

Or consider the NASA presentations. What are the causes of the dreaded Engineering by PowerPoint? Engineers incapable of communicating by means of standard technical reports? Lack of intellectual rigor? Designer guidelines and bureaucratic norms that insist on PP for all presentations, regardless of content? The cognitive style of PowerPoint? A bureaucracy infected throughout by the pitch culture? The PowerPoint monopoly and the consequent lack of innovative and high-quality software for technical communication? A Conway's Law interaction of causes? Some or all of these factors? In what proportion?

Sorting all this out is not possible. Nonetheless, under most reasonable allocations of causal responsibility, the practical advice remains the same: To make smarter presentations, try smarter tools. Technical reports are smarter than PowerPoint. Sentences are smarter than the grunts of bullet points. PP templates for statistical graphics and data tables are hopeless.

ART historians reason about the causes of visual presentations. What can we learn from their work? To explain artistic productions, art historians make use of 4 grand explanatory variables: (1) differences in styles in art, (2) differences in artists working within a given style, (3) interplay among styles and artists, and (4) sources of new styles.

The prevailing *style* of a given period and place profoundly affects the character of visual presentations. Art history textbooks are written as narratives of distinctive, clearly identifiable styles: Prehistoric, Egyptian, Near Eastern, Classical, Byzantine, Islamic, Baroque, Renaissance, Far Eastern, Romanticism, African, Impressionism, Cubism. In the long history of representative art, the physical objects represented in art did not change all that much, nor did the artists' retinal images of those objects. Big changes in art resulted from changes in style. Style matters.

Those caught up *within a single style* of visual production, however, must necessarily explain differences in quality by reference to the skills and character of particular presenters, for style is a given. This is the method of the standard defense of PowerPoint, a defense that mobilizes the second grand explanatory variable, presenter variability, as the major determinant of visual productions. Lousy presentations are said to be *the fault of inept PP users, not the fault of PP*. Blame the user, not the cognitive style of the presentation tool, not the PP pitch culture.

That is sometimes the case, but causal responsibility for presentations is more complicated than that. Other explanatory variables of visual productions—cognitive style and quality of presentation tools, user and style interactions, context, character of the content—must be taken into account. Thus Orwell's Principle, for example, sensibly avoids mono-causal explanations: "The English language becomes ugly and inaccurate because our thoughts are foolish, but the slovenliness of our language