To the Graduate Council:

I am submitting herewith a thesis written by Thorin Richard Alexander entitled "Visual Rhetoric and Usability in User Documentation." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in English.

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Visual Rhetoric and Usability in User Documentation

A Thesis Presented for
the Master of Arts
Degree
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Thorin Richard Alexander
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DEDICATION

This is for my amazing wife, Heather. Her love and support has made the writing of this thesis (and the finishing of my degree) possible.

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ABSTRACT

While debates continue in regards to the importance of usability in user documentation, many of those arguments have been focused on the importance of the type of language used—many pushing (rightly so) for a plainer, less technical style. However, while it is certainly important to focus on the words being used, it is equally, if not more, important to pay attention to the *way* those words are presented. Designing user documentation with a strong sense of visual rhetoric (specifically in terms of color and typography), the technical communicator is able to take control of how their work affects the user both intellectually and emotionally. I argue that by ignoring the visual element of their documentation, and as a result privileging the text, the designer does both the user, and the product, a terrible disservice.

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Preface

I have spent nearly my entire life not reading user manuals. I imagine this was learned behavior, since my mother treated user manuals as one possessed by Satan might treat holy water. A self-proclaimed right-brain thinker, my mother would take one look at the flimsy booklet that would come with our new toaster or VCR, and her eyes would glaze over. She believed, and in turn I believed, that user manuals were totally and irrevocably inaccessible. They were, despite their title, not meant for us. So, we would cast the booklet aside and set forth to try and learn how to use our newly bought device experientially. This rarely ended well. I carried this defiant stance against user manuals into my thirty-eighth year. Then one day, after picking up a pharmaceutical prescription, everything changed. Looking to see if the drug would interfere with an allergy medication I was taking (information left off the pill-bottle), I grabbed the instructions and found them nearly unreadable. After an infuriating hour of trying to decode the instructions, I finally called the pharmacist who broke down the information I needed into six or seven simple sentences. I looked back over the documentation. It was bad enough that the text was dripping in jargon, but what made it unusable was not so much how it was written, but the way it was presented. Printed on paper only slightly thicker than onion skin, the text was packed claustrophobically into symmetrical blocks, except for the occasional inexplicable chart. The primary purpose of the instructions seemed not to be to help me better understand my medication, but instead to make me feel as though I were going blind.

The experience started me wondering who this documentation was for. Rhetorically speaking, the document was an outright failure: there was no concern for audience. However, the anger I felt made me realize something important: user manuals should be accessible to users. What I will argue in my thesis is that one way to make user manuals "usable" is by exploring everything that has been learned about visual rhetoric. What has been so effective in advertising (the use of color, typography, perspective, white space, etc) has, at times, been ignored in user documentation. The questions at the heart of my thesis are *why* and *how*? *Why* do many people find technical documentation inaccessible and therefore ignore it (despite the fact that the manuals are supposed to be written for *them*)? *How* do we change user manuals, and the perception of user manuals, so people like my mother not only do not dread the idea of them but embrace their use? Perhaps the goal of having someone like my mother feel comfortable enough with user manuals to read them, and consequently knowing how to get the most of her purchases, is not as important as someone being able to properly understand their medication. However, the core issues are the same.

CHAPTER I

An Introduction

In "Let's do away with user manuals…Before they do away with us," William Horton, quoting a 1991 article from *PC Magazine*, writes:

> Nobody likes manuals. Fact is, every intelligent user loathes them. And with proper software there's no need for them. When you lay down a few hundred bucks for the very latest thing in productivity, you want to start producing right away. You want to stick in the disk and go (1993, 81).

While seventeen years have passed since Horton's article was published, many of the issues addressed still cast a shadow over technical communication. The love/hate relationship users have with documentation is complicated. As Horton writes, users just want to be able to "start producing right away." In fact, many users believe, as James Lileks writes, that they "shouldn't have to read manuals" (2008, 114). "Manuals," according to Lileks, "are written by engineers whose jobs consist of loading up products with dozens of useless, unused features, and whose job security comes from solving the [very] problems caused by the useless, unused features their bosses required them to add" (2008, 115-16). The very need for manuals at all (at least ones longer than a single page), he argues, shows a fundamental flaw in the product's design. "If your company designs [a product] that requires the consumer to sit down with a glass of sherry and a good reading light and devote a solid evening to get to know his [product]" writes Lileks, "you're doing something wrong" (2008). Although Lileks' humorous approach underplays the situation, he, like Horton before him, addresses very real concerns for users. For a variety of reasons users view technical documentation as something to either

fear, loathe, or just generally disregard. This makes users' dependence on technical documentation all the more aggravating for them. As Jonathan Sidener writes, "technology companies, consumers and user manuals are locked in a complex triangle" where the companies are frustrated with users (believing that "the majority of questions to help desks could have been headed off if only [the users] had read the documents) and the users are aggravated by the companies (angry that manuals "are long" and "written by jargon-loving engineers…to cover a dozen similar, but not identical, products"). With technical documentation there is the opportunity to engage the user right from the start. The fact that some manuals fail to do so is disconcerting, as it contradicts the very purpose of documentation.

In his landmark text, *How to write usable user documentation*, Edmund H. Weiss breaks down the "functions of user documentation" (see Figure 1). He writes, "The overall purpose of user documentation is to help users get full value from a system—to get their money's worth. When user documentation fails to function properly, users feel cheated. In *Prioritizing web usability*, Jakob Nielsen and Hao Loranger argue that those who write documentation sometimes forget that neither they nor their bosses are the "average user" (2006, 394). When user's find documentation that they believe has been created with them in mind, it makes them feel better not only about the manual but about the product as well. "When well done," writes Michael Keene, "[technical documentation] sends readers a strong, positive message about how important the document is to [the writer] and, by extension, should be to them" (1991, 256). Nielsen and Lorander echo this sentiment in the assertion that "being interested in your users is what earns you their business and loyalty" (2006, 394).

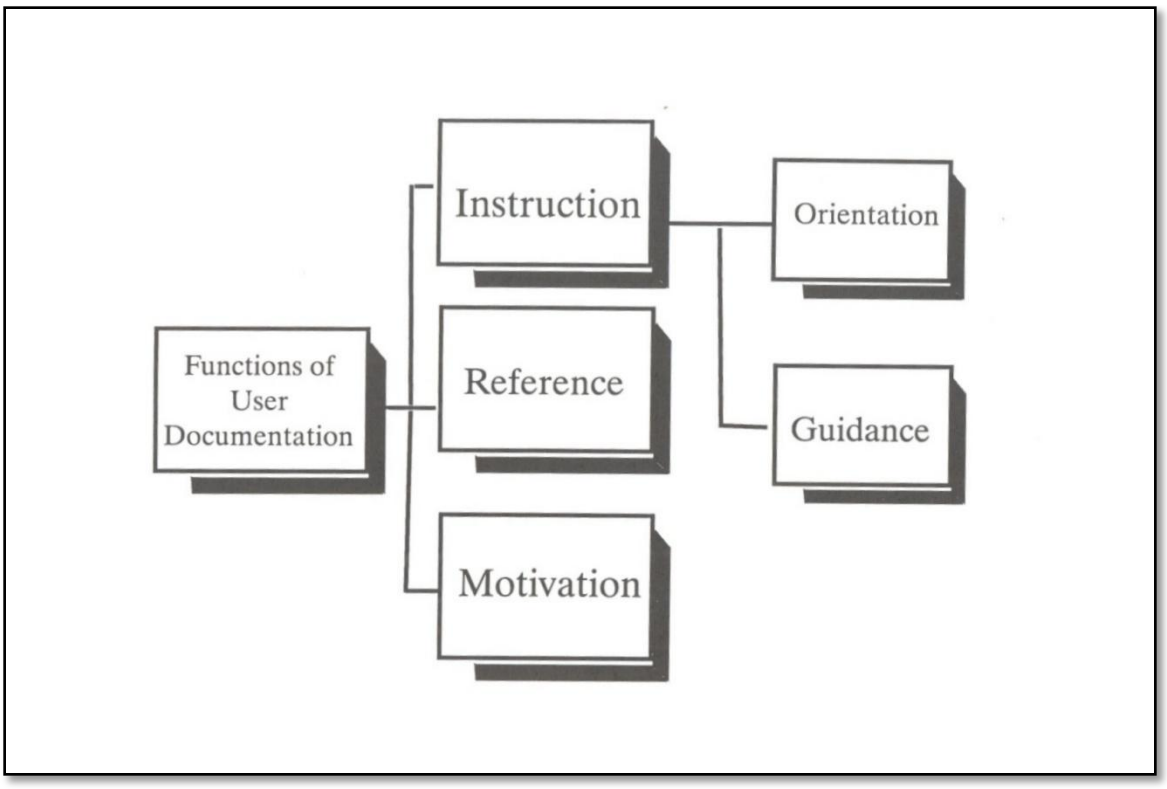


Figure 1. Functions of User Documentation.

(Weiss, Edmund H. *How to write usable user documentation*. Phoenix: Oryx Press: pg 15).

Unfortunately, the opposite is also true. Confronted by documentation that feels foreign or just thrown together, many users simply retreat out of frustration, ignoring what could be an incredible resource.

The "Missing Manual"

Ironically, no matter how users may feel about the necessity of user manuals, they are, nevertheless, confronted with products that are extremely complicated. Finding the documentation that comes with their product either unusable or lacking in substance, many users have flocked to publishers for *usable* alternatives. Looking online, it is not hard to find these books. Choosing a product by a company that has been heralded for its commitment to usability, I looked for books targeting users of the Apple iPhone. What I found were over a dozen books, many in their 2nd and 3rd editions that on their very covers claim that they offer something Apple user documentation cannot. *iPhone for dummies* ballyhoos the fact they show users "how" to use their device "in FULL color" (2007). *iPhone fully loaded* promises to help users "get more out of- and into- [their] iPhone than [they] ever thought possible"(2008). *The iPhone book*, its cover exclaims, helps users "do the most important, useful, and fun stuff with [their] iPhone" (2009). In each case, the books promise to offer the user (often under the pretense of unveiling some sort of "secret[1]") the key to making the product less threatening—a job that, they infer, was not handled by the documentation that came with the product itself. Where

[1] This can be found on the cover of several books, including *Taking your iphone to the max*, which claims to "exhaustively [cover] secrets" (Sadun 2007), as well as the *iPhone pocket guide* which states that their book will reveal "all the secrets of the iPhone"(Breen 2008).

other publishers dance around this claim, Pogue Publishing, in their *Missing manual* series, puts it right at the forefront with their tagline on the cover: "the book that should have been in the box." David Pogue, a technology columnist for the *New York Times*, has, according to his online biography, "over 3 million books in print," including books written for the "for Dummies" series before he started working on the "Missing Manuals" series. On the publisher's website, the rhetorical approach Pogue takes in selling his "manuals" is clear. He writes:

> Microsoft deserves credit. So do Apple, Adobe, and Macromedia. In fact, almost every major software company has pitched in by selling increasingly sophisticated software without a printed manual. Instead, after paying $300 or more for the software, you're expected to learn these complex programs by reading electronic help screens. But online help is no substitute for a real manual. Ever try to flip between help topics? Or try to read them over breakfast? Wish you could underline, or at least bookmark what you found? Ah. We thought so.

By playing to the frustration of users, Pogue is able to distance himself and his books from users' negative perceptions, and presents *his* manual, the ones that "*should* have been included in the box," as "warm, witty, and jargon-free" with "enough clarity for the novice, and enough depth and detail for the power user." The purpose in addressing these publications is not to condemn those such as Pogue. They have merely successfully filled a gap left open by those who produce user documentation. They have made it very obvious that there is a need, by users, for usable documentation. Publishers, such as Pogue Press could not sell their products based on the belief that there is some secret to

be revealed if the user documentation that came with products did not present a mystery to them.

So, the question becomes how can user documentation be made more *usable*? The first step towards this goal is remembering, as Miles A. Kimball and Ann R. Hawkins argue in *Document design: A guide for technical communicator*s, that "document design is best understood as a complex relationship between [designers] and two sets of people: those who ask you (and hopefully pay you) to design documents and those who will use the documents" (2008, 10). They add that "user-centered design recognizes that [successful design]…helps users fulfill their own needs and agendas rather than just those of the client. This focus on the user is inherently rhetorical." Publishers, such as Pogue, manipulate the lack of effective rhetoric in many user manuals to great effect, casting their manuals as a safe haven where users' needs can be met. Of course, within the technical communication community, many attempts have been made to the address these issues of usability. Unfortunately, the focus of these debates has often been placed on the way in which the documents are *written*, instead of the way they are *received*.

CHAPTER II

Uses of Visual Rhetoric

In "From wordsmith to communication strategist," Patrick Moore and Melinda Kreth write:

> The days of being grammar cops, wordsmiths, and software application specialists are not over for technical communicators, but those skills are diminishing in value as the global information economy becomes more cost-conscious, profit-driven, and focused on designing and delivering better experiences to individuals, groups, organizations, and entire cultures. Today, technical communicators who add value to their organizations do not merely write and edit documents (2005, 303).

Technical communicators are asked to be not only writers, and interpreters, of information, but also designers of how that information is presented to the user. This concept of technical communicator as designer is not that large of a stretch. "In the fact that we, as writers, present our documentation within the context of a visual medium," write Kimball and Hawkins, "makes us designers" (2008, 66). With this role comes the responsibility of rhetorical forethought. Technical communicators are, in many ways, the bridge between the user and the product (and in turn the company the product represents). As Alex White writes:

> Designers stand between the message's sender—the client—and the receiver—the audience. It is our job to interpret content on behalf of the audience so they glean the most meaning and value with the least effort. If you take the designer out of the equation, you have raw messages with a lot of visual static and probably going

> unreceived because they are sent by people who a) wrongly believe people care about their messages and b) think everyone thinks as they do, so they will respond as [they] themselves would (2005, 93).

Faced with these issues, technical communicators are forced to ask themselves, "What can we as writers do to solve this problem?" The answer, at least according to Horton, is "nothing" (32). As he explains, "We must become product designers. This move requires changing how we think of ourselves and how others think of us." One tool that helps facilitate this "change" is an understanding of visual rhetoric.

A Brief Introduction to Visual Rhetoric

In *Theory of visual rhetoric*, Sonja K. Foss writes, "visual rhetoric is the term used to describe the study of visual imagery within the discipline of rhetoric" (1995, 141). She argues that "not every visual object is visual rhetoric. What turns a visual object into a communicative artifact—a symbol that communicates and can be studied as rhetoric—is the presence of three characteristics. The image must be symbolic, involve human intervention, and be presented to an audience for the purpose of communicating with that audience" (144). Put another way, the rhetorician must approach the image with a specific intent, both in terms of result, as well as having an understanding of the appropriate tools to achieve that result. This understanding of visual rhetoric is not so different from traditional views of rhetoric. Edward F. McQuarrie writes that "the goal of rhetoric, as Aristotle put it, is to identify in any given case the available means of persuasion. The plural form of this statement is crucial to understanding what Aristotle was trying to say. That is, the rhetorician always assumes the existence of sets of discrete

stylistic options—of palates, if you will" (2008, 5). In this instance, McQuarrie argues, "the practice of rhetoric, when applied to a specific phenomenon," in his case advertising, "consists of identifying and differentiating the various stylistic options available." The advertiser, acknowledging and refining these "stylistic options," uses them in order to sell their product, or, as McQuarrie puts it, "the primary goal of advertising is always to cause a specified consumer response" (7). For those concerned with visual rhetoric, one must understand that "any page of text is composed of visual as well as verbal elements, and those visual patterns themselves exert rhetorical effect" (Porter & Sullivan 2004, 292).

It is sometimes difficult to put these concepts together since people, at least those living in the United States, have not been taught to view images rhetorically or to truly value visual communication as a method of study. "A critical starting point for effectively teaching visual thinking," writes Eva Brumberger in "Making the strange familiar," is to demystify both the thinking process and design as a whole" (2007, 383). She writes:

> More than two decades ago, Dondis (1973) suggested that one reason visual communication has been treated as a second-class citizen in our education system is "a firm conviction that no methodology, no means for achieving visual literacy, is possible." Although this conviction may no longer be so firm, its roots are deep.

