

OVERVIEW OF THE PSYCHOLOGICAL EXPERIENCE OF SPACE

Places matter. And we're always in one.

The design of a physical place influences the mental state of the people in that space. That shapes their attitudes and behavior. Not sure how much what we sense through our eyes, ears, nose, and skin matters? Consider these scenarios:

Susan was a poor student, and her mom could never get her to do her homework. Susan fidgeted a lot while sitting at her desk, her eyes often wandered, and she would pop from her seat frequently. Then Susan's mom changed the color of the wall behind Susan's desk from a very saturated but not very bright Kelly green to a less-saturated light green. She set up a scent diffuser that circulates a delicate lemon scent through the space where Susan studies. Susan's mom also lowered the light levels in the room in general and placed a task light on Susan's desk. Now Susan gets much more of her homework done and higher grades.

Tom's bistro was in the right part of town, and people did eat at his restaurant all the time, but they never stayed long enough to order high-margin desserts and they almost never returned to eat there a second time. Tom brought in a cooking consultant who tasted the dishes on the menu and pronounced them delicious. Then there was a plumbing leak, and the gently curving wall that ran along one side of the restaurant had to be torn out to find and repair the leak. Since money was tight, the curved wall was replaced with a straight one, although the size of the dining room remained the same. People started to order desserts and to come back for second meals at the restaurant. A waiter who had been gone during the plumbing fiasco asked Tom when he returned about how he had found the funds to expand the dining room; the space seemed more spacious now than it had in the past.

The radiation therapy treatment room at the hospital was a heavily insulated, bunker-like space. No matter what color it was painted, no one liked being there. The new director of the radiation program decided to make it more inviting by adding art: abstract images that he loved. The patients

found the space even more oppressive after that. Then the new head of the hospital's art program whisked away the abstract pictures and replaced them with landscapes featuring meadows dotted with groups of trees. After that, everyone in the radiation treatment area, patients and staff, felt a little more upbeat.

Nothing ever seemed very appetizing in the light blue dining room at Celeste's. Leftovers always tasted great, however, in her yellow kitchen. When Celeste painted the walls of her dining room an orange-peach color and replaced her blue and white china with warmer-colored plates, food started to taste as good in the dining room when it was fresh cooked as it did when it was eaten as leftovers in the kitchen from plastic microwave-safe containers. Now the blue china is used during the post-holiday January diet season.

Students in Ms. Johnson's third-grade class seemed to have trouble concentrating. Then a hurricane broke the glass in all the windows around the school. The new glass installed in the windows had a transparent, nonglare coating, so the heavy blinds that had been used to cut glare were taken down. Now that the students can see the natural spaces outside, everyone in Ms. Johnson's classroom, including Ms. Johnson, has a better day.

Sean could never relax in the new bedroom space his wife designed. Sean's wife found the bedroom a cozy retreat. The bedroom walls were papered in an intricate geometric print, and Sean's wife kept lots of fragrant potpourri in bowls around the room. The bedside tables were made of shiny lacquered bronze, and the carpet was a nubby berber. The room was never noisy or flooded with sunlight too early in the morning. When Sean learned more about his personality, he found he was not as extraverted as his wife and that her decorating style was too intense for him. After painting the walls, reducing the amount of potpourri, and draping cloths over the top of the shiny bedside tables, Sean could relax in his bedroom.

Nobody ever seemed to have a good idea in conference room A. It didn't seem to be a bad place—the furniture and paint were new and heavy drapes kept daylight from creating glare on the projection screen. The chairs around the conference table were comfortable to sit in. Carl thought the space could be made better, so he stepped in and redesigned it. After Carl's efforts the room is a hotbed of creativity. The windows have been coated with a clear, nonglare film and the curtains are gone, so there is always a view to the park outside. The wide conference table has been replaced by a narrower one with a natural wood grain veneer, and the chairs around that table swivel easily so everyone at a meeting can look at anyone else. The colors are warmer now, and several intricate paintings have been hung on the walls of the room. A soundscape of classical music, with about 70 beats per minute, plays softly in the background during meetings.

These scenarios show that place design matters. They illustrate place science principles that are fundamental to the experience of physical environments. These principles can be applied in homes, schools, stores, restaurants, workplaces, healthcare facilities, and wherever else people find themselves. Everyone perceives the world around them slightly differently, but people respond to that world in consistent ways—and the exceptions to the general ways of experiencing the world can be anticipated as well.

