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## The Visual Language of PowerPoint: Q&A with Bob Horn

By Cliff Atkinson

*Are we at the verge of the creation of a new global verbal-visual language? In 1998 political scientist and Stanford scholar **Robert Horn** released **Visual Language: Global Communication for the 21st Century**, a 'must-read' for anyone who communicates with words and images, and an important roadmap for any serious PowerPoint practitioner.*

**Cliff Atkinson:** *Bob, what is "visual language", and what is its relevance to our culture today?*

**Bob Horn:** I've suggested that a new language is emerging around the world that I've called *visual language*. Replying in visual language I might write: ([view PDF here](#))

**CA:** *What are the limitations of communicating only with text, and why is it important that words and visuals come together?*

**BH:** A lot of research now shows that prose is less efficient and less effective than visual language communication units. Quite simply, that means that your readers will make more errors and take more time reading straight prose than using visual language. Probably the major reason for this is that in visual language words are doing the jobs they do best, and the visual elements—images and diagrams—are doing the jobs they do best. When this happens well, it radically alters the ratio of words to visual elements.

**CA:** *Is visual language only the domain of professional designers?*

**BH:** It is really great when you have a designer to produce your images and diagrams. But millions have begun to use clip art in their presentations, especially in PowerPoint. And then have gone beyond that to create truly integrated visual language. The millions are teachers, salesmen, consultants, scientists, engineers – few of whom have a graphic artist to help them. Clip art collections are growing rapidly so that we can all use the style we like and find most effective in our word-image visual language presentations.

**CA:** *Are there any updates you would make to your book based on events that have happened the past 5 years since its publication?*

**BH:** Oh, yes, many – and none. I wouldn't change much that is in the book now. The book is mainly a semantic exploration. There were several draft chapters we left out just to keep the book within reasonable length for a first edition. For example, I have a treatment of topics like ambiguity and how to handle the negatives in visual language. And there is a lot of "how to do it" which is in our **basic course** in visual language called "Visual Thinking and Visual Communication." And also not in the book is our recent work on thinking more comprehensively with infographics and infomurals. These topics will probably become Volume 2 of Visual Language.

**CA:** *What is the potential for PowerPoint as a platform for facilitating the development of visual language?*

**BH:** PowerPoint is a large incentive to try out using some visual-verbal integration. People watch a lot of presentations. They see effective use of visual language on slides. This encourages them to create their own. The biggest improvement in PowerPoint would be to make it easy for people to draw and create diagrams. Also, several gigantic, free clip art collections would also give both visual language and PowerPoint a boost. But not the cutesy, cartoony stuff that you usually find. Rather, sober, useful collections for serious organizations.

**CA:** What do you think about Edward Tufte's criticisms of PowerPoint in his essay *The Cognitive Style of PowerPoint*?

**BH:** Tufte's monograph makes some good points but is also in places, confused, incoherent, and superficial. Here's my view on the key issues:

*Bulleted lists.* He's correct about "Bullet Outlines Dilute Thought." It is difficult to show causal relationships in bullet lists. But this is not unique to PowerPoint. Dilution of causal thinking happens as much on paper as in PowerPoint. And overlooking causality is dangerous. However, this is not original to Tufte; it's Shaw, Brown, & Bromiley's point (whom he cites). The **original authors** whom he quotes explain the causality point better than Tufte.

*Statistical information.* However, when Tufte talks about presenting statistical information, we should all pay attention. He's better than many in this area (p.14-15 and 18-19 in the essay). But he somehow misses part of the point that many communication situations are not about analyzing the data, they are about communicating the results of an analysis and not simply showing the details of the analysis.

*Too many words or not enough words?* And, of course, he's right about people putting too many words on their bullet slides and turning their backs to their audiences and reading them. But Tufte is somewhat muddleheaded about how much to put on a slide when he criticizes the example: "Correlation is not causation" as being "over abbreviated." Tufte assumes that the speaker is not going to say anything along with presenting the slide, i.e. that the speaker is not going to say "Empirically observed covariation is a necessary but not sufficient condition for causality." He says, "Many true statements are too long to fit on a PP slide, but this does not abbreviate the truth to make the words fit" (p.4 of the essay). But of course, "Empirically observed covariation is a necessary but not sufficient condition for causality" can quite easily fit on a slide.

*Hierarchy.* He's flat out mixed up about hierarchy. He is right about not having 4 to 6 levels of hierarchy on a single slide. But he tends to condemn the whole notion of hierarchy as "medieval in its preoccupation." Hierarchy is one of the major ways we manage complexity. And we shouldn't hide the levels of hierarchical analysis. But he's right about the specific case (the Boeing-NASA slides) as confusing in showing hierarchy.