Some four years before Dondis, Arnheim wrote of the same issue. In *Visual thinking*, Arnheim argues that "the prejudicial discrimination between perception and thinking is still with us. We shall find it in examples from philosophy and psychology. Our entire educational system continues to be based on the study of words and numbers" (1969, 2). Arnheim writes that in "kindergarten…our youngsters learn by seeing and handling handsome shapes and invent their own shapes on paper or in clay by thinking through

perceiving." However, as children grow older, the visual "arts are considered as a training in agreeable skills, as entertainment and mental release," where "the ruling disciplines stress more rigorously the study of words and numbers." In this, "their kinship with the arts is increasingly obscured, and the arts are reduced to a desirable supplement" (2-3). As Arnheim explains:

> The arts are neglected because they are based on perception, and perception is distained because it is not assumed to involve thought. In fact, educators and administrators cannot justify giving the arts an important position in the curriculum unless they understand that the arts are the most important means of strengthening the perceptual component without which productive thinking is impossible in any field of endeavor (3).

Because of this "distancing," visual communication has been labeled as being fundamentally, and solely, connected with the arts, as if those who lack *artistic* talent are somehow excluded from visual thinking. "Visual communication," Brumberger writes, "is no more 'esoteric, mystical magic' than writing is" (383). However, because of this belief we find documentation repeatedly presented visually in the way designers think it *should* look. Whether or not that visual presentation is usable or not seems to be secondary to the ritual. This is not the case with all industries. In fact, some businesses, such as advertising, have fully embraced visual rhetoric as an invaluable tool to persuade and manipulate consumers.

Visual Rhetoric in Application

The design of film posters is a clear illustration of visual rhetoric within the world of advertising. For example, in two of the many promotional posters for the film *The Dark Knight*, the designer uses color and perspective to create an emotional tone for the viewer which is carried over into the film watching experience. As one analyzes each poster, paying special attention to how visual rhetoric is used, a number of issues arise. The fact that the central image, the Joker (see Figure 2), is not centered, but instead is presented at an angle is immediately apparent to the viewer. This use of diagonal lines creates, as Odell writes, "[a] frightening kind of tension," so by positioning the figure in this way the designer creates an immediate emotional response, offering the viewer insight into the character before we even step into the theatre (2006, 493). In contrast, in the second poster (see Figure 3) we find the central figure, in this case Batman, positioned vertically, which implies steadiness. However, Batman is positioned in such a way that he is made smaller than the burning building in the background. What the viewer finds, according to Bang, is that "the larger an object is in a picture, the stronger it feels" (1991, 100). In contrast, a "figure appears much more vulnerable if it is made very small." "If we want to show a protagonist facing a terrible danger," argues Bang, "the danger will seem much more threatening if it is huge and the protagonist is [smaller by comparison]" (1991, 102). In both posters the protagonist is positioned in the middle of the frame. "The center of the page," writes Bang, "is the most effective 'center of attention.' It is the point of greatest attraction" (191, 84). This statement is echoed by Arnheim in his assertion that "throughout the ages and in most cultures, the central

Figure 2. ***The Dark Knight*****: Joker (2008).**

Figure 3. ***The Dark Knight*****: Batman (2008).**

position has been used to give perceivable expression to the divine or some exalted power" (1988, 109). Because Batman is positioned center-stage, it is clear that he is a figure of great importance. However, the designers also place the Joker in the center of the poster. By placing the film's villain in the center, and then pulling him to the forefront, the designers make it clear that he will be the film's aggressor. At the same time, even though Batman seems dwarfed by the chaos towering above him, the viewer's perspective, looking up, provides a reminder that he is the hero. In the case of both posters, the designer uses dark, muted colors (foreshadowing the film's somber mood), with only a splash contrast in the red embers floating around the Joker and the flames behind Batman. The designer uses this small bit of color to pull the viewer's attention towards the destruction, setting the mood not only for the poster but for the film as well. It is important to understand these rhetorical choices in order to understand the effect those very choices have on the viewer (or user). As Foss writes:

> Key to a rhetorical perspective on images and what makes the perspective a rhetorical one is its focus on a rhetorical response to an image rather than an aesthetic one. An aesthetic response consists of a viewer's direct perceptual encounter with the sensory aspects of the image. Experience of a work at an aesthetic level might mean enjoying its color, sensing its form, or valuing its texture. There is no purpose governing the experience other than simply having the experience. In a rhetorical response, in contrast, meaning is attributed to the image. Colors, lines, textures, and rhythms in an image provide a basis for the viewer to infer the existence of images, emotions, and ideas. The visual rhetoric perspective's focus is on understanding rhetorical responses to images (145).

Obtaining an understanding of how to use these "rhetorical responses to images" in order to manipulate or persuade the viewer can be an incredibly powerful tool.

While there is no arguing that the implementation of a visual rhetoric has had an impact on the world of advertising, it has not been completely embraced within the field of technical communication, at least not in terms of application. As Tiffany Craft Portewig writes, "Despite its apparent acceptance in our field, attempts to integrate the visual into the writing process are often neither successful nor well received" (2004, 32). "To address our current problems with integrating the visual," she argues, "we need a framework that embodies the influence and importance of the visual in technical communication." In this movement, Portewig pushes for technical communicators to embrace a "visual literacy" where they are "aware of the rhetorical situation of using visuals as well as how to communicate, think about, and represent the visual." This push is important, according to Portewig, since "reading and writing are basic skills that are taught at a young age," where "conversely, visual instruction is most often subordinated." Portewig explores this idea of having a "visual literacy" in great detail, dividing it "into three branches: visual thinking, visual rhetoric, and visual communication" (40). She writes:

> The other visual elements and concepts fall under these three conceptual headings. Visual thinking consists of the process of visualizing and thinking about visual information. Visual rhetoric represents the ability to understand audience, purpose, and arrangement in relation to the visual; as such, visual and document design would fall into this category. Visual communication includes those elements that comprise the visual product, such as visual language. From

> this categorization, a way of defining visual literacy emerges; it is the faculty of visually thinking, analyzing, and communicating.

An increasing number of technical communicators are embracing this sort of "visual communication." "Communication in the business world," writes Brumberger is increasingly "turning to the visual and, in doing so, is keeping up with the needs of clients, customers, and colleagues, people who still use documents but do not necessarily read them in the traditional sense" (2005, 319). She explains that as a result of the digital age "these users demand quick and easy access to information, and they have come to expect documents that communicate both visually and verbally." Understanding this connection becomes increasingly more important when focusing on the concept of technical communicators not simply being *writers* of user manuals, but instead acting as *designers* of the visual documentation they create. "As a document designer," write Kimball and Hawkins, "[the] primary tools for helping clients create a positive experience for users are visual" (2008, 18). In taking on this role, technical communicators are able to facilitate the type of documentation of which Brumberger writes.

Visual Elements of Document Design

In order to address these issues properly, it is necessary to first discuss the work of those who believe that understanding that how users read is in many ways as, if not more, important than what they are reading. Detailing the work of John Carroll[2], John

[2] Brockmann discusses Carroll's work in great detail, referring to him as a "principal figure in the design movement" (1990, 94).

Brockmann argues that "adult learners…are impatient learners and want to get started quickly on something productive" (1990, 94). Users "skip around in manuals and on-line documents and rarely read them fully." They "make mistakes but learn most often from correcting such mistakes." Users "are best motivated by self-initiated exploration," and become "discouraged, not empowered, by large manuals" where "each task [is] decomposed into subtask minutiae." This leaves us with the realization that user documentation can be brilliantly worded and still be a source of frustration. As Weiss writes, "it is still possible for a book to contain exactly what the user needs but still to be organized in a useless tangle. As a result, readers have to skip, branch, loop, and detour from page to page—until they get lost" (1991, 19). While hypertext might alleviate some of this frustration, it does not eliminate it.

Much as a Rhetorician might use language rhetorically, the designer of technical documentation uses the layout of their document to manipulate and persuade the user. "One of the most challenging and dynamic tasks a document designer will undertake," write Kimball and Hawkins, "is page design" (2008, 114). "The page," they write, "is the space where a document comes together in the user's field of vision—everything from content to context, from the visual marks on page or screen to the material framework that surrounds and delivers them." The visual layout of user documentation not only guides the user, but it is also their connection to the company the product represents. It is up to the technical communicator to create this connection using, with intent, the rhetorical tools at their disposal. Kimball and Hawkins argue that since "as a document designer, your primary tools for helping clients create a positive experience for users are visual," it is up to "document designers [to] create clear visual patterns that help readers

see the relationships between different pieces of information" (18). The true test of the usability of documentation is how those individual tools are applied rhetorically in tandem with all of the other visual elements that go into its creation. Writing of visual rhetoric in advertising, Linda M. Scott argues:

> Visual rhetoric poses a number of methodological challenges. There is a tendency in consumer research, from the mechanical elements studies to content analysis, to break up advertising pictures in order to "better" understand them. But advertising images depend on context and stylization to communicate beyond mere "pointing" (1994, 270).

Using an advertisement which displays "Pandora's box" for rhetorical effect, Scott writes that "the simultaneous spatial occurrence of the woman, an open box, and fairies, within the pictorial field is necessary to give us Pandora's Box. If we were to separate, code, and sort these visual objects into 'woman,' 'jeweled boxes,' and 'fairies,' as in a content analysis, we would have destroyed the allusion." She argues that "while we can identify in a 'one-two-three' fashion how the arrangement of the elements… may produce a certain reading experience, the experience only happens by virtue of those elements being placed *together* in a particular pattern of relationships to each other. So, one research challenge might be to devise a methodology for large-scale analysis of visuals that is more accommodating to the way pictures work as symbols." It is this idea of looking at how visuals work *together* rhetorically which drives *Supra-textual design: The visual*

rhetoric of whole documents. In it, Charles Kostelnick argues that supra-textual design[3] "entails the global design of the document and is distinguished from the intra- and inter-textual levels, which include the design of the local text features (typeface styles and sizes, text display—lists, bullets, tables, etc.) and the extra-textual level, which includes the design of data displays (bar and line graphs, pie charts, etc) and illustrations" (10). The "supra-textual level," he argues, "overarches the other levels, providing a top-down, global perspective of the document." It is important to make this connection because, as Kostelnick writes:

> Since some supra-textual elements involve nitty-gritty 'production' matters—page color, tabs, binding, and the like—they can easily be dismissed as unimportant or peripheral. However, our perception of a document begins with these elements, which supply clues about its visual rhetoric. While supra-textual design elements include the exterior qualities of a document, they are not merely the outer shell, the container, that envelops the rhetoric of the text, but are intrinsically rhetorical themselves (9-10).

He explains that "while readers may (literally) overlook or never explore local visual elements on the inside of a document, any encounter with the document will create immediate contact with supra-textual elements, initiating the rhetorical process" (24). In this, Kostelnick argues, "supra-textual design stands on the front line, mediating world

[3] Defined by Kostelnick as design "[which] encompasses global, top-down visual elements—textual, spatial, and graphic—that orient us perceptually and rhetorically when we encounter a document" (1996, 9).

and document and therefore assumes more rhetorical power. Not less." While there are many different factors that go into this rhetorical process, there are two that jump to the forefront: typography and color.

Typography

In examining the visual elements of technical communication it is easy to focus on the use of pictures, illustrations, and graphs. However, while the effectiveness of user documentation certainly is affected by all these elements, what is often forgotten is that, in terms of visual rhetoric, an understanding of typography[4] can be an incredibly powerful tool when trying to create a usable document. "Good typography design," write Kimball and Hawkins, "doesn't just make documents look good—it gives users important clues about the structure of the document, the purpose of design objects, and the ethos of the organization that created the document" (2008, 151). In some cases, however, a rhetorically minded use of typography is excluded from the process. This is a missed opportunity to connect with users since different kinds of type evoke varied responses. As Alex White writes, "Typography is an information-delivery system like a cigarette is a tar and nicotine delivery system" (2005, 131). "Type," argues White, "is used in the furtherance of communication. Type's legibility, therefore, largely determines the success of failure of communication. If the type is more legible, the communication succeeds" (2005, 137). Kimball and Hawkins echo this sentiment in their assertion that "typography can have important effects on users, particularly in terms of conveying

[4] In *Handbook of technical writing*, Alred defines typography as "the style and arrangement of type on a page" (2006, 298).

structural and rhetorical meta-information about the document. For example, type reinforces the commonly hierarchical structure of documents, showing users how the different parts of a document fit together" (2008, 157). They argue:

> Applied consistently, these typographic contrasts guide the readers through a document. In fact, headings serve as an integral index readers can skim visually, looking for whatever information they need most. Headings and paragraph breaks also make the text look less like a dense gray field. Many readers are filled with a dogged despair at the prospect of working through long, undistinguished paragraphs; a more open typographic design with multiple paragraphs and section headings encourages readers to continue by giving them many resting places along the way. More open typographic designs also give readers multiple places to enter and exit the text.

This "typographic cueing" [5] guides the user, leading their eyes to the areas of the document the designer wants them to go first (1993, 640).

Typeface

When considering what typeface to use when designing technical documentation there are many different matters to consider. Brockmann argues that "there are four concerns you should keep in mind when choosing your document's typeface: Should you

[5] Elizabeth Keyes writes in "Typography, color, and information structure" that "typographic cueing" is when one "[uses] typographic features to reveal content structure" (1993, 640). She explains that "changes in type weight, size, case, typeface, etc, can give the reader cues to what the text contains."

use a serif[6] or sans serif typeface? What is an appropriate typeface for the audience, writer, and content? How can you make letters look large without sacrificing page or screen real estate? How do you avoid readers spending too much time noticing your typeface rather than your content?" (1990, 141). Each one of these concerns addresses a possible glitch in how users read documents, and in turn understand them. Inexplicably, the choosing of a suitable typeface is often ignored as a visual tool. "Although people often think of reading text as an intellectual activity," argue Kimball and Hawkins, "it's actually a visual activity—a process of scanning shapes that we decipher as signifying something. In most written languages, these shapes (called letters, characters, or glyphs) signify phonetic sounds that combine into words and have their own distinctive shapes, known as *boumas*" (2008, 153). What we find is that readers have differing emotional reactions when confronted with text types of different shapes. Writing on the rhetoric of shapes in *Picture this*, Molly Bang argues that readers become "scared looking at pointed shapes" and "more secure or comforted looking at rounded shapes or curves" (1991, 98). While Bangs is discussing the effects of different shapes on the readers of children's books, the results are not all that different than when examining the effects of different shape type on users. "The alphabet," writes White, "has four shapes: vertical, round, vertical combination, and angular" (2005, 137). These shapes create what Arnheim

[6] In *Writing better computer user documentation*, Brockmann defines serifs as such: "Serifs are the little tops and bottoms of letters…The reason that writing tends to be more legible when using serifs is because the human eye's natural tendency is to read from top to bottom vertically. Serifs tend to emphasize horizontality and thus bind the letters into letter groups; they help move the eye horizontally rather than vertically down the page" (1990, 141). Sans serifs typefaces are without these tops and bottoms.

refers to as "a kind of grammar for the eyes" (1991, x). Understanding the effect of shapes is important when considering reader retention, because the shape of the type[7] informs not only the reader's emotional reaction, but also the way the text itself is read. As Kimball and Hawkins write:

> Most practiced readers do not read one letter at a time, but they do use the combined shapes of letters to perceive words... Reader's eyes move across a page of text in small, rapid jumps, called saccades. Between saccades, they fixate on a group of three to four letters, and then jump on to another group. Reader's often skip ahead and back as they read. They also don't typically fixate on all the letters in a line of text. Instead, they read by deciphering the hazy boumas (shapes) that surround each fixation (2008, 154).

In this process, "readers create 'closure' [by] making the best meaning they can out of incomplete visual cues" (154). A similar argument is made by Brockmann who argues that when designing the layout of documentation, it is the role of the writer to "pull the reader's eye to the fallow areas of attention by contrasting typographic elements because the reader's eye naturally moves across the page or screen following the Gutenberg diagram[8]" (1990, 154). "Researchers," writes Brockmann, "have found that the reader's eye resists moving to the left of the page in the middle and to the top right corner.

[7] In *Type rules!*, Ilene Strizver offers a more thorough description of type shapes (see Figure 4).
[8] In *Universal principles of design*, Tidwell writes that "the Gutenberg diagram divides a display medium into four quadrants: the primary optical area at the top left, the terminal area at the bottom right, the strong fallow area at the top right, and the weak fallow area at the bottom left" (1993, 100).

Figure 4. The parts of a character.

(Strizver, Ilene. 2001. *Type rules!* Cincinnati: North Light Books: pg 65).

However, we cannot afford to have the reader's eye skip half our page of text; thus we have to do something to guide the reader's eye away from going down this visual slide to the bottom right" (1990, 154).

