Universal Design: Color & Contrast for Navigation & Safety

by Konrad Kaletsch • May 8, 2009©

"Design is a plan for arranging elements in such a way as best to accomplish a particular purpose." —Charles Eames

INTRODUCTION:

When it's time to choose color schemes for our home, we reach out for decorators such as Martha Stewart. There we find marvelous and contemporary color schemes carefully worked out by professional designers. They express breezy southern comfort or New England coziness. But what if residential colors schemes offered more than personal expression? Could they make a home safer to live in?

Universal design applies another set of criteria to color schemes in the home. The intention is for color choice to enhance user experience; color and contrast serve a functional purpose as much as an aesthetic. This idea has been applied in other areas of our life, but not out homes. Red means stop; yellow means caution and green means go. Red is Coca-Cola, yellow is Yellow Pages, and green is John Deere. Deliberate color use enhances navigation, recognition and wayfinding.

NAVIGATION:

As we move through our homes, we follow guideposts that our brains subconsciously recognize. Even though we don't count the steps, we know how many there are; in the dark we grope for familiar objects that will guide us to our destination. Color choice provides additional guideposts, or it can camouflage them. If the color of a floor and wall are similar, low light conditions will make it hard or impossible to clearly see where the floor meets the wall. The result for eyes not adjusted to low light conditions can be accidental collisions into the wall perhaps by turning a corner before actually reaching it. High contrast or opposite colors on the floor and walls makes the floor visually "pop." These are visual clues, additional guideposts, for the brain to navigate by. In this example, color is highlighting a difference.

Another application of navigation clues on a floor is the use of patterns. Solid colors make depth perception more challenging as do dull, muted patterns. Depth perception diminishes with age; it also is temporarily altered when light conditions change suddenly. Bold floor patterns not only make it easier to correctly determine when your foot will touch the floor, they also make gauging distanced easier. A pattern, such as the square of a different color every few tiles, helps one identify the length of a hallway.

This principle is especially helpful when applied to stairs. It is hard to see steps in low light when they are carpeted with a dark paisley pattern. The chance of a fall for an older

person increases significantly. Instead, apply contrasting colors to treads (the place your foot falls) and risers (the place where the stair goes up). You may also lighten the front edge of the tread as another means of enhancing perception.

A similar use of color is applied to countertops and furniture. In the kitchen, contrast between the countertop and its surrounding makes it easier to see the countertop edge. The results are fewer spills as one places items on the counter, and fewer collisions as one walks around the kitchen. Countertops are now available with one-inch borders that are a different shade or color; a decorative accent that also serves a functional purpose.

RECOGNITION:

Another use of color is used to hide or reveal. A theater paints the ceiling black, hiding the distraction and clutter of staging apparatus, wires and light cans to hide them and enhance the illusion on the stage. Sometimes we want the mechanics of our home to disappear; we paint outlet covers and switch plates the same color as the wall. Should it become necessary to more easily find an outlet, you would use color for the opposite effect. You would use a contrasting color to make the outlet or switch cover "pop." My vision has been horrible since 4th grade – contrasting outlet and switch covers are easier to identify when I am not wearing my eyeglasses.

Much like Coca-Cola's use of red, color can codify our surroundings. This application of color use helps people identify spaces and describe location. If for example all the bathrooms were blue, a person with Alzheimer's would have an easier time finding and recognizing the bathroom. It also helps children to identify place and in some cases associate purpose. Bright colors tend to suggest activity while softer colors suggest calm. Color provides reference points – instead one can say, "You'll find an extra red chair at the end of the yellow hall in the green room."

WAYFINDING:

Follow the yellow brick road, was the only instruction Dorothy needed
to get to Emerald City. And how did she know she had arrived? The city was green!
The same is helpful in hospitals, schools, museums, airports and homes. Colors help us to describe and confirm both the path and our arrival.

CONCLUSION:

In applying these few color concepts to your aesthetic choices for your home, you add to its functional value. The result is a home that is not only safer, but is also a more satisfying experience. The home becomes multigenerational; parents, children and grandparents will all appreciate the greater ease of living.

Color value diminishes as light levels decrease. Contrast has a higher effective value in low light. For lighting tips, refer to the article, *Universal Design: Lighting Improvements for Existing Homes*, for lighting designs that enhance functionality in the home.

About Konrad Kaletsch, CAPS

Konrad Kaletsch is a writer and consumer advocate for universal design. His forthcoming book and website provide both useful information, and more importantly, an understanding as to why this new building paradigm matters. For additional information, go to Universal Design Resource at http://www.universaldesignresource.com/. For professional networking, please join the universal design Network on Linkedin, http://www.linkedin.com/groups?home=&gid=1291067&trk=anet_ug_hm.