"We shape our buildings and our buildings shape us." Winston Churchill expressed this thought to the House of Commons just after World War II. He was referring to a proposed plan to change the shape of the legislators' meeting room, concerned that a change of physical environment would, in turn, effect change in the legislative process.

Churchill's point—that environment affects behavior—is a well-documented fact, but only recently has the knowledge of social scientists (environmental and behavioral psychologists) been deliberately applied to architecture and interior design. This knowledge is beginning to be applied to the field of restaurant design.

Environment and Behavior

Despite the lack of applied research, we know that customers' attitudes and behavior are influenced by their interaction with environmental elements. For example, consider the chair you are now sitting in. You might be able to read this text for hours because the design of the chair and the texture of the seat covers are conducive to reading. Conversely, you might already feel uncomfortable. The chair could be so comfortable that you want to take a nap, or the angle and hardness of the seat might cause you to adjust yourself frequently. This psychological reaction to physical features is important to the selection of seating in a restaurant, because it can influence guests either to eat quickly and move on or to linger over a meal and choose to stay for an after-dinner cordial.

Seating selection is one of many decisions made by the design team that should reflect a working knowledge of design psychology. The combination of all environmental elements affects how people feel and, consequently, how they act in a given space—how long they stay, how comfortable they feel while they are there, what they remember, and, perhaps, if they want to come back again.
How Space Is Perceived

In order to analyze the psychological impact of design elements, one must understand the many ways in which people perceive their surroundings. According to the anthropologist Edward T. Hall in his book *The Hidden Dimension* (Anchor Books, 1969), sensory apparatus falls into two general categories: distance receptors and immediate receptors. The distance receptors—the eyes, the ears, and the nose—are used to examine faraway objects and sensations. These receptors allow us to gather information without making contact with an object or person. The immediate receptors—the skin, the membranes, and the muscles—examine the world up close. The immediate receptors enable the experience of touch and the perception of such diverse sensations as temperature, texture, hardness, and shape.

Hall also defines different distance zones because distance from any given object influences the perception of that object. A classic example is the impressionist painting, which looks like blobs of color on close inspection but, from a distance, reveals a Parisian landscape. So, too, in a restaurant must the design consider the sensory impact of objects that are close to the guest along with objects that are across the dining room. Hall’s distance zones, which are excellent guidelines for environmental design planning, are as follows:

1. **Public distance—12 feet and beyond.** The feeling of distance one gets when entering a high-ceilinged restaurant or a large open lobby. Public distance encompasses the view when walking into the dining area itself or when entering a spacious pickup area in a kitchen.

2. **Social distance—4 feet to 12 feet.** Customers feel social distance when they watch the television screen above a bar, entertainers in a nightclub, or the service staff bustling about the restaurant. Similarly, the kitchen staff experience social distance while working in a display kitchen, where guests walk by, or in a bakery station, where workers at other stations can be seen.

3. **Personal distance—18 inches to 4 feet.** The feeling of distance experienced when speaking across the table to dining companions. This is also the feeling two kitchen staff members get when working at a double-sided workstation or at a broiler station positioned next to a fry station.

4. **Intimate distance—physical contact to 18 inches.** The feeling of being close enough to touch a dining companion, as when seated side by side on a banquet. It is the sometimes crowded feeling when a diner’s chair is bumped by passing service staff or a cook brushes past a coworker in a cramped kitchen.

Another important influence on the way people perceive space is their ethnic background and country of origin. In Europe, for example, people are comfortable in crowded dining conditions, hence the popularity of cozy cafés and beer halls where tables and people press together in a way that members of other cultures might find stifling (Figure 3.1). In contrast, the hushed atmosphere of the Japanese teahouse in downtown Tokyo, with its sense of serenity and spaciousness, reflects a totally different cultural orientation.
If management can identify the cultural characteristics of the target market, design can be geared to suit it. In this context, cultural characteristics could indicate ethnicity, urban versus rural preferences, the needs of bicoastal travelers, or the tastes of baby-boomers versus Generation Xers.

**Distance Receptors**

**Visual Space**

Visual perspective is affected by the structure of the eye and the angle at which objects are viewed. The retina—the light-sensitive part of the eye—is com-
posed of three areas, each performing a different function. One important function is peripheral vision, the field of vision outside the line of direct sight.

Hall cites the following example of peripheral vision:

A man with normal vision, sitting in a restaurant twelve to fifteen feet from a table where other people are seated, can see the following out of the corner of his eye. He can tell that the table is occupied and possibly count the people present, particularly if there is some movement.