By understanding how users see type, researchers have shown that designers can also better understand users' emotional reaction to documentation. In "How to use five letterforms to gauge a typeface's personality," Mackiewicz argues the following:

> Recent research has pointed out that technical communicators should carefully choose typefaces because typefaces substantially contribute to the visual, as opposed to the verbal, language of documents. Typefaces do this through the different "personalities," or tones, that they convey. As Strizver writes, "Every typeface has a different personality and the ability to convey different feelings and moods… [Typefaces] can evoke strength, elegance, agitation, silliness, friendliness, scariness, and other moods" (2005, 291-2).

"It is important," she argues "that both professionals and students working in technical communication consider the extent to which typefaces contribute to and reinforce the tone that they intend for their documents." Mackiewicz writes:

> Rather than relying on intuition and personal preference, professionals and students in technical communication can objectively analyze typefaces, scrutinizing a typeface's anatomical features to gauge the extent to which a typeface contributes a personality that matches the intended tone of a document. Analyzing typeface anatomy, being able to 'name parts that make up a character's unique quality,' provides a way 'to express our opinions, evaluations, and judgments'" (2005, 294).

In her study, "the participants were asked to assess the personalities of 15 typefaces" (see Figure 5) on "10 personality attributes" two of which she details in her study: "friendly" and "professional" (296). The participants were then "asked to rate the typefaces on 7-point Likert[9], or semantic differential, scales." Mackiewicz finds that "the anatomical features of typefaces rated highly on the friendly attribute [were] simple, imperfect (see Figure 6), and rounded features (see Figure 7) that humanize the typefaces and [invoked] handwriting, while the "professional typefaces displayed moderation and balance (see Figure 8) in their anatomical features" (312). Mackiewicz argues that:

> Professionals and students armed with this knowledge can move beyond 'safe' typefaces like Times New Roman and Helvetica, selecting instead typefaces that display anatomical features that generate different kinds of personalities. That is to say, technical communicators can use interesting and new typefaces with greater confidence (312-13).

The emotional attributes readers place on type is carried over into how they both read and, in turn, comprehend documents. In a study on typography's "Effects on reading time, reading comprehension, and perceptions of ethos," Brumberger writes that "typography does play a role in shaping reader's interactions with a document—a role that extends beyond legibility and readability" (2004, 22). "In turn," she argues, "the

[9]In a Likert scale the "respondents must indicate how closely their feelings match the question or statement on a rating scale. The number at one end of the scale represents least agreement, or "Strongly Disagree," and the number at the other end of the scale represents most agreement, or "Strongly Agree" (*Encyclopedia of educational technology*).

Typeface	Example	Typeface	Example	Typeface	
Bodini BT	Jagen	Copperplate Gothic BT	JAGEN	Poor Richard	Jagen
Bradley Hand ITC	Jagen	Courier New	Jagen	Script MT Bold	Jagen
Brittanic MT Bold	Jagen	Helvetica	Jagen	Souvenir Lt BT	Jagen
Century Schoolbook	Jagen	Lucida Console	Jagen	Times New Roman	Jagen
Comic Sans MS	Jagen	Maiandra GD	Jagen	Verdana	Jagen

Figure 5. The 15 Typefaces Presented in the Survey.

(Mackiewicz, Jo. 2005. "How to use five letterforms to gauge a typeface's personality." *Journal of Technical Writing and Communication* 35.3: pg. 296).

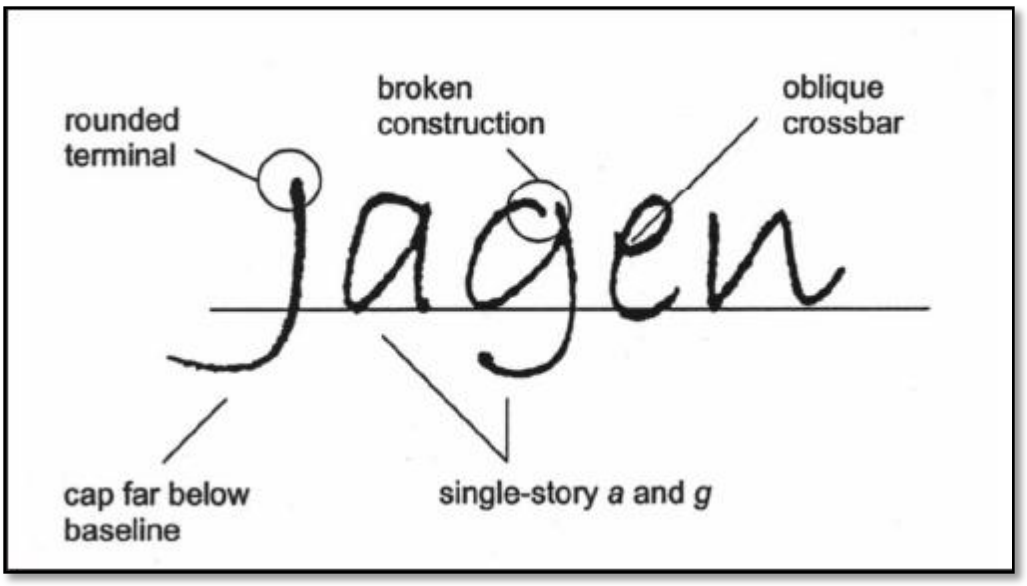


Figure 6. Anatomical Characteristics of the "Friendly" Attribute: Imperfection.

(Mackiewicz, Jo. 2005. "How to use five letterforms to gauge a typeface's personality." *Journal of Technical Writing and Communication* 35.3: pg. 298).

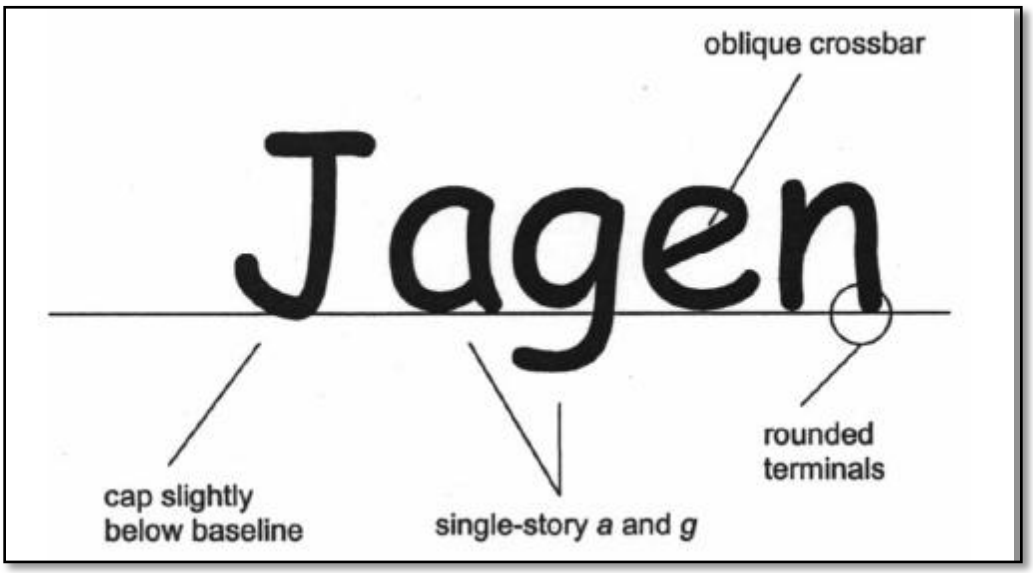


Figure 7. Anatomical Characteristics of the "Friendly" Attribute: Roundness.

(Mackiewicz, Jo. 2005. "How to use five letterforms to gauge a typeface's personality." *Journal of Technical Writing and Communication* 35.3: pg. 302).

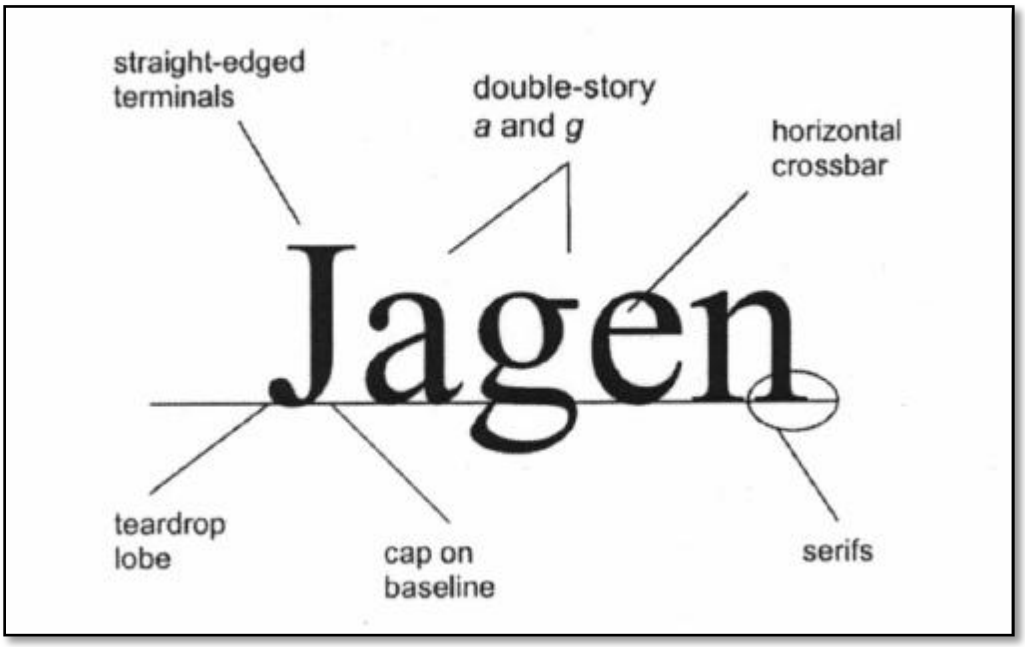


Figure 8. Anatomical Characteristics of the "Professional" Attribute: Balanced Terminals.

(Mackiewicz, Jo. 2005. "How to use five letterforms to gauge a typeface's personality." *Journal of Technical Writing and Communication* 35.3: pg. 304).

study provides tangible support for the argument that we must approach technical communication as more than writing and then formatting, that we must make design an integral part of the rhetorical process rather than an afterthought slapped on to dress up the product."

Brumberger and others argue that if thought is not put into typography, into the way users actually read, comprehension suffers. While one cannot take *every* user into consideration in this respect, knowing the details of the rhetorical situation in which the document exists can certainly help the designer better shape the documentation based on the intended audience. This helps to make the document rhetorically effective and, ultimately, more usable.

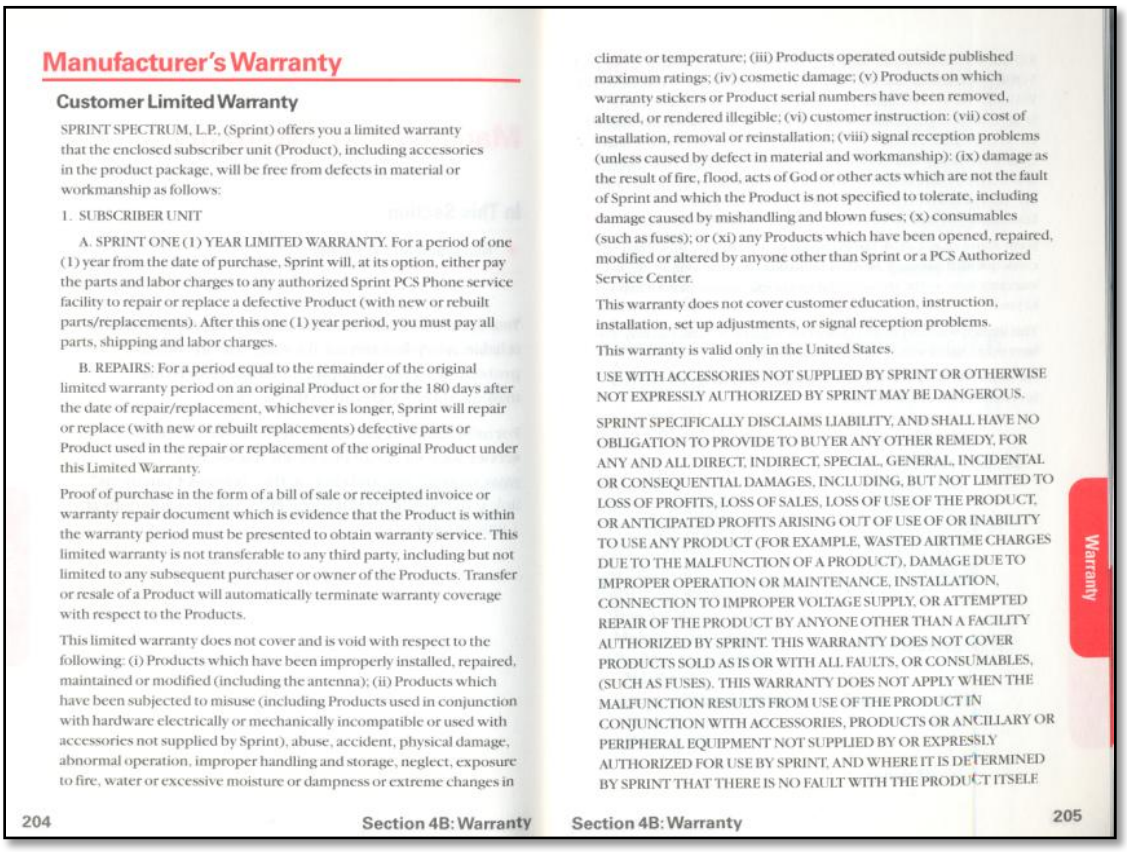
Type Size

Even if a designer deliberates intensely on a particular typeface, it won't make that much of a difference if the user is unable to read it. Smith writes that, in terms of typography, "Type size is the most abused legibility attribute" (2005, 137). He argues that if one makes "type too small…you instantly lose all readers for whom small type is hard to see, let alone read." Nielsen and Loranger address this point, writing that "a small font size is not a solution for fitting more content on a page" (2006, 211). "Having more content," they explain, "doesn't mean that people will read more. In fact, they will probably read less." As Weiss writes, "the practice of cramming as many words as possible onto a page—the refusal to use large, good fonts, highlighting, or any other form of more sophisticated desktop publishing—produces manuals that are torture" (1991, 154). The resulting frustration is then carried over into the users' perception of the

product the documentation represents. The documentation that comes with many cell phones is an example of this. According to Gartner,[10] "worldwide sales of mobile phones to end users surpassed 1.15 billion units in 2007." That means lots of users, many of whom have a limited understanding of the technology they have purchased. Confronted with a product with seemingly limitless functions, users could use their documentation to help them better understand what their device can actually do. However, when that document is difficult to read, they are left frustrated, forced to fend for themselves. One example of this type of document is the manual for the Sprint PCS Vision Picture Phone PM-225 (see Figure 9). While the designer of the manual does include some helpful hierarchical cues, the type is so small that it is, at times, nearly impossible to read. While the reason for this might be the size of the manual itself (it was made to fit into the small box the cell-phone arrived in), it does not change the fact that, because of the size of the type, it is rhetorically ineffective. This phenomenon is, of course, not limited to print documentation. Writing of the usability of websites, Nielsen and Loranger argue that:

> Regardless of how good your site looks, if people can't easily read the text, it's destined for failure. In our studies, we repeatedly saw people of all ages and visual capabilities strain to read text on the sites we showed them. Some people had to stop what they were doing to put on reading glasses while others needed to lean in close to the screen and squint. This is uncomfortable for users and should not be necessary (2006, 214).

[10] Gartner Inc, according to their website, "is the world's leading information technology research and advisory company."



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Customer Limited Warranty

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B. REPAIRS: For a period equal to the remainder of the original limited warranty period on an original Product or for the 180 days after the date of repair/replacement, whichever is longer, Sprint will repair or replace (with new or rebuilt replacements) defective parts or Product used in the repair or replacement of the original Product under this Limited Warranty.

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climate or temperature; (iii) Products operated outside published maximum ratings; (iv) cosmetic damage; (v) Products on which warranty stickers or Product serial numbers have been removed, altered, or rendered illegible; (vi) customer instruction: (vii) cost of installation, removal or reinstallation; (viii) signal reception problems (unless caused by defect in material and workmanship): (ix) damage as the result of fire, flood, acts of God or other acts which are not the fault of Sprint and which the Product is not specified to tolerate, including damage caused by mishandling and blown fuses; (x) consumables (such as fuses); or (xi) any Products which have been opened, repaired, modified or altered by anyone other than Sprint or a PCS Authorized Service Center.

