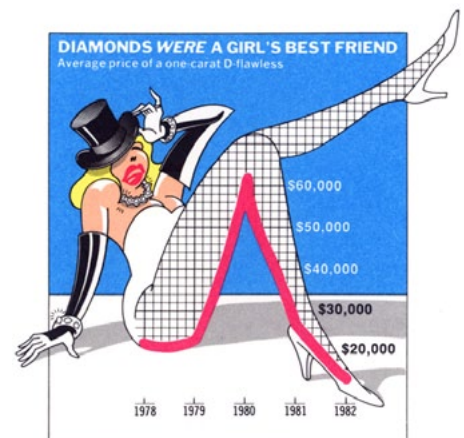
Overcoming PowerPoint's Limitations

Though Tufte has many valid complaints about PowerPoint, we believe there are ways to limit the harm PowerPoint and its cognitive style can do to your presentation.

We must first recognize the vast differences in audiences and purposes slide based presentations are designed to accommodate. A presentation to a group of NASA engineers regarding damaged tiles on the Space Shuttle is quite different than a sales pitch to a prospective client, which is equally different from an expert witness's testimony to a group of lay jurors. And for juries, the sort of data heavy tables Tufte prefers are neither practical nor effective.

Handouts of demonstrative evidence are seldom appropriate in the courtroom, so we are constrained by the low resolution of projected images. Exhibits produced as evidence during trial can be studied in hard copy by the jury during deliberations, but that doesn't usually include summary exhibits or demonstratives.

The trial setting presents two more constraints that could preclude using handouts: time and sponsorship. It would be impossible, given the restrictions placed on presenting your case in court, to simply give a document to the jury and let them study it undirected while the rest of us waited quietly. If questioning went on, jurors would not be paying attention to the witness, and would likely miss the relevance of the information you want them to understand. They must be presented with the data as the witness is testifying to it on record, as it is through the witness that the document is published.

For data-dense documents, including tables and charts, we can use a program such as Trial Director, which has zooming capabilities, to effectively increase our resolution. To tackle non-document resolution problems, we can use programs like Adobe Flash, Alias Maya or Prezi to zoom and emphasize pieces of a graphic or model while still retaining context. This may not satisfy Tufte's preference for viewing everything at once, but we believe there is good reason why this method is better for court.
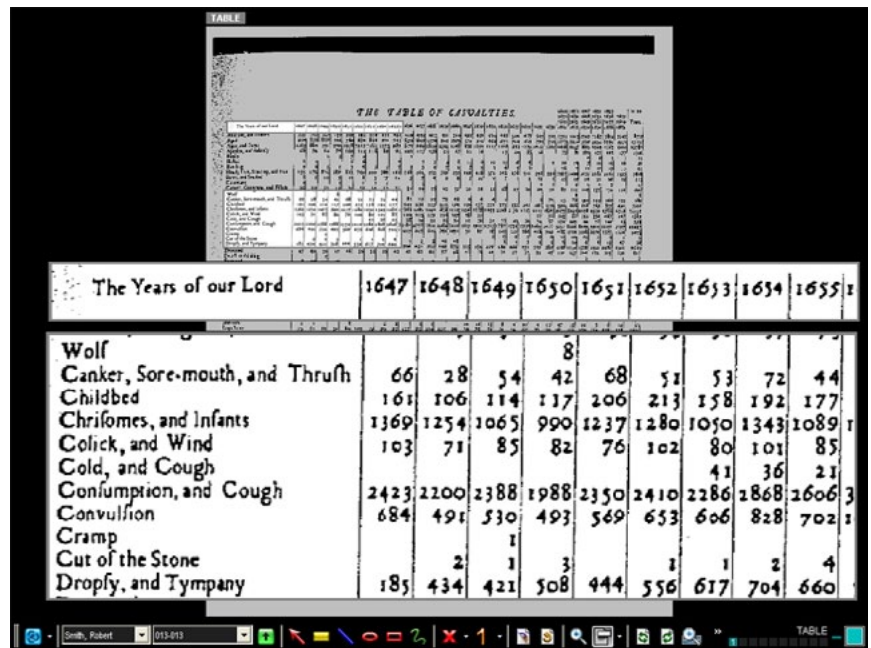
In court, our mission is not just to inform, but also to persuade the jury. This necessitates guiding the jury through the information in a way that best communicates our argument. The other side will have their chance to counter, of course, so we must not misstate facts or attempt to deceive the jury. That being the case, each side narrowing the field of information to the parts they deem most important, while keeping the information presented by opposing counsel in check, actually helps the jury make a more informed conclusion as they do not get lost in details which are irrelevant.