At an angle of 45 degrees he can tell the color of a woman’s hair as well as the color of her clothing, though he cannot identify the material. He can tell whether the woman is looking at and talking to her partner but not whether she has a ring on her finger. He can pick up the gross movements of her escort, but he can’t see the watch on his wrist. He can tell the gender of a person, his body build, and his age in very general terms but not whether he knows him or not.

(The Hidden Dimension, p. 72)

People can perceive all specific details about an individual only when he is directly in front of the retina.

The more designers understand how vision zones work, the more effectively they can manipulate visual space. For example, a diner’s field of vision is broader when sitting on a banquette than when sitting in a booth (Figure 3.2). Banquette seating also places customers within personal distance of each other, unlike when they are seated in booths, particularly high-backed booths.

Guests are more affected by surrounding elements in a banquette and more private in a booth, where the field of vision is narrower. This implies that banquette seating—which provides more visual stimulation—encourages faster turnover and is especially appropriate for a casual restaurant or one with a big open kitchen. Booth seating, because it limits visual stimulation and distractions, provides a feeling of intimacy, and leads to slower turnover of tables, works well for restaurants that want to attract business diners or romantic couples.

Personal space can be real or perceived, so using angled tables rather than banquets can eliminate the perception that another customer is in one’s personal space (Figure 3.3). In fact, freestanding angled tables can
create a sense of intimacy and cut visual distraction throughout a dining room. Increasing the space between tables can also lessen visual distraction, although this is a costly technique. Lighting levels can be modified to further limit the scope of vision, and light or cool colors can help create an overall sense of spaciousness.

Designers often manipulate visual space with mirrors and reflective surfaces (Figure 3.4). Mirrors expand the sense of space as well as the field of vision. (Used incorrectly or to excess, however, they can cause visual confusion and disorientation.) Mirrored columns or mirrored horizontal or vertical planes can open up an otherwise claustrophobic room while adding sparkle and visual excitement. Here are some mirror solutions:

- **Art mirrors**—These large, framed mirrors typically sit high on a wall to give an overall sense of openness to a space.
- **Mirror strips**—The strips are frequently applied above a banquette to offer the customers facing the wall a glimpse of the action behind them. Mirrored strips at eye level permit a selective (and secretive) view of the bustling waiters, sparkling tabletops, and other diners to the rear.
- **Mirrored columns**—This application allows customers seated in a middle of a room to catch a glimpse of other customers from varying angles.
- **Ceiling mirrors**—Their hard surface reflects a good deal of sound, but they tend to open up a space and offer whimsical views of activity throughout the room.

Another effective means of modifying visual space is to minimize sight lines. A frosted glass or glass brick wall, for instance, limits visual perception. Light and motion can be perceived through the glass, yet the diner maintains a feeling of intimacy. In some cases, one-way or reflective glass is used on exterior window walls. Diners can thus look out, but passers-by can’t look in. However, these reflective windows can, from the outside, give the impression that the restaurant is closed, which is not good for business.

**Auditory Space**

Auditory space involves how the ear works and what, exactly, we hear. The ear actually picks up sound from two main zones. Primary audio space, in which one hears and is heard clearly, extends to 20 feet away. Background audio space extends from 20 to 100 feet away. In many dining areas, sounds in the primary
audio space must be modified and turned into background noise so that diners can hear table companions and servers and can speak to them without strain. At the same time, they should be conscious of a friendly background buzz. This state has been called *convivial intimacy*. It means that guests feel secure in their privacy, yet part of a larger whole. One of the greatest challenges is to ensure that none of the seats is overpowered with background noise. Thus, the impact of ceiling speakers, wall-mounted televisions, and sound-producing equipment in the back of the house must be considered.

Control of primary and background auditory space is also important in the kitchen. Kitchens are innately noisy spaces made louder by communications between kitchen workers and the service staff. With the introduction of remote printers linked to the POS, the need for conversation between production and service staff is significantly decreased. Although background noise can add vitality and energy to the kitchen, the sound must be controlled to minimize carryover into the dining area. This carryover sound is of particular concern in display kitchens because of their proximity to dining areas.

Because the restaurant, by definition, is a noisy environment, acoustical control often involves the skillful application of sound-absorbing materials with the goal of achieving background buzz. Soft materials like carpet, upholstery, wall coverings, and curtains, as well as acoustical ceilings, panels, and banners, all help mute noise levels, but the most effective way to deaden noise is with ceiling treatments.

Designers can effectively combine acoustical materials with decorative applications. For example, a treatment composed of fabric-covered baffles that temper noise levels might serve as a unifying design statement that pulls together the entire room. Baffles, which generally are made of glass or mineral fiber bats encased in perforated metal or fabric, are especially effective in high-ceilinged spaces.