■ PLAN OF THE BOOK

This book will introduce you to place science and make you Place Smart. After reading it, you will create spaces that enhance lives. *Place Advantage* integrates information collected through rigorous scientific research by psychologists, biologists, physicists, and other concerned professionals. This book incorporates material that anthropologists, sociologists, and designers have learned in thorough and structured investigations. Place science is a tool kit that you can use every day.

Reading this book will teach you how to create specific places that influence people in desired ways. Designing spaces is difficult because the right place is different for different people at different times doing different things. The personalities and cultures of the people who use a space influence whether place designs are successful.

Scientists have been studying how people respond psychologically to their physical environments as a separate field of research for about 40 years, although even the ancient Greeks built places like the Parthenon to create particular effects. The place scientists (also known as environmental psychologists) who have been working since the 1960s have developed a collection of theories in conjunction with their work, but not enough attention has been paid to applying the information researchers have collected—that is the focus of this book.

This book is a professional conversation with people who create places and is based on the work of many researchers. The scientific references that I think designers might be interested in reviewing are marked in the text, so interested readers can get more information. Important sources of information are listed at the end of the book. Suggested readings (marked on that list with an “S”) are also good sources of additional insights. The design implications that accompany the text are a psychologist’s recommendations to people designing interior spaces. They should be seen as basic ways in which the principles covered can be used, not the only ways they can be applied.

This book begins by introducing general principles of place science. These general principles are usually initially discussed in a residential context to

make them immediately accessible to all readers—after all, we all live somewhere. Specific chapters discuss how place science can be applied in schools, healthcare facilities, retail establishments (including restaurants), homes, and offices. Since people are people, no matter where they are, there are consistencies in the material presented in each of these chapters. Designing different sorts of places twists the application of place science in new ways, however. Retailers, restaurateurs, and the people who build schools, offices, and hospitals have learned a lot about how space influences us psychologically, and they use that info every day to encourage people to buy things, eat more, learn, work effectively, and get healthy.

■ APPLYING PLACE SCIENCE

Applying place science is challenging. People are complicated. They are a hodgepodge of rational and irrational thoughts and emotions, so their responses to places are complicated also (Vischer 2005). To create places that enhance human lives, you need to focus on a range of details and make a lot of decisions.

Some of our responses to places are inborn (Kellert 2005). Somehow, certain sorts of experiences affect people in different parts of the world in the same way, and have for generations. Colors of a certain saturation and brightness influence the moods of human beings in predictable ways, for example (Valdez and Mehrabian 1994). Personality, which is consistent throughout our life, also influences how we interact with our physical environment. Other responses are conditioned by national culture (Altman and Gauvain 1981): everyone has the same energy level while looking at a particular shade of black, but for some people that black represents authority and for some it denotes weakness. Culture has a big influence on the size of the buffer zone or empty space that people like to maintain around themselves in various situations, for example (Hall 1982). Germans talking to one another are situated much farther from one another than Mexicans would be in the same space, talking about the same subject. We also pick up social cues about the sorts of ways we can present the aspects of our personality we want others to perceive when we personalize our surroundings. We learn and apply the associations that other members of our culture have to a pattern or smell, for example. National culture is not the only “way of doing things” designers must recognize; groups also have their own cultures and ways of communicating concepts, sometimes without words. So for members of one organization, a certain color green can be associated with an organization’s award for exceptional performance, or a wily but feared competitor.

We all have associations to things around us because of groups that we’re in, and we have additional associations and memories that influence our

individual responses to the space around us. Place-related memories were very important for human survival in the past—we had to remember where camp was and where it was safe to sleep. Now each of our individualized sets of place memories influences the design of the spaces where we can thrive (Israel 2003). Accessing place memories is key to designing a successful space. These personal place memories mean that no two people will ever respond in exactly the same way to the same space.

Smells, colors, textures, and other sensory inputs can take on a special meaning for individuals. Even if a particular color of turquoise is the perfect color for the bathroom you are designing (according to what you have learned about place science), don't paint the bathroom that color if someone who will use that space had to take a horrible-tasting cough medicine the same shade of turquoise as a child. Peppermint is generally an energizing scent, but if your mom always chewed peppermint gum when she rubbed your back as you fell asleep at night, you will find the smell of peppermint relaxing. When you want to rev up, you'll need to smell one of the other energizing smells discussed in Chapter 5. Chapter 11 will show you how to ask questions to learn about individual sensory associations as well as a lot of other important place-related information.

