

### *Improving Presentations*

At a minimum, we should choose presentation tools that *do no harm* to content. Yet PowerPoint promotes a cognitive style that disrupts and trivializes evidence. PP presentations too often resemble a school play: very loud, very slow, and very simple. Since  $10^{10}$  to  $10^{11}$  PP slides are produced yearly, that is a lot of harm to communication with colleagues.

PowerPoint is a competent slide manager, but a Projector Operating System should not impose Microsoft's cognitive style on our presentations. PP has some occasionally competent low-end design tools and way too many Phluff tools. PP might help show a few talking points at informal meetings, but instead why not simply print out an agenda for everyone?

For making serious presentations, replace PP with word-processing or page-layout software. To make this transition in large organizations requires a straightforward executive order: *From now on your presentation software is Microsoft Word not PowerPoint. Get used to it.*

Someday there will be a serious technical reporting tool better than a word-processor. This tool would combine a variety of page-layout templates (scientific formats uninfected by marketing communications outreach specialists); publication-quality tools for reporting statistical evidence in graphs and tables (designed by statisticians not commercial artists); mathematical notation (allowing NASA engineers to use exponents); a scientific spellchecker and thesaurus; open-document non-proprietary formats; large-paper color printing of reports; and within-document editing of words and graphics. This tool design should be driven by the necessities of *evidence display*, not pitching.

At a talk, paper handouts of a technical report effectively show text, data graphics, images. Printed materials bring information transfer rates in presentations up to that of everyday material in newspaper sports and financial pages, books, and internet news sites. An excellent paper size for presentation handouts is A3, 30 by 42 cm or about 11 by 17 inches, folded in half to make 4 pages. That one piece of paper, the 4-pager, can show images with 1,200 dpi resolution, up to 60,000 characters of words and numbers, detailed tables worthy of the sports pages, or 1,000 sparkline statistical graphics showing 500,000 numbers. *That one piece of paper shows the content-equivalent of 50 to 250 typical PP slides.* Thoughtful handouts at your talk demonstrate to the audience that you are responsible and seek to leave permanent traces and have consequences. *There is also a chance that the act of writing sentences and preparing a technical report will make for a smarter report,* an opportunity unavailable to those preparing PP slides.

Serious presentations might well begin with a concise briefing paper or technical report (the 4-pager) that everyone reads (people can read 3 or 4 times faster than presenters can talk). Following the reading period, the presenter might provide a guided analysis of the briefing paper and then encourage and perhaps lead a discussion of the material at hand.