For retrofit, the acoustical panel is an efficient and cost-effective choice because installation does not involve structural work. Faced with woven fabric or perforated vinyl, the panels come in a variety of shapes and sizes and are easily attached to walls or ceilings. They can even be formed into the restaurant's logo or other graphic symbols. Similarly, plain acoustic ceiling tiles can be painted to reflect the restaurant's design theme (Figure 3.5).

Another technique that can be particularly effective in helping soften loud conversation is the use of background music. Here,
the principle at work involves masking undesirable noise—voices at other tables, the clatter of dishes, etc.—with the desirable sounds of music suited to the taste of the restaurant’s clientele. As noted in chapter 4, however, it is important to control the level of background music so that it does not become a distraction. Restaurants with live entertainment face a particular problem because live music often becomes foreground music. For guests who wish to listen to the music, this is a pleasing addition to the environment, but for those wishing to converse while they dine or sit at a cocktail table, foreground music can be irritating.

The obvious solution—cutting the size of the dining spaces to quiet primary audio space—is not always effective, however, because sound waves travel through floors, walls, and ceilings. Just because adjacent dining rooms are visually separate doesn’t mean that they are acoustically separate. In operations that require a single dining area, careful attention to sound-catching corners, shapes, and spaces can significantly limit reverberative sound.

In some types of operations, such as the fast-food restaurant or the bar-dominated gathering place, little attention is given to controlling primary audio space because high noise levels create movement, excitement, and action—all desirable in these places. Popular new see-and-be-seen restaurants throughout the country often share remarkably high noise levels created by hard surfaces such as steel, glass, wood, and concrete. Many also have high or domed ceilings that reflect or focus sound, generating hot spots of high noise levels. It’s important to consider that all of these sound-reflecting surfaces and materials can generate reverberation and cause an echo effect.

Olfactory Space

The olfactory sense is the sense of smell, which, despite its importance, is frequently overlooked in restaurant design. Smell evokes the deepest memories of all the senses, but how often does the design allow pleasant aromas to waft through the restaurant—aromas that customers will remember the next time that they think about where to eat? Given current interest in fresh, whole ingredients, perhaps their accompanying smells should be allowed to filter through the front of the house. Because an absence of smell obscures memories, the indiscriminate elimination of all olfactory sensation can have a negative psychological effect. The smell of fresh-baked breads outside a boulangerie or of slow-smoked pork shoulder at a barbecue restaurant helps stimulate the appetite. Today, aroma infusers are available for front-of-the-house ventilation systems. The infusers slowly dispense the aroma of fresh coffee, fresh bread, and dozens of other memory-provoking essences.

Another technique to enhance the guest’s aromatic experience is tableside cooking. In many recipes, a dash of Worcestershire sauce is added to the heated pan. The accompanying sizzle and the aroma of the vaporizing sauce tantalizes palates and prompts others to purchase tableside preparations. This technique is used effectively in Mexican restaurants, where sizzling fajita platters are paraded to the table, in Asian restaurants, where foods are placed on a sizzle platter just before serving, and in teppanyaki restaurants, where foods are cooked on a flat griddle in front of diners.
Smells can also create negative feelings. The stale smell of beer or slightly soured mixers tells the customer that a bar lacks a good sanitation program. The smell of cigarettes where customers are trying to savor a vintage Bordeaux indicates an ineffective ventilation system. Negative smells can attach to such items as glassware; using a stale bar towel to polish clean glasses can impart an off odor that will be released when beer or other beverages are placed in the glass. Of course, the smell of garbage in the parking lot sours the stomach.

**Immediate Receptors**

**Tactile Space**

Tactile space includes both what is actually perceptible by touch and what relates visually to touch. A wineglass, for example, is an item that a guest touches in a restaurant, and a nubby wallcovering is a surface whose texture engages the visual perception. Tactile space is extremely important because it can psychologically warm a room, which makes people feel comfortable.

Tactile elements involve people with their surroundings. This is particularly important in modern interiors and in large, high-ceilinged spaces, because both tend to make people feel separate from the environment. Diners often like to feel impressed by the design of a restaurant, but they don’t like to feel overwhelmed. Textural architectural and decorative surfaces like fabric, brick, upholstery, and artwork can all keep the environment from feeling distant or intimidating (Figure 3.6).

The touchable items in a restaurant—seating and tabletop elements—have a lot to do with people’s enjoyment of the dining experience. The degree of seating comfort, for instance, has a great deal of influence on the length of the meal and should be chosen to suit the facility. Natural materials, upholstered seats, and padded armrests maintain high comfort levels and are recommended for high-ticket establishments. Comfortable seating also helps keep customers content as they sit through the multiple courses that play a pivotal role between profit and loss in many fine restaurants.