This warranty does not cover customer education, instruction, installation, set up adjustments, or signal reception problems.

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Figure 9. Sprint PCS Vision Picture Phone PM-225 (User Manual).

Made to feel "uncomfortable," users are left with the belief that the makers of the product do not really care about whether they read the manual or not. With an understanding of typography, these conflicts might be avoided.

In *Type rules!* Ilene Strizver explains that there are "two main categories of type: text and display. Simply put, text type is designed to be legible and readable at small sizes. This usually implies fairly clean, consistent, uncomplicated design features, more open spacing than a display face, and thin strokes that hold us at smaller sizes. Display type, on the other hand, can forgo the extreme legibility and readability needed for long blocks of text at small for a stronger personality, elaborate and more expressive shapes, and a more stylish look" (2001, 46). Conflicts arise when these two types become confused. Conflicts also arise when designers choose to place type in all caps. As Kimball and Hawkins write:

> Writers often use text in all caps for emphasis, but doing so often doesn't work well…users tend to read by whole word shapes rather than letter by letter. This suggests that readers find words with distinctive shapes easier to read than those with fewer differences. ALL CAPS TEND TO MAKE EACH WORD LOOK PRETTY MUCH THE SAME. A VAGUELY RECTANGULAR SHAPE. Words in lowercase, however, have all sorts of distinctive bumps and ridges, particularly along the tops of the words. These distinctions make them easier to read than words in caps (2008, 186).

White, while noting that "**IN DISPLAY TYPE, ALL CAPS INCREASES VISIBILITY AND WORKS WELL IN SHORT HEADLINES**," concurs with Kimball and Hawkins in his assertion that "LIKE ITALICS, ALL CAPS SHOULD BE

USED SPARINGLY" (2005, 233). In addition, White adds that "ALL CAPS TAKES UP TO 35 PERCENT MORE SPACE THAN LOWERCASE OF THE SAME SIZE," making them equally ineffective and non-cost effective. The danger of this practice is that many designers use all caps when trying to signal importance. While this is unproductive when used in certain kinds of technical documentation, it can be of real danger when used in something like pharmaceutical documentation. While the intent may be to draw attention to an area of the document which is of vital importance, the result can be counterproductive.

Another element of typographic design that needs to be taken into consideration is the fact that differing typefaces often appear to be different in size even when they're not. A sentence written in 11-point Arial is clear and readable.

Estragon, sitting on a low mound, is trying to take off his boot.

The same sentence, written in 11-point French Script, offers the user a different experience.

Estragon, sitting on a low mound, is trying to take off his boot.

This, of course, is an extreme example. One probably won't find much documentation written in French Script. However, it is important that designers are conscious of type font and size when considering the rhetorical layout of their document.

So, why would a designer include type that the user is unable to read? In "Let users control font size," Nielsen, writing of website design, offers the answer that in some cases "designers don't actually read the information on the pages. They simply glance at the text to make sure it looks great." "In fact," he writes, "many designs are approved with 'lorem ipsum' standing in the place of real copy. When you don't have to read the

words, it doesn't matter that the characters are small." While the visual rhetoric of a document is important, the text of a document must also be readable in order for the user to be able to understand its meaning. More times than not, users approach user documentation with task based needs. Although strong visuals can certainly help the user better relate to the document, the designer's understanding of typography can, as Nielsen and Loranger write, either "help or hinder this process" (2006, 215). "The primary goal of communication design," they argue, "is to convey information." In order for a design to work the designer must "choose typography that communicates." "The typefaces[11] [they] select," Nielsen and Loranger add, "should be legible and reflect the character and tone of [their] site." While Nielsen and Loranger are writing of web design, their observations appear to be equally true when considering the effects of typography on technical communication.

Color

While having an understanding of typography is certainly important in creating a rhetorically effective document, equally important is the concise and deliberate use of color. As Bang writes, "color's effect on us is very strong—stronger than that of other picture elements" (1991, 104). She argues:

> I see color association having two aspects: color symbolism and the association of two like-colored objects seen at the same time. We've already noticed that much

[11] Nielsen and Loranger, in a section labeled "Recommended Text Sizes," argue that the optimum text sizes are: 10-12 font size for general audiences, teenagers, and young adults; 12-14 font size for senior citizens, people with visual impairments, young children, and other beginning readers (2006, 221).

> of our reaction to various colors seems to result from our association of these colors with certain natural objects—that is, we associate red with blood and fire, white with light, snow, and bones, black with darkness, yellow with the sun, blue with the sea and sky, et cetera.

She continues:

> Just as we assume that all pointed shapes are sharp, we assume that everything with the same color as these "natural constants" also has their inherent qualities: a white swan seems more "pure" that a mallard duck, a red rose is more expressive of the blood and fire of our love than a pink one, a black crow looks nastier that a cuckoo, and so forth. These secondary associations are completely false, but we make them all the time. This "symbolism of color" is part of the way we function every day. Color is one of the most powerful elements used in advertising, in propaganda, and in all visual fabrications. Color symbolism is based on a false generalization. It also works—very very well.

While Bang is discussing a different medium, it would be misguided to ignore her findings. Just as she uses color within her work to provoke an emotional response, so could those who work within the field of technical communication use color in their documentation to manipulate the emotions of the user, creating documents that are more visually engaging. Color, if used with rhetorical intent, can change the way users *see* documents. One example is documentation that accompanies video games: a decidedly visual medium. As with the documentation for other products, there can be a divide between user manuals that engage users and documentation that simply offers the required information. Case in point, all one needs to do is examine the use of color in the

manuals for two games released in 2006: *Gears of War* and *Call to Duty: Modern Warfare*. While both games were popular with critics and gamers, the documentation which accompanies the games offers decisively different experiences. Although the manuals offer the user very similar information, the manual for *Call of Duty: Modern Warfare* (see Figure 10) does very little to engage the reader. On the other hand, the manual for *Gears of War* (see Figure 11), in use of blacks and reds, reflects the tone and energy of the game, pulling the user into the game "experience" even before they turn on the computer.

In *The non-designer's design book*, Robin Williams writes that "when you're talking about actual color… warm colors (reds, oranges) come forward and command our attention. Our eyes are very attracted to warm colors, so it takes very little red to create a contrast. Cool colors (blues, greens), on the other hand, recede from our eyes. You can get away with larger area of a cool color; in fact, you need more of a cool color to create an effective contrast" (2008, 186). Kimball and Hawkins write:

> Colors can have multiple connotations, depending on context. The association of red with blood can be good or bad, depending on whether we're in love or bleeding. Black can mean sleek instead of evil, if it's on a cocktail dress or tuxedo. Yellow can imply cowardice, green can imply illness or envy, and gray can imply sophistication (2008, 253).

CONTROLS

Command	Default Button
W	Forward
S	Back
A	Left
D	Right
Q	Lean Left
E	Lean Right
SHIFT	Sprint
Left Mouse Button	Attack
Right Mouse Button	Aim Down Sight
V	Melee
N	Nightvision
5	Grenade Launcher
6	C4, UAV, Airstrike & Helicopter
7	Claymore
1	Next Weapon
2	Previous Weapon
Middle Mouse Button, G	Throw Frag Grenade
4	Throw Smoke, Flashbang Grenades
F	Activate
R	Reload Weapon
Tab Key	View Score
Space bar	Up Stance/Jump
CTRL Key	Go prone

4

CONTROLS (CONTINUED)

Command	Default Button
C	Crouch
Pause Key	Pause
Esc Key	Menu
~	Bring up console
T	Multiplayer Text Chat
B	Multiplayer Quick Message
Y	Multiplayer Team Chat
Z	Multiplayer Voice Chat
F1	Multiplayer Vote Yes
F2	Multiplayer Vote No
F4	Multiplayer Scores
F12	Take a Screenshot

Figure 10. ***Call of Duty: Modern Warfare*** **(2006).**

Figure 11. ***Gears of War*** **(2006).**

This different way of seeing color translates directly to different ways of seeing the product. Offering a specific example of this, Thomas J. Madden et al. write:

> Color used in packaging can be…important in determining a product's desirability. James Mandle, a color consultant, changed the color of Ty-D-Bol bottle from light blue and green to stark white letters on a dark background. He believed that the original colors were "too wimpy" and that the new, bolder colors would connote strength and cleanliness. In an 18-month period following the change of color, sales of Ty-D-Bowl jumped 40% (2000, 92).

It is important to understand the effect colors have because only then one can fully utilize embedded user expectations. As Lawrence J. Naijar writes, "Due to our culture and experience, we have gradually built up expectations for what colors mean" (1990, 3). Because of this, he argues, we should "take advantage of these expectations when using color."

The use of color not only affects the way users see documents, but also how they see the products and, in turn, the companies they represent. As Kimball and Hawkins write, "Users often… assume that a document printed in color is more important than one in black and white and give it more initial attention, if only because its producers thought it was important enough to spend money printing it" (2008, 254). "A lack of color," they counter, "can imply that the information being conveyed is boring, dull, ephemeral, or highly technical." Some shy away from using color in documentation because of the cost that comes with its use. However, as Kimball and Hawkins argue, "With the digital age, color has become steadily more accessible and cheaper to print" (2008, 247). In fact, "In screen documents, using color involves no added expense, opening up new opportunities

for design. But despite these changes in the cost of color, users still find color attractive and impressive—making color a good way to promote a strong ethos." However, not everyone agrees that the use of color in documentation is a wise choice.

"Sometimes," writes Brockmann, "advances in technology open a trap-door for writers rather than a real door of opportunity. Color is the newest trap-door that technology is seductively offering" (1990, 157). Brockmann argues that the introduction of color ushers in several comprehension problems, pointing specifically to the issue of user color blindness[12] and the fact that "older readers require brighter colors in order for the colors to be recognizable" where "younger readers find bright colors distracting and fatiguing to the eye" (1990, 160). "Do we want readers of online text to appreciate the colors of online text," asks Brockmann, "or to read and comprehend the text?" However, other research shows that, in looking for ways to design for users with color vision deficiencies researchers, there are several ways to effectively use color, while retaining comprehension. Kimball and Hawkins write that "to accommodate users' possible limitations in color perception… [the designer can] use highly saturated colors rather than desaturated colors" (2008, 252). The designer could also "use colors with a high contrast in hue and brightness." It is also important to recognize that just because one argues that *color* should be used rhetorically in technical documentation does not mean that they believe the page (or the screen) needs to be splashed garishly with reds and greens. "Even

[12] Brockmann, writing in 1990, states that "8% of the male population (and 4% of the female population) has some form of color blindness" (1990, 157). These numbers differ from than the percentages found by Ware in *Information visualization: Perception for design.* He writes that "about 10% of the male population and about 1% of the female population have some form of color vision deficiency" (2004, 99).

black," write Kimball and Hawkins, "can come in different 'colors'" (267). "A design that uses several grays and a strong black," they argue, "can be quite striking and effective." The key to using "color" effectively is to understand how you are *using* it. For example, the user documentation for the Apex Digital TV Converter Box (see Figure 12), while not in "color," is designed using a range of grays in order to signal to the user the hierarchy of content. It helps, of course, that the other visual elements in the document are also well designed, the manual offering readable type and several illustrations.

In *Decorative color as a rhetorical enhancement on the World Wide Web*, Richards and David write that "in the light of the array of influences affecting individual and cultural preference for color, technical communicators do well to recall that they have at their disposal means of establishing with some likelihood links between color and desired interpretation" (2005, 45). While color, like many other tools available to technical communicators, can be effective when used with rhetorical intent, it can also be a distraction if introduced without forethought. As Naijar writes, "A computer display that is lit up like a Christmas tree distracts users from their tasks and makes users feel like they are not being taken seriously" (1990, 3). The same can be said for print documentation. However, when used with specific intent, color can be used to great effect. Keyes, citing Horton, states her argument succinctly that "color focuses attention, speeds search, reveals organization and patterns" (1993, 646). "By organizing and classifying information," she explains, "color enables readers to handle more information and process it more efficiently."

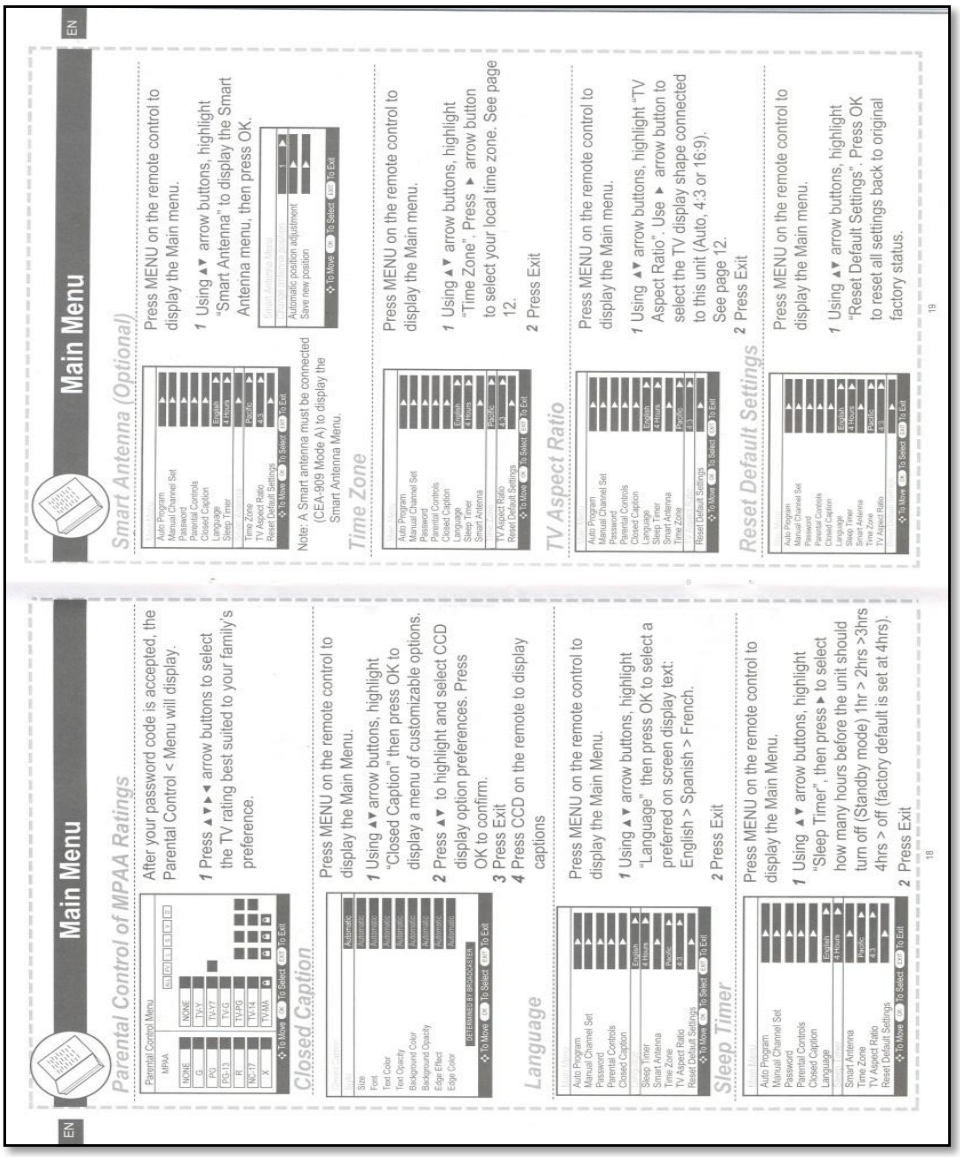


Figure 12. Documentation for the Apex Digital TV Converter Box.

This is true of color used both on the printed page, as well as the use of color in electronic, or online documentation. However, for online documentation, color not only affects users' perception of the document, but also makes the document easier to read. In *Envisioning information*, Edward Tufte, while expressing concern over the use of color in documentation[13], argues that "color can improve the information resolution of a computer screen." "By softening the bright-white background," he writes, "color calms video glare, the effect of staring at a light bulb" (1990, 89). In addition, he adds, "color brings to information more than just codes naming visual nouns—color is a natural quantifier, with a perceptually continuous (in value and saturation) span of incredible fineness of distinction, at a precision comparable to most measurement" (91). Research has shown that with the use of color, both the experience of looking at the screen, as well as the ability to understand what appears on the screen, can be heightened.