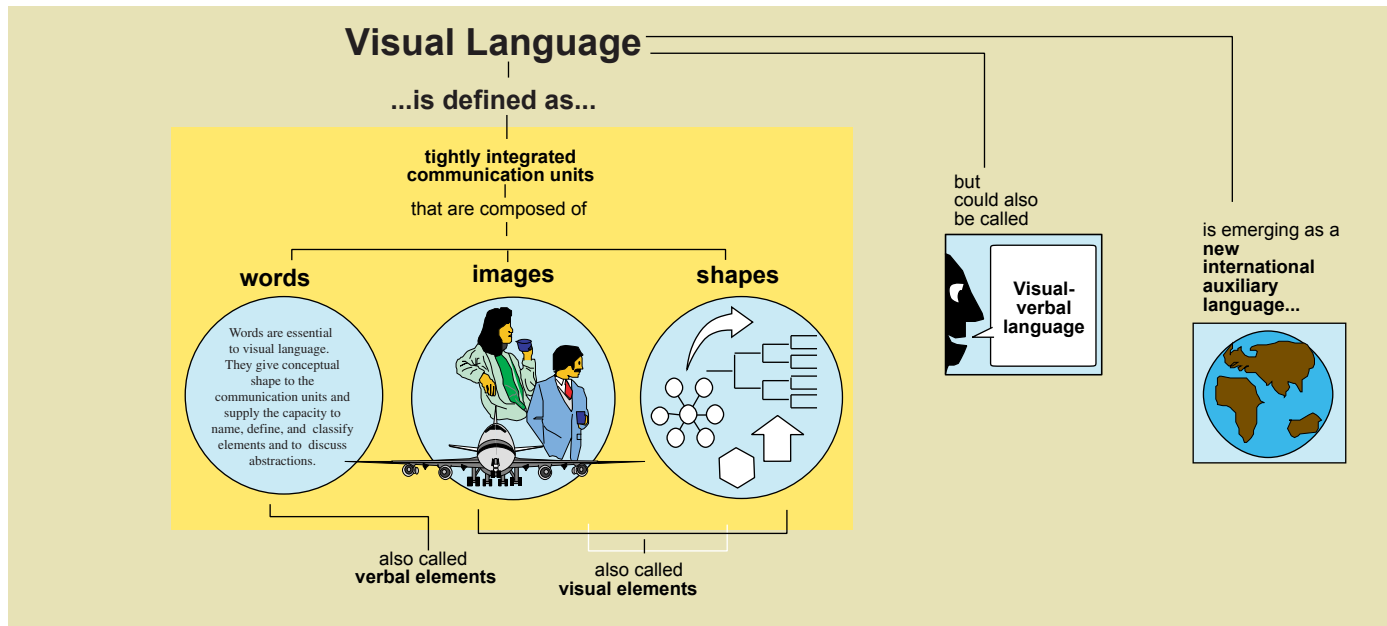
*Subheads.* He is really wrong when he suggests that you should use hardly any subheads in writing prose. Actually the opposite is the case. You should use an informative subhead for every paragraph. My principle has been: put a subhead on every paragraph. This enables your reader to scan and skip more easily and hence read more efficiently. And it enables many writers and presenters to think more clearly.

*Different kinds of presentation.* Tufte completely ignores many different kinds of presentations. He seems to think all we do is analyze and present statistics! On the contrary. Among the presentation purposes that come immediately to mind are planning, overview, inspiration and motivation, explanation, and reporting. In all of these, PowerPoint can be useful. To my mind, it's not PowerPoint that is at fault, but the lack of skills in using it. Tufte's naiveté about this aspect, I would guess, comes from being an academic for most of his life and lacking much experience in business organizations.