Neutralizing PowerPoint's Style

It is true that the templates and charts in PowerPoint can ruin a presentation, but competent design can overcome these flaws. The problem truly lies with the people creating the presentations, who, due to PowerPoint's ease of use, are often not skilled graphic designers. It may be tempting to use the myriad PowerPoint bells and whistles to add "pizazz" to your chart, but it is better to spend that effort minimizing the extraneous special effects and making sure your graphic is legible and understandable.

Incompetent design certainly accounts for much that Tufte dislikes about PowerPoint. While the PowerPoint cognitive style encourages bad design, it does not force bad design. For that reason, we think it is an overreach to call PowerPoint "evil." Tufte's books are beautifully designed, but there are many books that are not designed well. That doesn't mean books are evil, it means that bad design can taint any medium, not just PowerPoint.

Can we avoid the bad practices, bad content and bad design found in some (most?) PowerPoint presentations? Yes, but we must look objectively at both the strengths and the weaknesses of the software. Making a few adjustments to the way we approach creating presentations and staying focused on our objective can help us along this path.

When you are ready to create your presentation, resist the urge to organize it within Power-Point. Once you've typed a list of bullets on a slide, they can be surprisingly hard to remove. Instead, create an outline in a word processor, making parenthetical notes as to where visuals should be used, e.g., (Timeline of Trade Secret Theft). Or if that doesn't fit your speaking style, grab a stack of paper and draw what needs to be on each slide, interspersed with hard copies of exhibits you want to use.

Your presentation should primarily use these types of slides: timelines, charts, graphs, tables, diagrams, illustrations and other demonstrative evidence; documents; section separators or "road-map" slides; occasionally a text slide with a definition or short explanation of a concept the jury needs to be familiar with; and very rarely, a bullet list.

What your visual presentation should absolutely not be is the transcript of your spoken presentation.

Try to make your slides as simple as they can be while still being effective. That is, resist the urge to use PowerPoint's bells and whistles to enhance a boring slide. Instead, aim for slides that are legible, comprehensible, and visually engaging, not slides cluttered with special effects.

Don't use any default templates or clip art that shipped with PowerPoint.

Use another program, such as Adobe Illustrator, to create your graphics. Drawings, charts, and graphs generally all look better if they are created in an art program and then imported into PowerPoint, though PowerPoint's drawing capability has vastly improved over the past decade and some users do remarkably well with them.
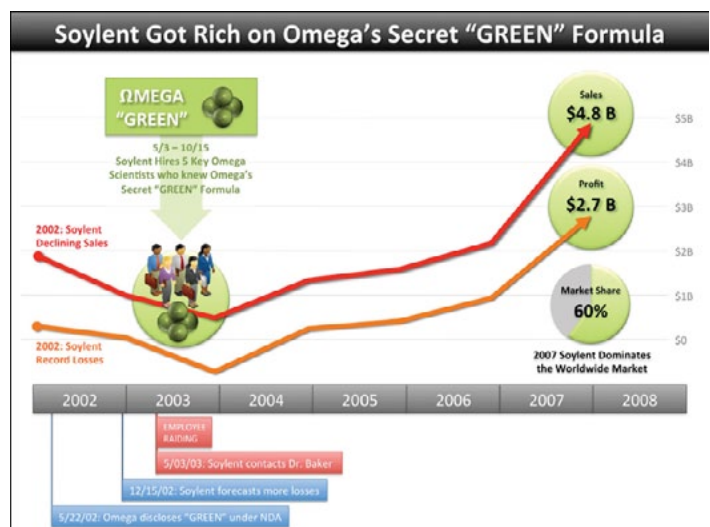
Use PowerPoint as a slide projector for your content, not as a content creator. Above all, keep the focus on your content, not on extraneous and superfluous eye candy, and certainly not on droning lists of text. As Tufte says:

> *"Presentations largely stand or fall depending on the quality, relevance, and integrity of the content. The way to make big improvements in a presentation is to get better content."*

Seeking A Third Way

We highly recommend Tufte's body of work as a knowledge base when working with demonstrative evidence. His ideas on displaying information, data integrity and graphic design are rightly regarded as the pinnacle of excellence in creating information graphics. His teachings have informed our own design standards, as can be seen in our Information Design Principles.

However, just as the Beyond Bullet Points method doesn't fully translate to the courtroom setting, neither do Tufte's methods completely transfer. While we believe Beyond Bullet Points sacrifices evidence for a persuasive narrative, Tufte's methods include an overabundance of information which would overwhelm a jury, while urging us away from persuasion altogether.

While Tufte is effective for relating scientific data to experts and Beyond Bullet Points is effective in a boardroom or sales pitch, neither fully addresses the unique challenges of a courtroom setting. This leaves those of us tasked with creating compelling evidentiary presentations to seek alternatives somewhere between these two extremes. Our work lies in finding a middle ground somewhere between pure story and raw data that will inform and persuade a jury while still meeting the legal obligations of trial.