

Illustrated editorial is value-added text

A picture is worth a 1,000 words—right? Only if it's the right picture, and if it comes at the right point in the text.

At one time it was believed that adding pictures to text did not improve reader understanding and memory of the material involved. Hundreds of psychological studies later, the overwhelming conclusion is the exact opposite: Almost any sort of relevant picture will help the reader. However, some pictures and some ways of using them are more effective than others. The challenge in magazine publishing is to make the visual and the verbal work together—to create a synergy that will draw readers into a story that they will enjoy, understand and remember.

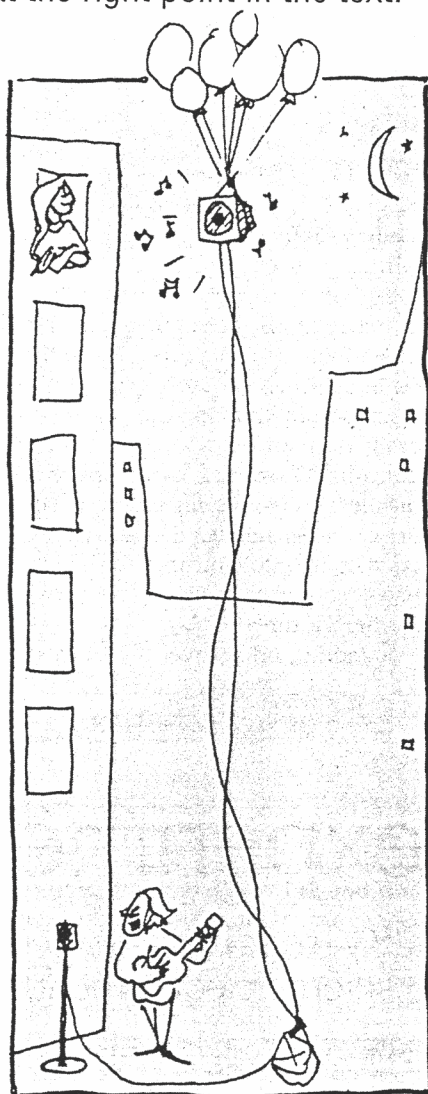
Psychologists who study how the human mind interprets and remembers visual images distinguish between two main types of pictures: depictive and symbolic. Depictive displays are illustrations, such as photographs, blueprints or schematic diagrams, that resemble the things being illustrated—such as a scene, the design of a building, or the parts of an automobile engine. Symbolic displays, such as bar graphs, do not directly resemble their subject matter, but represent it abstractly through an intermediate visual attribute, such as length or area.

We have offered advice on designing symbolic displays before (see "Minding information graphics, FOLIO, February 1992, page 69). Here, we will begin to explore the use of depictive displays.

Make the right connections

The essential goal in choosing depictive displays is to maximize the relationship between picture and text. If a writer puts 1,000 words that are irrelevant to the topic into a 2,500-word story, an editor should have no problem removing them or demanding a rewrite. Similarly, the sole picture accompanying a 1,500-word column had better add considerable value to the text.

If curiosity hasn't drawn you there already (pictures are powerful attention-grabbers), take a look at the small drawing on this page. It comes from a famous experiment reported in 1972 by psychologists John Bransford and Marcia Johnson. (See *Bransford, J.D.,*



& Johnson, M.K., 1972. "Contextual prerequisites for understanding: Some investigations of comprehension and recall." *Journal of Verbal Learning and Verbal Behavior*, 11, 717-726. Figure 1, page 718.) Some subjects were shown this picture in conjunction with a printed story that included sentences like the following:

- "If the balloons popped, the sound wouldn't be able to carry since everything would be too far away from the correct floor."
- "Since the whole operation depends on a steady flow of electricity, a break in the middle of the wire would also cause problems."
- "With face to face contact, the least number of things could go wrong."

Other less fortunate participants were asked to study the text without ever seeing the picture. All were later asked how well they understood the story, and were tested to see how much of it they recalled. The results were clear: Adding the picture improved comprehension and memory by more than 50 percent, and supplying the picture before the text was over 100 percent better than giving the text alone.

Give a clear picture

This experimental situation was a bit extreme in the ambiguity of the text (although in our experience it is not unusual to see impenetrable prose in magazines, especially those covering technical subjects), but it can still teach us valuable lessons:

1. Pictures work. Pictures can be useful in helping readers to interpret and remember text. Indeed, in 1982, W. Howard Levie and Richard Lentz surveyed 46 previous experiments comparing text with pictures to text alone and found that 45—all but one—showed that pictures worked. In one case, a group following directions in illustrated text did an amazing 323 percent better than a group following the same directions, but without the illustrations.

2. The picture should come first. For maximal effectiveness, the picture should be examined before the relevant text is read. Of course, magazine readers cannot be forced to look one place on the page before another, but their attention can be controlled in several ways. If there is a single picture on a page, for example, it is a safe bet that readers will examine it before they read the accompanying text. If there are several pictures, it is better to say "Examine figure 1 and consider the following points" than to say, "The points just discussed are illustrated in Figure 1," the latter being an all too common error.

Among the surprising benefits of pictures are hypermnesia and persistence. In hypermnesia (the opposite of amnesia), memory of pictures actually improves the more times people try to recall them. Persistence refers to the fact

that illustrations last longer and become more salient in memory as time goes on.

One study showed that illustrated text was 9 percent more effective than text alone when comprehension was tested right away, but that it was 83 percent more effective when the test was delayed, thus stressing the reader's ability to remember the information.

Pictures can also evoke certain emotions better than words. Although words can sometimes produce stronger reactions when abstract issues are discussed, pictures are more effective when appearance is critical. Sometimes abstract concepts can be rendered concrete (and more emotionally compelling, as well) through pictures, as with the famous "man blocking the tanks" image from the Tiananmen Square incident in China. And as marketing experts know, studies show that subjects claim to like and believe illustrated materials more than text alone.

However, adding pictures to prose is not a panacea. Levie and Lentz found that while illustrations that were only "vaguely related" to accompanying text yielded 25 percent better scores on later tests of understanding and memory than text alone, truly irrelevant illustrations had a minimal effect (5 percent improvement). Worse yet, a 1987 survey by Joel Levin and his associates found that pictures serving a purely decorative purpose caused subjects to perform worse than subjects who received unadorned text. This problem is seen frequently in newsmagazines, where a graph or diagram is distorted by superimposing a distracting cartoon. (By the way, studies of cartoons with text versus text alone reveal mixed effects: Reader interest and enjoyment go up, but learning stays the same and credibility is reduced. So be cautious if you are thinking of using humorous illustrations.)

All together now

In sum, psychological research on pictures and text tells us to keep four key points in mind:

- Pictures improve a reader's comprehension and recall if they are relevant to the content.
- Pictures work best when they are examined before the associated editorial material is read.
- Pictures have increasingly larger impact on memory as time passes.
- Pictures and words evoke different emotional effects.

Tremendous benefits can be realized when writers, editors, designers and artists work together on an illustrated article, while an artificial and bureaucratic separation between editorial and art departments can interfere with the effective integration of pictures and text. If the relationship becomes adversarial or hierarchical, rather than collaborative and interactive, the quality and usefulness of the final product suffers needlessly. So don't let your mag-

azine miss out on the psychological power of the picture/text synergy. ■



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