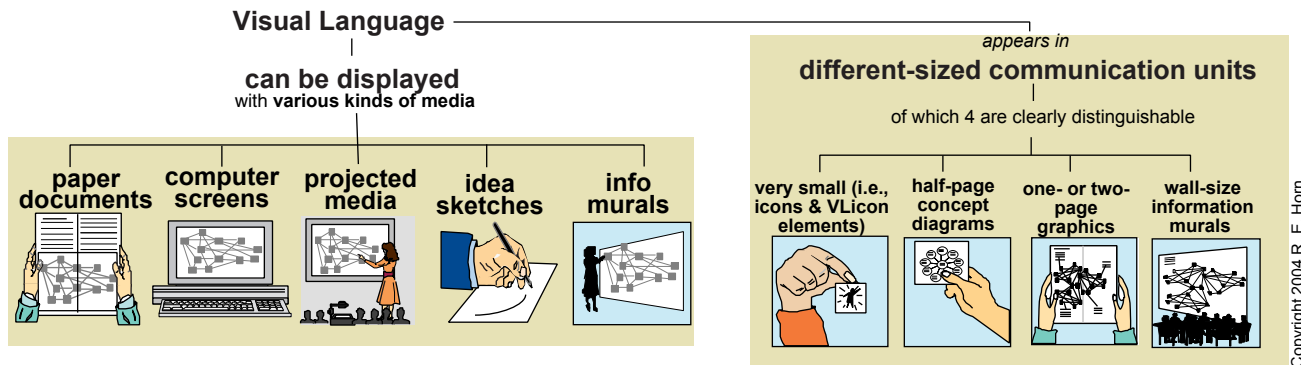
*Teaching metaphor.* Finally, he's right about the teaching metaphor for presentations: "The core ideas of teaching – explanation, reasoning, finding things out, questioning, content, evidence, credible authority not patronizing authoritarianism – are contrary to the hierarchical market-pitch approach.

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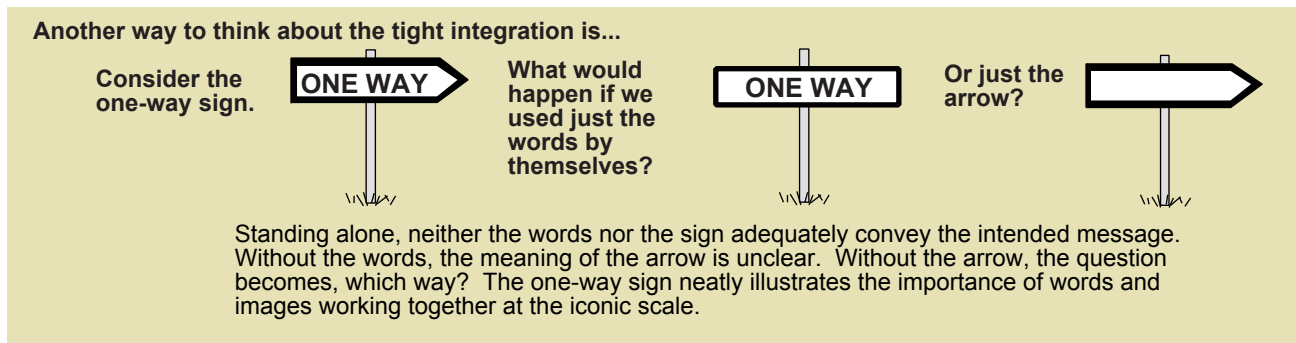
**1. Bob, what is "visual language", and what is its relevance to our culture today?** I've suggested that a new language is emerging around the world that I've called visual language. Replying in visual language I might write:



It consists of words, images and shapes tightly integrated into new sets of communication units. Again saying this in visual language, I might say:



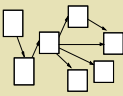


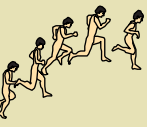
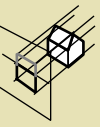



One way of showing the idea of tight integration is this:



Many vocabularies from engineering diagrams to cartooning, each with hundreds of ways of expressing meaning, are becoming integrated into the semantics of the language.

**One way to think about the tight integration is...**

**Visual Language**  
is being created by the **merger of vocabularies** from many, widely different fields such as...

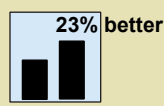
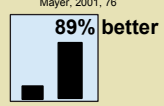
- engineering diagramming 
- cartoon conventions 
- visual metaphors 
- animation techniques 
- mechanical drawing 
- quantitative graphs and charts 
- illustration and photography 
- film narrative conventions 

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In this century, I think it will become an international auxiliary language, a language we need to learn in order to communicate about the complexity of our technology and social institutions. It is growing out of the wide spread use of tools like PowerPoint. Its relevance is that it is the ordinary person's way of communicating in our visual culture.

And research is beginning to confirm the intuitions we've had that it is more effective and efficient:

**research** shows the **integration** of verbal and visual elements **is better than text separated** from visual elements as follows

<p>in one group of studies <b>adding visuals to words improved learning by 23%</b> <small>Mayer, 2001, 74</small></p>  <p><b>23% better</b></p>	<p>in another group of studies <b>adding visuals to words improved transfer of learning by 89%</b> <small>Mayer, 2001, 76</small></p>  <p><b>89% better</b></p>	<p>in other words integrated visual-verbal language <b>improved communication and learning by large, measurable amounts</b></p> <p>Mayer, Richard E. 2001, Multimedia Learning, Cambridge, Cambridge University Press</p>
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