Cultural Considerations

An interesting element of color selection is the process of considering how that selection fits within the cultural framework of the user. In an age when many documents contain instructions in several different languages, the use of color can be tricky, with different cultures viewing color in strikingly varied ways. In "Manual override," Jonathan Sidener writes that many companies, including Hewlett Packard, "[continue] to research cultural preferences in user manuals" since a design element which may be considered favorable in one country, may have disastrous results in another (2004). Quoting Renato

[13] Tufte argues that "the often scant benefits derived from coloring data indicate that even putting a good color in a good place is a complex matter" (1990, 81).

Beninatto, a partner in Common Sense Advisory, Sidener writes that "Germans didn't like full-color manuals" because "[t]hey felt it was too fancy and an additional expense that they would have to pay for." "Japan," in contrast, "liked lots of colors," their preference leaning towards manuals "with drawings, cartoons." Using Sony as an example, Sidener writes that some companies "no longer [use] a one-size-fits-all approach of translating a single manual into many languages," instead conducting "analysis based on the type of product, the country where it is being sold and the demographics of the likely buyers." He explains that "all those factors affect what Sony calls 'the tone and composition of manuals.'" It is easy to see how color can be used unsuccessfully in this setting, considering the different ways similar colors can be viewed within varied cultural contexts. As Kimball and Hawkin argue, "Our cultural background…deeply influences how we apply meaning to color. For example, in Western cultures white is often associated with purity or innocence; this association is reinforced every time we see a bride's wedding dress. But in other cultures, this association can be remarkable different: in Japan, white is commonly worn at funerals" (2008, 253). In *Managing images in different cultures: A cross-national study of color meanings and preferences*, Madden et al. write of a study they conducted where they explored "the preferences and meanings associated with an assortment of colors in eight diverse cultures" (2000, 93). The respondents, they write, "consisted of undergraduate students from countries in East Asia, Europe, North America, and South America" (94). Amongst other things, Madden et al. focused on the emotional reactions these students had to a variety of colors. Though reactions to some of the colors were consistent (such as blue being seen as "peaceful" or "calming") many differed (see Figures 14 & 15).

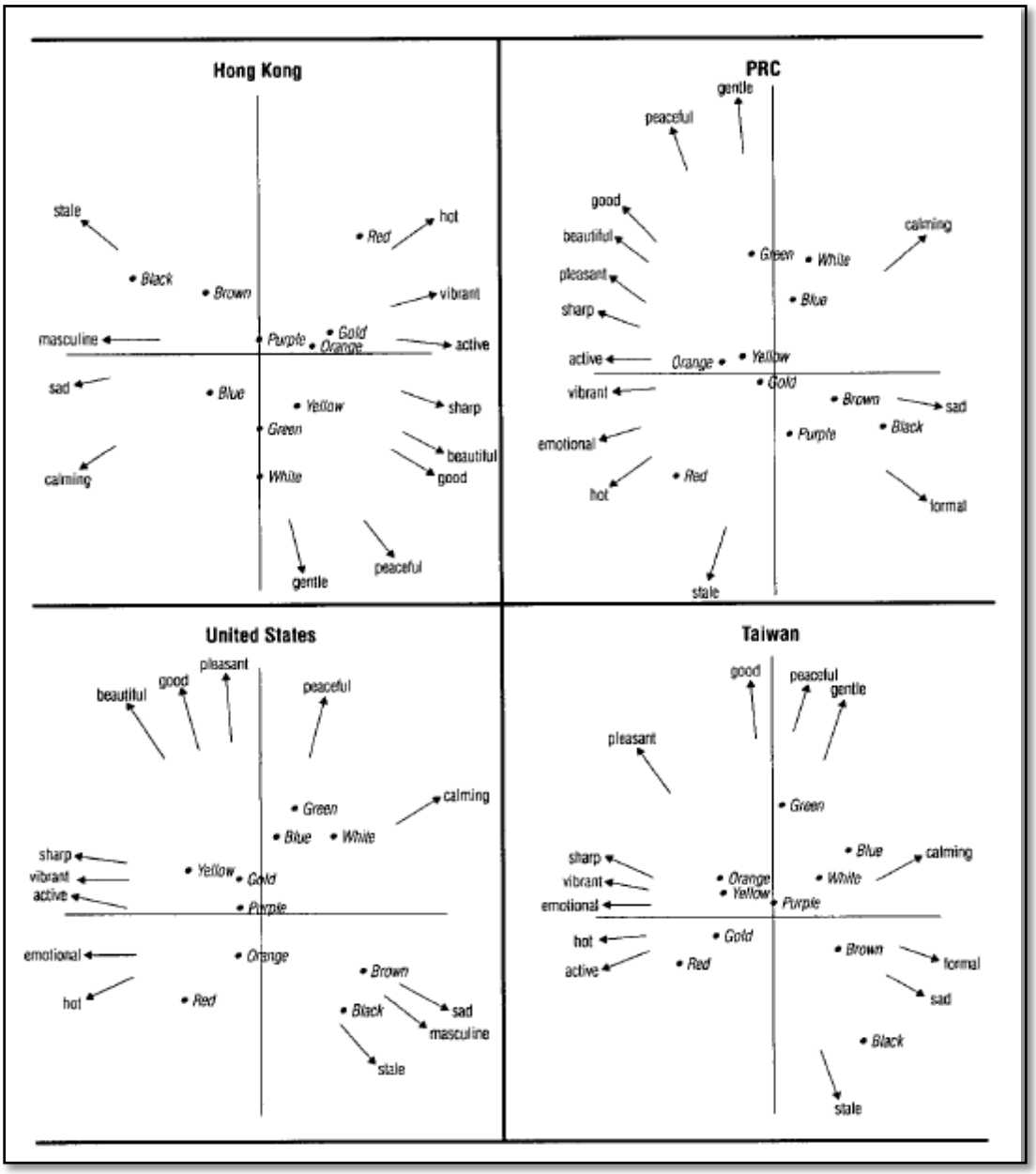


Figure 13. Principal Coordinate Analysis for Color Association by Country.

(Madden, Thomas J., Kelly Hewett, and Martin S. Roth. 2000. "Managing images in different cultures: A cross-national study of color meanings and preferences." *Journal of International Marketing* 8.4: pg. 97).

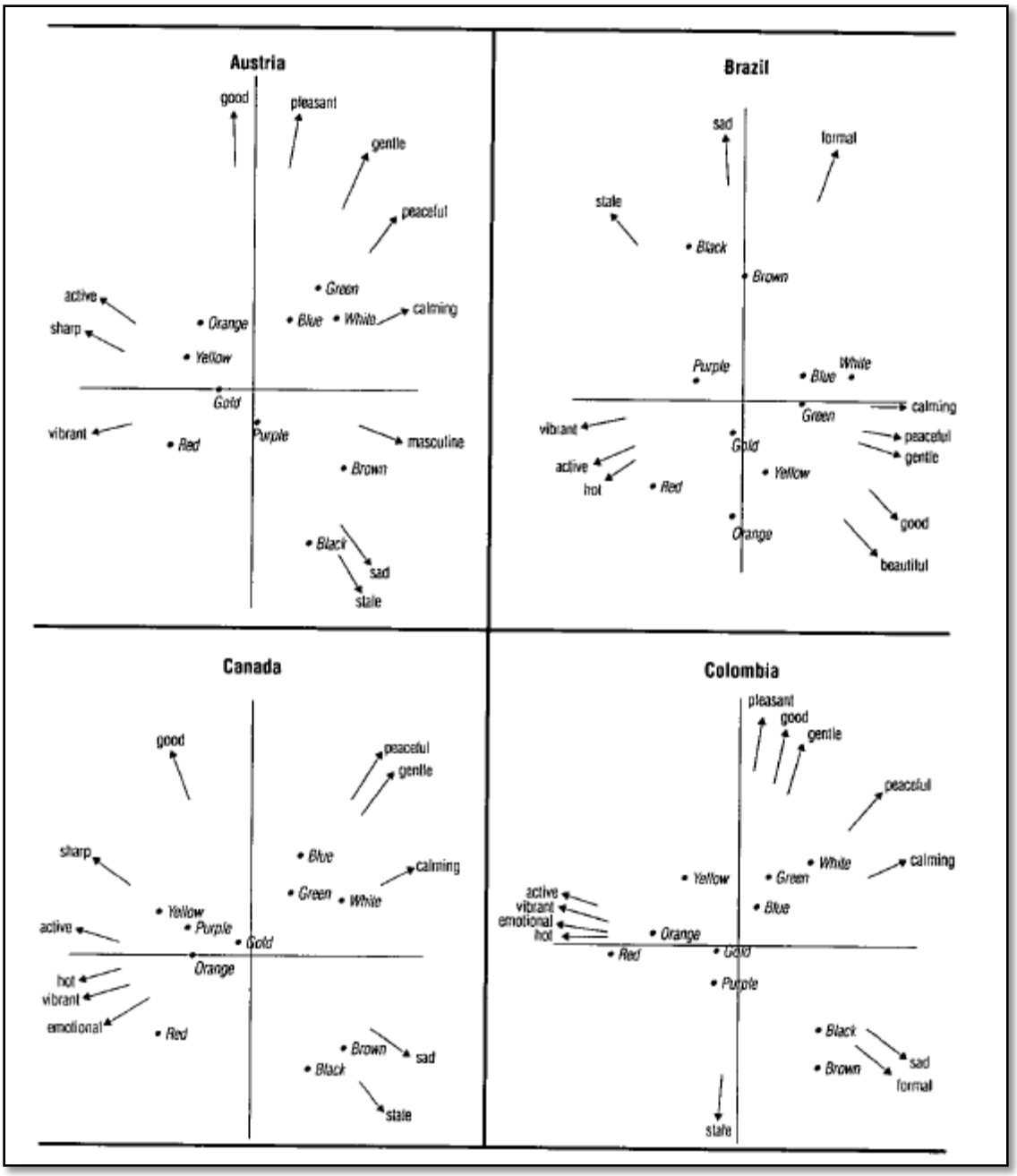


Figure 14. Figure 14, continued.

(Madden, Thomas J., Kelly Hewett, and Martin S. Roth. 2000. "Managing images in different cultures: A cross-national study of color meanings and preferences." *Journal of International Marketing* 8.4: pg. 96).

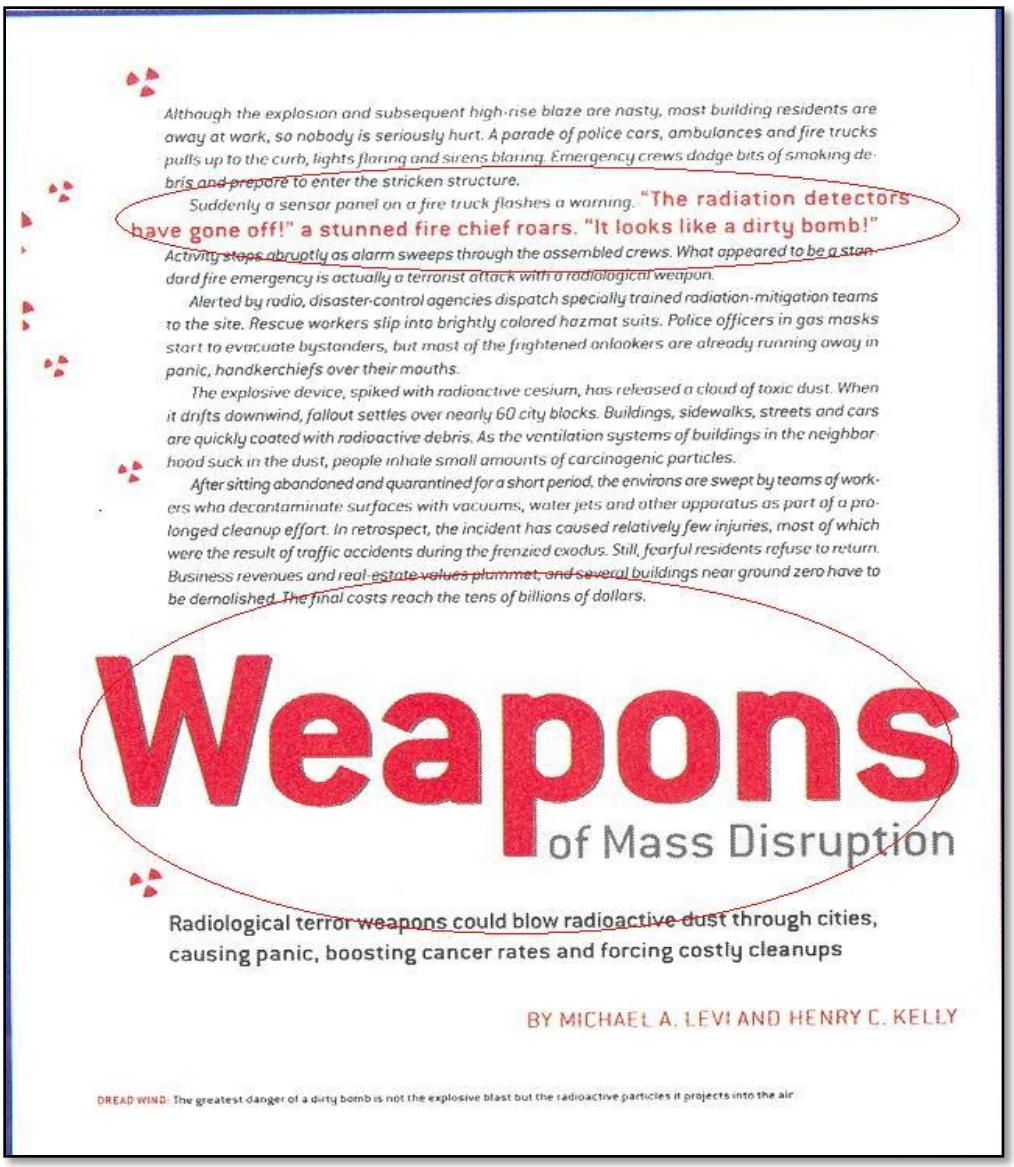
Madden et al. argue that "because colors have specific meanings associated with them, colors are important image cues" (101). While they are speaking directly to brand recognition with this assertion, their findings can be carried over when thinking about how technical communicators can use color to engage users.

Contrast

Type and color are useful tools, but researchers have discovered that used *together* (with rhetorical intent), they can guide users through documentation with amazing effectiveness. In *Visual thinking for design*, Colin Ware writes:

> If you want to make something easy to find, make it different from its surroundings according to some primary visual channel. Give it color that is substantially different from all other colors on the page. Give it a size that is substantially different from all other sizes. Make it a curved shape when all other shapes are straight…and so on (2008, 33).

In one example (see Figure 15), Odell and Katz offer the front page of a periodical article. On the page, the designer effectively uses both contrasting color and type to draw the reader's eye. In this, the designer maneuvers the reader around the page, creating a hierarchy of importance. As Odell and Katz write, "the variations in appearance that are used to create contrast can increase readability and accessibility while adding visual interest to a text" (2003, 485). These variations, argues Bang, "enables us to see" (1991, 110). "The contrast," she writes, "can be between colors, shapes, sizes, placement, or combinations of these; but it is the contrast that enables us to see both patterns and



Although the explosion and subsequent high-rise blaze are nasty, most building residents are away at work, so nobody is seriously hurt. A parade of police cars, ambulances and fire trucks pulls up to the curb, lights flaring and sirens blaring. Emergency crews dodge bits of smoking debris and prepare to enter the stricken structure.

Suddenly a sensor panel on a fire truck flashes a warning. "The radiation detectors have gone off!" a stunned fire chief roars. "It looks like a dirty bomb!"

Activity stops abruptly as alarm sweeps through the assembled crews. What appeared to be a standard fire emergency is actually a terrorist attack with a radiological weapon.

Alerted by radio, disaster-control agencies dispatch specially trained radiation-mitigation teams to the site. Rescue workers slip into brightly colored hazmat suits. Police officers in gas masks start to evacuate bystanders, but most of the frightened onlookers are already running away in panic, handkerchiefs over their mouths.

The explosive device, spiked with radioactive cesium, has released a cloud of toxic dust. When it drifts downwind, fallout settles over nearly 60 city blocks. Buildings, sidewalks, streets and cars are quickly coated with radioactive debris. As the ventilation systems of buildings in the neighborhood suck in the dust, people inhale small amounts of carcinogenic particles.

After sitting abandoned and quarantined for a short period, the environs are swept by teams of workers who decontaminate surfaces with vacuums, water jets and other apparatus as part of a prolonged cleanup effort. In retrospect, the incident has caused relatively few injuries, most of which were the result of traffic accidents during the frenzied exodus. Still, fearful residents refuse to return. Business revenues and real-estate values plummet, and several buildings near ground zero have to be demolished. The final costs reach the tens of billions of dollars.