Since Adler (1968), psychologists have known that for every person, there is one sense that is extra potent, that is a compelling way into his or her heart and head. It's an individual's dominant sense. When you are creating spaces that one or a few people will use, the dominant senses of those users should be recognized. Dominant senses help determine what information from the physical world makes its way into their psychological world, and what influence it has once it arrives. One of the surest ways to reach through the muddled stream of sensory signals around each of us, and into our emotional core, is through our dominant sense. In Chapter 7, you will learn how to identify one.

Human beings can take in a lot of information through their senses—but we can't consciously absorb everything going on, even in a space that doesn't seem to throw a lot of curveballs. How about this test: what does the room you're in now smell like? Unless it's unusual for some reason, you probably don't know. At any time there is so much going on around us that focusing on even half of what we're being exposed to would overwhelm us. So we all filter, and we all filter differently—we each have a set of incomplete information to use as we move forward through our world. Many of the filters we apply are woven by our cultures, which makes it easier to design spaces that will be used by more than one person, as long as all of those users have similar cultural associations. Chapter 8 discusses how national cultures should influence place design, and Chapter 7 does the same for organizational cultures.

Cultures don't just teach us what sorts of associations we should have to sensations such as colors and smells; they also teach us rules. We each

have learned the place rules for our professions, families, and neighborhood, among others. Through the rules that it teaches us, culture organizes our place experiences. Cultural systems tell us how far to stand from other people and how we should personalize the spaces we control to nonverbally communicate desired messages. Having cultural systems in place frees us up from continually needing to devote mental energy to figuring out what's going on around us and allows us to move on to more mentally stimulating endeavors.

To apply place science successfully, you need to consider what people will be doing in any space you're designing. A space for working on a routine task should be different from a space for brainstorming, and a space for socializing should be different from a space for meditating. You do something that doesn't require much concentration, and something creative and something social and something spiritual, better when you are in particular mental states. With place science, you can reliably create those states.

This book illustrates how research should influence place design, but it does not lay out a simple formula for creating great spaces. To apply place science, you have to keep all the different things we've mentioned above (personality, organizational culture, national culture, etc.) in mind. *Place Advantage* provides a variety of alternatives that enhance places, but selecting from among the appropriate options for a space requires the art and skill of design. To work through an example: Saturation and brightness determine people's psychological response to a color (more on this in Chapter 5), so there are shades of red, blue, and green that all create the same emotional effect. Different cultures also have particular associations to individual colors, and people's personal experiences, personalities, and associations to colors lead them to prefer some more than others. Working these factors together with the amount of sunlight that enters a room, the colors of furniture that will not be replaced, and a myriad of other place-specific details and options and selecting colors for a space is the transformative, magic phase of the design process—and designers are responsible for that conjuring.

There are always several ways to design a psychological experience into a space. Having multiple tools to apply at any time means that your options for creating the places consistent with your programming objectives and exercising your creative freedom increase significantly beyond what you have learned through your previous design experience.

Place science is not only applicable to places you design but also to how you choose to live your life. You can create a portable environment that envelops you by wearing scents and specific colors. You can also pick spaces to meet where you know the place will help you achieve your objectives.

Our worlds are changing in superficial ways. Shepherds in Mongolia have yurts and Toyotas and cell phones. The same television advertisements, in

the same languages, are shown in Holland, the Netherlands, and Holland, Michigan. Furniture shows in Milan influence the future design of apartments in Damascus and in Miami—although families in each place still use different criteria to plan their days and to determine whether they've been successful. For now. Cultural overlays on our inborn responses to place are becoming more difficult, as well as more important, to sort out.

Our place-related needs have remained much the same, even though the physical environments we find ourselves in look different than they did a few years ago. We still need to think creative thoughts sometimes, to relax at other times, and to pull dinner together. And many of us have to be really efficient about pulling that dinner together because we have many more things that we feel we need to accomplish within any 24-hour span than our grandparents did. We have the hubris to believe that our brains are evolving and that we process information in a fundamentally different way than our grandparents, but human minds and our place-related needs evolve over eons, not generations.

We're always somewhere. Make the places you design the best places for **people** to live the lives they want to lead. The physical environment alone cannot make everyone's dreams come true, but it sure can tip the scales in one direction or another.