Weapons of Mass Disruption

Radiological terror weapons could blow radioactive dust through cities, causing panic, boosting cancer rates and forcing costly cleanups

BY MICHAEL A. LEVI AND HENRY C. KELLY

DREAD WIND: The greatest danger of a dirty bomb is not the explosive blast but the radioactive particles it projects into the air

Figure 15. Example of Contrast.

(Odell, Lee and Susan M. Katz. 2006. *Writing in a visual age*. Boston: Bedford/ St Martin's: pg. 145).

elements. Pictures—and human perceptions—are based on contrasts." Looking more specifically at how this affects user perception of documentation, it has been shown, as Brockmann writes, that "the reader's eye is drawn to those things on a page which contrast with the rest of the page" (1990, 154). For Williams, contrast is the most dynamic of the relationships in type[14]. She explains that a "conflicting relationship occurs when you combine separate typefaces and elements that are clearly distinct for each other. The visually appealing and exciting designs that attract your attention," she argues, "typically have a lot of contrast built in, and those contrasts are emphasized" (2008, 145). Williams goes on to say that while "most designers tend to wing it when combining more than one typeface on a page," when one "can recognize and *name the contrasts*, [they] have power over them." One way to do this is, she explains, is to use type to affect the color of a document. "A light, airy typeface with lots of letter spacing and line spacing," she explains, "creates a very light color (and texture)," where "a bold sans serif, tightly packed, creates a dark color (with a different texture)" (2008, 188). "This is," she argues, "a particularly useful contrast to employ on those text-heavy pages where there are no graphics…A gray, text-only page can be very dull to look at and uninviting to read." Even if a document is devoid of jargon, and usable in every other way, the user still may perceive it as inaccessible based on its design. Keyes, citing William Winn, writes:

[14] Williams writes that the three relationships in type are concordant relationships ("which occurs when you use one type family without much variety in style, size weight, and so on"), conflicting relationships ("which occurs when you combine typefaces that are similar (but not the same) in style, size, weight, and so on"), and finally contrasting relationships (2008, 145).

> A well-designed visual organization uses consistent, meaningful visual signals with sufficient visual contrast to make useful directions in relation to the specific use requirements. This visual organization is perceived unconsciously (preattentively) by the reader while scanning—*before* the effort of conscious focus and reading. Furthermore, this initial visual organization strongly influences how the reader will read, understand, interpret, and remember content" (1993, 639).

By embracing this fact, rather than shying away from it, technical communicators can help change users' perception of documentation. Unfortunately, many users do not look forward to reading documentation. As White writes, "Reference material…is typically not the kind of reading in which people want to be engrossed: they rarely use it unless a crisis exists, so it's not reading by choice" (2005, 97). However, if the designer addresses this issue, it is possible to make changes that alter the user's experience. In this, the act of reading, even reading materials about which we have negative pre-conceived notions, can be pleasurable. If document designers are able to overcome this bias by creating a document that is both challenging and usable, they can offer the user an experience that, according to McQuarrie and Mick, can be both "stimulating" and "rewarding" (1999, 40). They argue that "texts that allow multiple readings or interpretations are inherently pleasurable[15]" (1999, 40). They explain that "texts that are simple and one-dimensional are less likely to be sources of pleasure," while, conversely, "texts that are opaque or too difficult to decipher also fail to give pleasure." Research has shown that in trying to

[15] In this section of "Visual rhetoric in advertising," McQuarrie and Mick cite Roland Bartes' *Pleasure of the text*.

spice up a document with a hodge-podge of assorted colors or images, a document designer can inadvertently alienate or confuse the user. In fact, a visual landscape with too much contrast, or ill-chosen visual combinations, can be rhetorically disastrous. In *Universal design principles*, William Lidwell, Kritina Holden, and Jill Butler explain:

> Interference effects occur when two or more perceptual or cognitive processes are in conflict. Human perception and cognition involve many different mental systems that parse and process information independently of one another. The outputs of these systems are communicated to working memory, where they are interpreted. When the outputs are congruent, the process of interpretation occurs quickly and performance is optimal. When outputs are incongruent, interference occurs and additional processing is needed to resolve the conflict. The additional time required to resolve such conflicts has a negative impact on performance (2003, 114).

The key is to create documentation which offers *enough* contrast to engage the user, while not overloading them with excess imagery or information. If worked successfully into a design, contrast can help the designer outline the document's hierarchy of importance, even before the user has read a single word. As Colin Ware argues, "Visual search is not random…if we are looking for something smallish, we can only see it when we are looking at it" (2008, 26). One way to lead the user is through a process Ware calls the "pop-out effect" (29). "Something that pops out," writes Ware, "can be seen in a single eye fixation and experiments show that processing to separate a pop-out object from its surroundings actually takes less than a tenth of a second." Ware offers visual examples to this effect (see Figure 16) which demonstrate

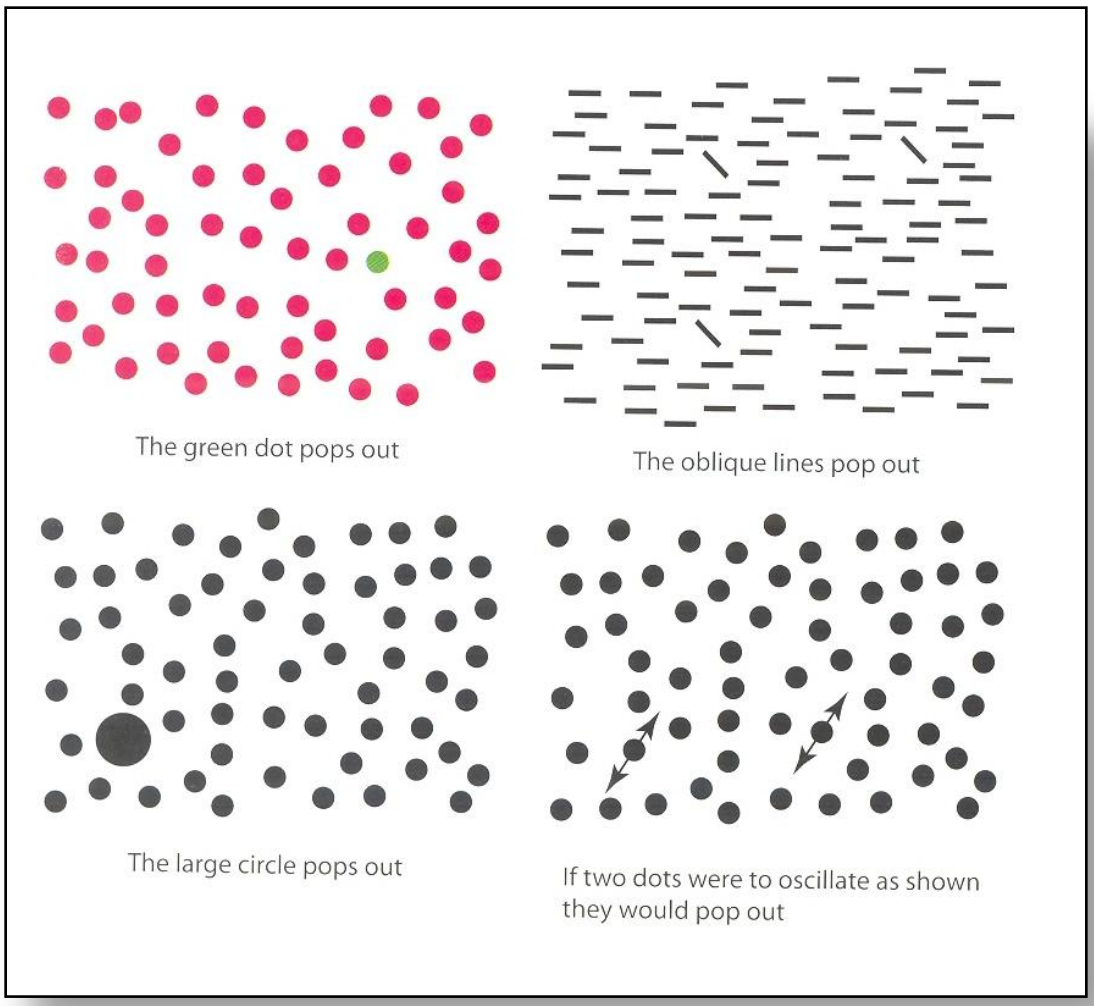


Figure 16. The Pop-Out Effect.

(Ware, Colin. 2008. *Visual thinking for design*. Burlington: Morgan Kaufmann Publishers: pg. 56).

how our gaze is pulled based on contrast—whether that contrast is invoked through the use of shape (as we find in typography) or through the use of color.

CHAPTER III

An Exciting Opportunity

In "From pen to print: The new visual landscape of professional communication," Kostelnick writes that "never in the history of business and technical communication has technology given us such powerful design tools and left us so ill prepared to use them intelligently" (1994, 91). Presented with the possibilities of electronic documentation, the potential for implementing a visual rhetoric are nearly limitless. "Visual rhetoric," writes Mary Hocks, "is hardly new, but its importance has been amplified by the visual and interactive nature of native hypertext and multimedia writing" (2003, 629). She argues that "interactive digital texts blend words and visuals, talk and text, and authors and audiences," allowing document designers to pay close attention to "the ways in which the audience is invited to participate in online documents and the ways in which [they create] an ethos that requires, encourages, or even discourages different kinds of interactivity for that audience" (632). In this pursuit, "audiences can experience the pleasures of agency" while using documentation in ways they never thought possible (633). This "pleasure," argues Hocks, is also felt by the designer who, "when designing digital documents" is able to see nearly immediately "how people use and interpret them" (652). In this, they are able to "then see themselves as active producers of knowledge in their discipline." To simply approach electronic documentation as one would approach paper documentation is incredibly shortsighted. As Nielsen and Loranger write, "people use print and Web media differently, and designers must adjust their [work] accordingly. A billboard or magazine cover is static: a reader understands it simply by looking at it. But the Web, of course, is interactive" (2006, 215). This expectation, that online documentation should be

more than just static text, adds to negative perceptions of technical documentation, as well as to the resulting frustration. As Dave De Yoreo and Ben Kauffman write:

> Today's technically savvy computer users—raised with rich multimedia in the form of video games, movies, and music videos, instant wireless communication, and so on—are impatient and don't like to read. They prefer to learn by trying things out, inferring, viewing, and interacting. In turn, they expect their software, and by extension, their documentation, to deliver an equally compelling experience—one they can experience quickly and visually. It's high time we listen to our users, and give them what they want: smarter documentation (213).

The key, according to De Yoreo and Kaufmann, is to create "documentation that mixes interactive multimedia with text-based online documentation to achieve the minimalist model." Sadly, a number of companies ignore the possibilities of online or electronic documentation and simply sees the format as an opportunity to move away from the costs of print documentation. Horton writes that "[the mandate] to go paperless" has pushed some companies to simply "dump' existing paper documents online" (1991, 27). "The weakness of this strategy," Horton explains, "is simply that documents designed and honed for the printed page perform awkwardly as online documentation." The result, Horton argues, are electronic user manuals that feel like an afterthought—electronic copies of documentation that lacked usability in their previous print existence. It does not help matters that much of this documentation is offered to the user via PDF format.

In *PDF manuals: The wrong paradigm for an online experience*, Mike Hughes writes:

> Let me describe a familiar user assistance experience. A user installs a new application, and when the user wants Help, the application directs her to the user documentation on a Web site or CD-ROM. What the user finds is a PDF file containing the manual—or a collection of PDF files, representing a library of manuals, including a user guide, configuration guide, troubleshooting guide, and various references. And the layout of each of these PDF manuals is exactly the same as if it were a printed book. This raises an interesting question: If we're giving manuals to users to read online, why do we design and write them for paper (2008)?

Hughes' argument is repeated by Nielsen who writes that "PDF is great for distributing documents that need to be printed. But that is all it's good for" (2001). Nielsen argues that:

> PDF was designed to specify printable pages. PDF content is thus optimized for letter-sized sheets of paper, not for display in a browser window. I often see users getting lost in PDF because the print-oriented viewer gives them only a small peephole on a big, complicated layout and they can't scroll it in the simple linear manner they are accustomed to on the web.

In addition, Nielsen finds that "PDF pages lack navigation bars," limiting users' being able to "move within the information space," and that in some cases "PDF files…crashed the user's computer." Any of these instances would add to user frustration, keeping their perception of user manuals consistent, despite the new format. The problem, like the problem of some print documentation, is that manuals presented in PDF format are static.

While there are certainly ways to spice-up a PDF, via hypertext, documentation presented in this format does not actively engage the user. As Cheryl Lockett Zubak writes, "Most documentation assumes that users are willing to be passive, at least briefly. It assumes, for example, that they don't mind going step by step through a procedure to learn how to perform a task" (27). "But," she argues, "users aren't like that. They're surfers, like you and me. They click around the screen and curse at things when they can't figure out what to do. Even if users go into the help system with the goal of finding a particular procedure, they don't necessarily follow that procedure from beginning to end" (27-28). Instead, they "want to jump ahead of [the] help system. They want to move at their own pace, in their own direction. They want to relate their experience of this product and other producers like it to what they're learning from [the] help system" (28). In many cases, offering users a PDF manual, even one that is designed for greater usability can be a losing proposition. Because, as Paul Sisler and Catherine Titta argue, "Help conceived as a book is, like a book, passive." However, as they explain, "when we shift our view of help to a perspective that considers help an activity (supporting user's work) we begin to see new opportunities for improving software." One way to achieve this sort of interconnectivity with the user is to offer them, within the documentation, the opportunity to change it, to make it more their own.

On a positive note, as Adobe Reader has evolved, so has the user's ability to tailor PDF files to their own needs. Because of the reasons stated previously, using PDF documentation is not optimal; however, with Adobe Reader 9 comes the ability for the user to change the color of both the type as well as the background, based on their accessibility needs (see Figures 17 & 18). While this change does not

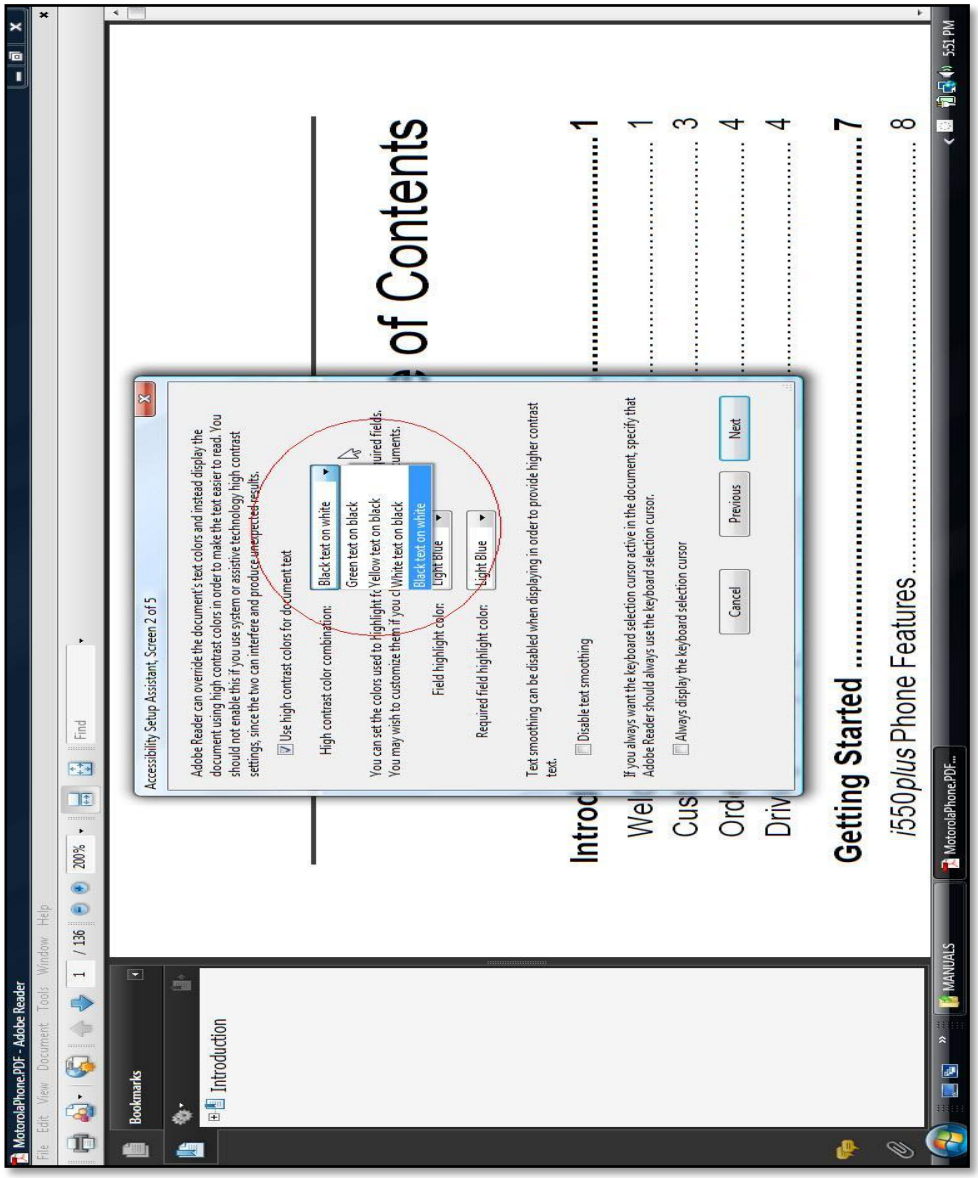


Figure 17. PDF Color Change: *Adobe Reader 9.*

Figure 18. PDF Text Size: *Adobe Reader 9.*

make reading a PDF file an *interactive* experience, it is certainly an improvement. It is interesting that a simple option like being able to change the background color or type size of documentation (in turn, creating a better contrast between the design elements) can make such a tremendous difference in usability. By offering users these tools, the designer not only makes the document easier to read, but also makes users feel an though their needs are of concern. As Nielsen writes in "Let users control font size":

> It may be okay for the browser to initially render the page with the designer's text size, but users should be able to easily enlarge text, no matter what the style sheet says. After all, it's my screen, my computer, and my software, and they should do what I want.

The user's belief that what they see on the screen should reflect their preferences does not change just because what they see before them is documentation. This is especially true of visual presentation. "Color preferences," writes Lawrence Naijar, "are extremely personal." He argues:

> Colors that you love, someone else will surely hate. This means that using color in a fixed fashion in your application will definitely annoy some users. Therefore, let users tailor colors. Users should also feel like they are in control of the computer. The best way to deal with the personal nature of color preferences while allowing users to feel like they are in control of your application is to…allow users to tailor colors to suit their personal preferences (1990, 5).

By doing this, the designer helps to create documents that feel less passive. In turn, the user will feel more invested in the documentation and therefore have a greater sense of control. As Eric J. Ray writes:

> Novice users of dynamic or online documentation retrieve information better than users of hardcopy documentation. Additionally, online users are, with practice, faster than hardcopy users at similar information retrieval tasks. Gay, Barber, and Shasha discovered a significant learning curve for online documentation users, showing that retrieval times improve with practice. Hardcopy users did not experience similar improvement (229).

With more experience, users become more confident and eventually find that reading documentation does not have to feel like a chore.

Interactive Documentation

The only thing better than creating documentation which users don't mind reading would be to create documentation they truly enjoy. The best way to accomplish that would be to make electronic documentation completely interactive. Happily, we are not that far off. With Adobe Creative Suite, specifically Photoshop CS3, no paper documentation is offered. The user finds instead a CD-ROM with files that offer video tutorials (see Figure 19). Looking up how to clone background images in Photoshop, the user finds a video with an instructor walking them through the process (see Figure 20). What the user can't do, however, is work while watching the tutorial video. The user is left to either write down the instructions, or open a second window, which she then has to open and close (or minimize) in order to see what is happening on the video. Adobe's *Classroom in a book*, which the user needs to buy at additional cost, gets a little closer to being interactive. The user is able to follow along in the book (see Figure 21), while working

Figure 19. *Adobe Creative Suite* (2007): CD Help Menu.

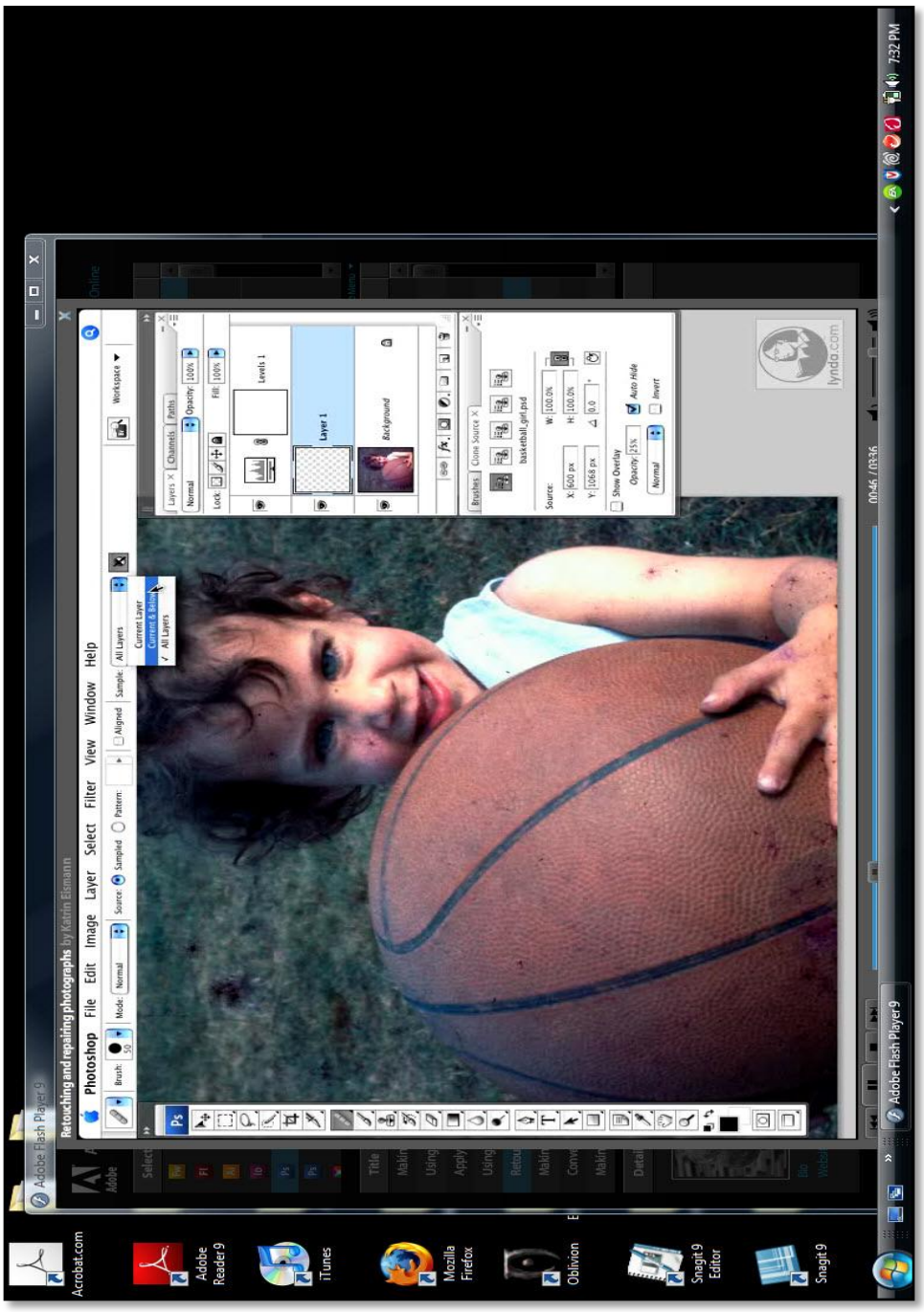


Figure 20. Adobe Photoshop CS3: Instructional Video.

5 When you have finished previewing the files, double-click the 03A_Start.psd file thumbnail to open the image in Photoshop.

6 If necessary, in Photoshop, zoom in to 100% and resize the image window so that you can see the entire image.

7 Choose File > Save As, rename the file **03A_Working.psd**, and click Save. This preserves the original start file.

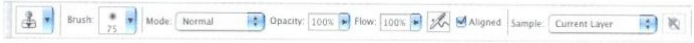
Repairing areas with the Clone Stamp tool

The Clone Stamp tool uses pixels from one area of an image to replace the pixels in another part of the image. Using this tool, you can not only remove unwanted objects from your images, but you can also fill in missing areas in photographs you scan from damaged originals.

You'll start by filling in the torn corner of the photograph with cloned grass from another area of the picture.

1 Select the Clone Stamp tool (🖃) in the toolbox.

2 In the tool options bar, open the Brush Preset pop-up menu in the options bar and select a large-sized brush with a soft edge, such as Soft Round 75. Then, make sure that the Sample Aligned option is selected.



3 Move the Clone Stamp tool pointer to the center of the image so that it is at the same level as the top edge of the torn corner and over grass. Then, hold down Alt (Windows) or Option (Mac OS) so that the pointer appears as target cross hairs, and click to start the sampling at that part of the image. Release the Alt or Option key.

Figure 21. Adobe Photoshop CS3: Clone Stamp Tool (Book).

(Adobe Creative Team. 2007. *Adobe Photoshop CS3 Classroom in a book*. San Jose: Adobe Press).

on a picture in Photoshop (see Figure 22). This allows the reader to be hands-on, learning from the book while working on specific task. In *The nurnberg funnel*, John Carroll writes "of [wanting] to design a training manual in the self-instruction genre but one that allowed users to get started doing recognizable real work, one that deemphasized reading in favor of action, and one that helped learners to avoid making errors and recover from errors committed" (1990, 183). He argues that:

> Presenting real tasks that learners already understand and are motivated to work on, helping them to get started rapidly on these tasks, allowing them to rely on their own reasoning and improvising, reducing the instructional verbiage they must passively read, organizing material to support skipping around and to facilitate the coordination of attention between the training and the system, and addressing important user errors can produce better training material than the current state of the art.

While Adobe's *Classroom in a book* moves the user a little closer to this goal, it is only when users move away from Adobe, to another publisher, that they get that much closer to true interactive documentation.

Lynda.com's "Video Training Book" for *Adobe photoshop CS3* (published by Peachpit Press), offers users the opportunity to work on a project (see Figure 23), while being able to access written documentation (see Figure 24) and have video instruction guide them (see Figure 25). Both the print and electronic documentation are extremely accessible, full of color and readable text. However, while this "training book" does offer users an opportunity to work on a task while being offered instruction, this happens in a

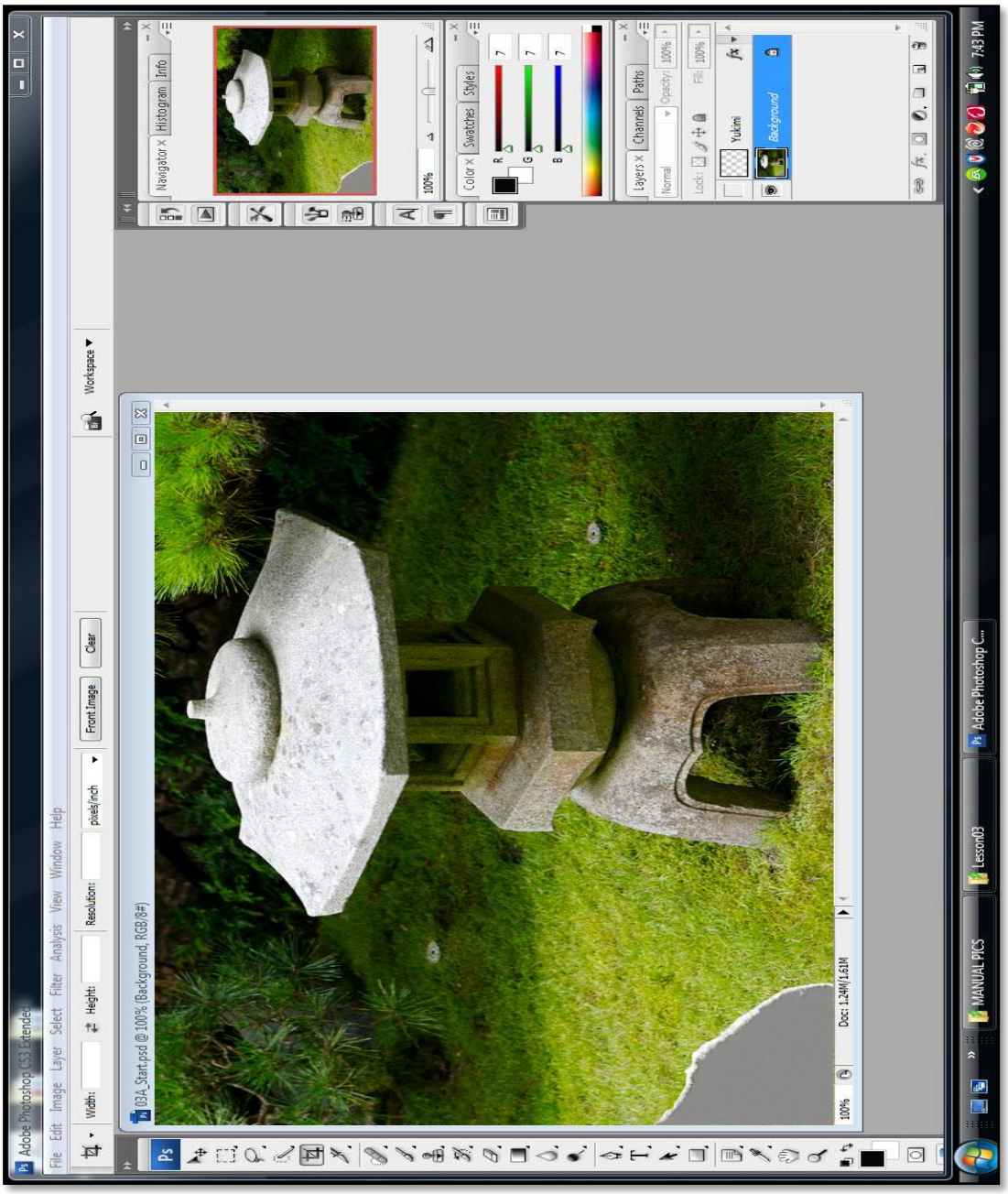


Figure 22. Adobe Photoshop: Clone Stamp Tool (CD-Rom).

(Adobe Creative Team. 2007. *Adobe Photoshop CS3 Classroom in a book*. San Jose: Adobe Press).

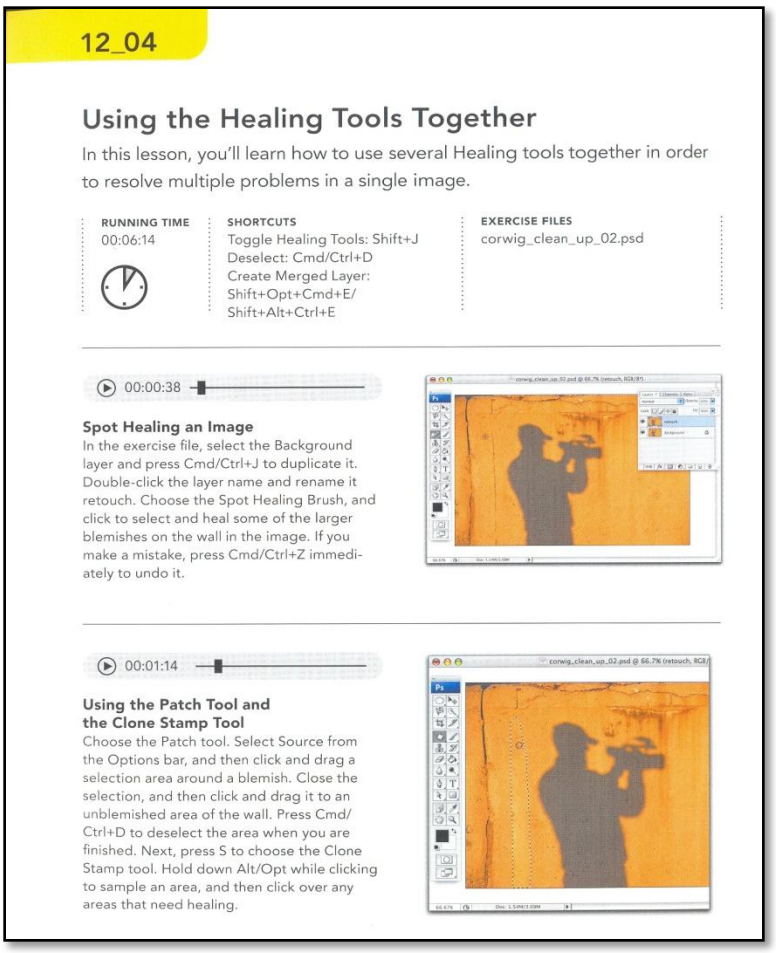


Figure 23. Lynda.com's Photoshop CS3 for photographers (Book). (Orwig, Chris. 2007. *Photoshop CS3 for photographers*. Lynda.com.)

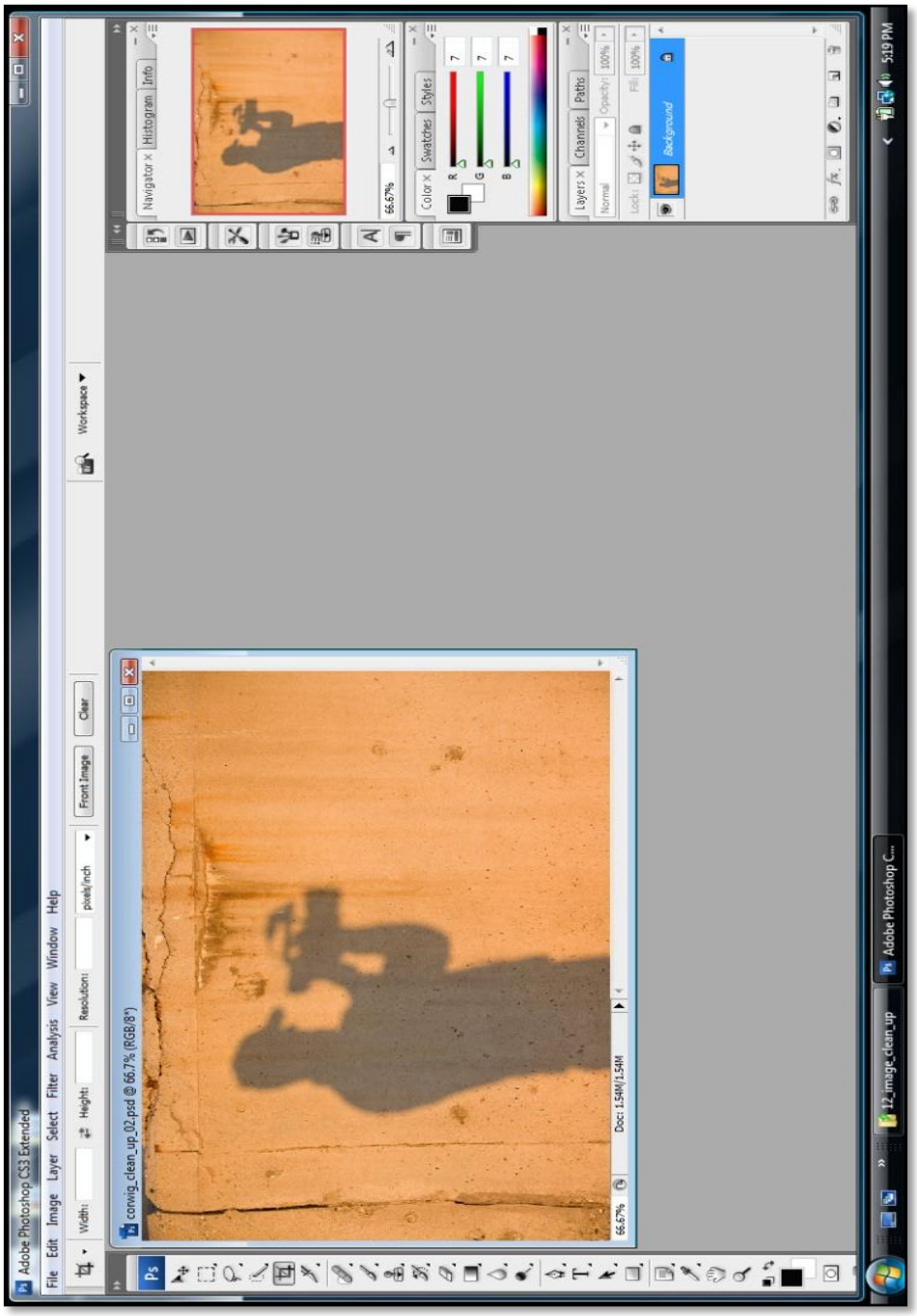


Figure 24. Lynda.com's Photoshop CS3 for photographers: Sample Picture (CD-Rom).

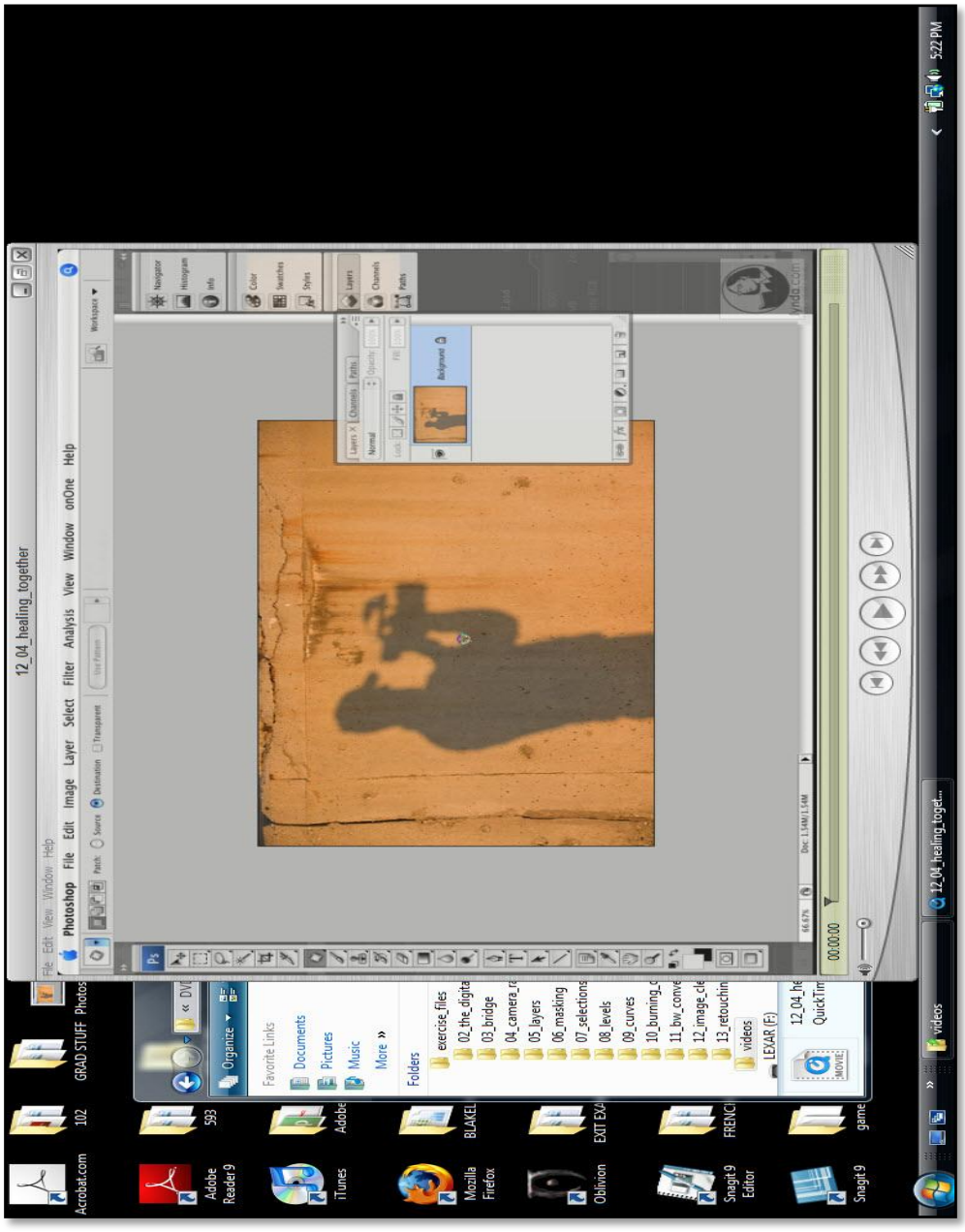


Figure 25. Lynda.com's Photoshop CS3 for photographers: Video Tutorial (CD-Rom).

different window, creating an awkward situation where the user needs to move back and forth in order to truly see the help being presented. In order for the experience to be truly interactive, the documentation would need to instruct the user *while* they are working on a document in as least obtrusive a manner as possible.

One example of this type of instruction is the opening tutorial stages of video games. While video game print documentation is not always engaging (see Figures 11 & 12), the in-game instruction is inspired, a process of helping users better understand the mechanics of the software without making the tutorial feel like work. Even with the best of electronic documentation, the user is made to feel as though they are sitting through a series of *lessons*. However, instead of presenting a separate piece of software that demonstrates the ins and outs of game play, the game instead thrusts the user into the game experience, teaching them how to play *while* they are playing. In addition, many, if not most games offer users the opportunity to alter the game's visual presentation while the game is in progress. The user simply pauses the game, pulls up the menu, and makes the necessary changes (see Figure 26). In addition, users can stop the game at any time and pull up a menu to check (or change) the controller configuration, based on their individual needs. While electronic technical documentation does not (and should not) have the same expectations as a video game, something can be attained by spending some time on the core principles of how people learn—according to Carroll and others. The key is to offer users an experience that they enjoy and, as a result, learn from. Creating this type of interactive learning experience goes a long way both to help users understand

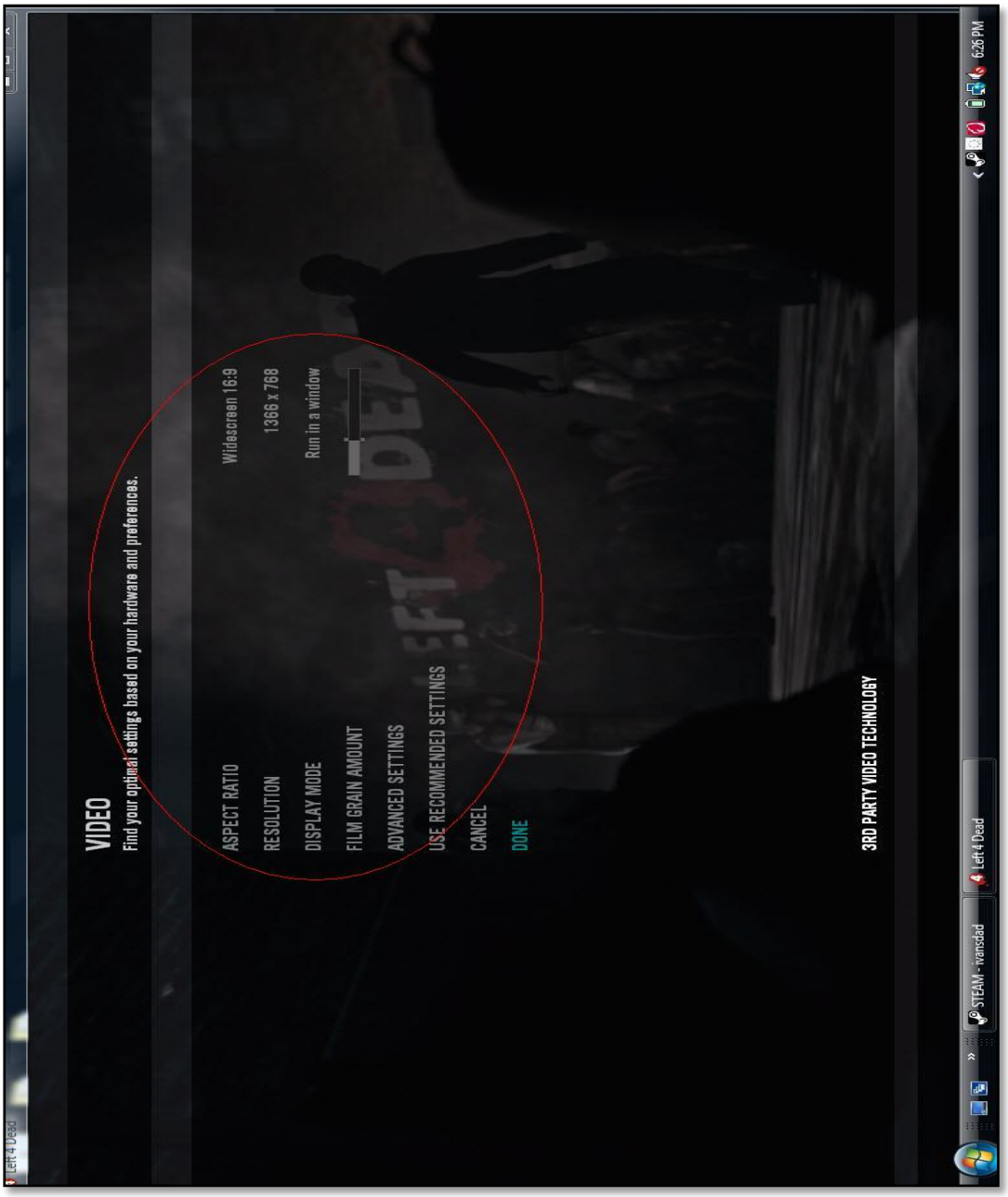


Figure 26. Video Menu*: Left 4 Dead* (2008).

Valve Corporation.

their documentation and eliminate the biases which have kept users and technical documentation at arm's length.

Conclusion

Right now there are communities of technical communicators exchanging ideas about how to make technical communication more accessible to users. While one can certainly turn to *Technical Communication*, *The Journal of Business and Technical Communication*, and many other similar journals for information on the most recent advances in technical communication, there are several other options available, all over the web, that offer those who care about technical communication a variety of ideas and techniques. Tom Johnson's website *idratherbewriting.com* offers a blog, and coordinating podcast and You Tube channel, that provides a range of different viewpoints on technical communication. On his website, *useit.com*, Nielsen offers articles, some free and some not, on how users read and how to change websites accordingly. On his website *doingmedia.net*, Todd O'Neill shows technical communicators how to create accessible video training and documentation deliverables. Members of technical organizations such as the Society for Technical Communication and IEEE can sign on to the message boards and participate in online discussions that cover a spectrum of topics. In addition, websites such as Twitter and Facebook, though more social in nature, provide technical communicators an opportunity to connect and exchange ideas. The creation of technical documentation is a living, breathing art form, one that, like any other art form, must evolve in order to survive. The fact that there are so many outlets where people are discussing, and arguing about technical documentation, speaks to its relevance. To convince users of this, technical communicators need to show them that their needs matter. This will not always be easy. When examining what does and does not work rhetorically, one must always recognize that there is no solution that works for everyone.

However, for those who work within the field of technical communication, the choice to accept responsibility for its design, to acknowledge and own the fact that they are implementing a visual rhetoric of sorts, is an important first step. This step, whether it is a movement towards more usable print documentation, or towards a truly interactive multimedia experience, is important in order to change users' negative perceptions of documentation. Wouldn't it be great if users actually looked forward to looking at the manual? Or even better, if documentation was an interactive process where the user felt not only engaged by the experience, but empowered by it? As Nielsen and Loranger explain, the most effective designers "keep [their] users at the center of [their] design project" (2006, 394). By being "humble" and "[listening] to them," they argue, "they'll make you successful."

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Vita

Thorin Alexander was born and raised in the San Francisco Bay Area. Before heading back to finish his degree, Mr. Alexander worked as a script analyst for the Nicholl Fellowship (a screenwriting competition held by the Academy of Motion Picture Arts and Sciences), The Mark Taper Forum, and the A.S.K Theatre Project. In 2005, Mr. Alexander received his Bachelor's Degree in English (with concentrations in literature and linguistics) from California State University, Los Angeles, graduating Magna Cum Laude. While studying at Cal State LA, Mr. Alexander received a Meritorious Achievement Award from the Kennedy Center American College Theatre Festival for his work as Editor on the *John Lion New Plays Festival Anthology.*

Since beginning his coursework at the University of Tennessee, Knoxville, Mr. Alexander has maintained a 4.0 GPA and won the 2008 John C. Hodges Best New Tutor Award. Transitioning his academic focus from literature to rhetoric (specifically visual rhetoric), Mr. Alexander saw an opportunity within the field of Technical Communication to utilize the rhetorical skills he had learned in exciting ways. In the fall of 2008, Mr. Alexander was named the Society for Technical Communication's Student Liaison to the University of Tennessee, Knoxville.