Tactile sensations can also be negative. No one likes the sticky sensation of plastic upholstery in warm temperatures, the feeling of pitching too far forward in a hard seat, or leaning against a seat back that is uncomfortable. Yet some degree of tactile discomfort can be appropriate for a restaurant that depends on quick turnover, like a fast-food eatery. Here, the seating can be pleasing to the eye but
Tactile sensations are also important in the kitchen. Well-balanced knives, solid worktables, and substantial cutting boards give kitchen workers a sense of security and comfort. It is not comfortable to sit for long. This reflects an increasingly common design technique in the fast-food environment: furniture that looks good but becomes uncomfortable to sit in after about 15 minutes.

Turnover in 30 minutes or less is not only essential to the success of fast feeders but also plays a pivotal role in customer satisfaction and the ultimate profitability of cafeteria operations. Frequently, cafeterias serve large numbers of diners in a limited period. Comfortable seats can slow table turns and lead to dissatisfied customers who wander around the dining room with trays full of food in much the same way as they hunt for parking spaces for their cars.

In any type of restaurant, the tabletop elements—table surfaces, flatware, glassware, dishware, table accoutrements—play a major role in customer satisfaction. The feel of a perfectly balanced fork, the coolness of a chilled beer mug, and the pleasant touch of a linen napkin add to the dining experience. Even in an inexpensive eatery, the choice of tabletop utensils is critical to diners’ enjoyment of a meal because of the direct contact with these items. Tabletop elements, from paper plates to crystal goblets, should always be carefully chosen.

Tactile sensors are finely tuned. The fingers detect smoothness and temperature, and the muscles in the fingers, hand, and arm weigh tabletop items, calculate how well built they are, and determine imperfections in balance or form. The oenophile sipping a 1961 Château Lafite-Rothschild from an improperly balanced wineglass does not fully enjoy the experience. A five-degree rise in temperature as growing numbers of diners overload the cooling system on a hot day can make guests irritable and hasten their departure.

On the tabletop, as in the restaurant interior itself, avoiding a homogeneous textural weight is advisable. The tabletop could offer a pleasing tactile experience through the contrast of a smooth marble table surface, nubby linen-blend napkins, and cut-crystal glassware. Likewise, a casual restaurant might feature smooth polyurethane wood table tops with woven placemats and heavy stoneware. Attention to tabletop detail helps create a strong impression of value in the minds of clients. It shows concern for the things people touch and implies a high regard for the food as well.

Tactile space is an important concern with take-out foods. A thin napkin for fried chicken tells people that they will have trouble wiping their fingers when they are through. Flimsy plastic forks and knives encourage people to take two of each and prepare for all of them to break—hardly the message that should be sent to paying customers.

Tactile sensations are also important in the kitchen. Well-balanced knives, solid worktables, and substantial cutting boards give kitchen workers a sense of security and comfort. Non-slip flooring is another crucial design element in the kitchen. The tactile sensation of secure footing is essential to a sense of safety.

Another part of the restaurant where tactile attention is important is the rest rooms. We all tend to equate a dirty bathroom with a dirty kitchen. By the same token, attention to bathroom detail causes customers to feel that management cares about the broader quality of their dining experience. Skillful use of tactile space; for instance, might mix Corian® or marble surfaces, terra-cotta flooring, attractive dried flower arrangements, and decorative tile walls. Such textural diversity creates a pleasant effect, yet provides surfaces that are easily cleaned and maintained.
Food, of course, is the most tactile element of all (Figure 3.7). Food presentation works on many levels to impress—or distress—the diner. In addition to food’s appearance, mouthfeel—its texture in the mouth and the complete organoleptic experience that includes taste, texture, and temperature—is an element of customer satisfaction.

If presented in a nondescript way, even well-prepared dishes can look unappetizing. Conversely, a carrot curl on a sandwich plate or a sprig of lemon thyme on a poached filet of ling cod go a long way toward creating the impression of good food. A delightful textural balance of foods is literally mouthwatering.

Even in the fast-food environment, tactile cues can create the impression of food value. Packaging design often plays an important part. If the standard ketchup container that spells out the word ketchup on one side and names the manufacturer on the other also shows an image of red, ripe tomatoes, the customer is more likely to perceive the value of its contents. The average fast-food container, however, has nondescript surfaces that give little indication of the contents and in no way help sell the product. Home meal replacement (HMR) offerings, on the other hand, are packaged in containers with see-through lids that allow the food to merchandise itself.

**THERMAL SPACE**

Thermal space relates to temperature. In the restaurant, the most important psychological effect of thermal space is its influence on one’s sense of crowding: Hot rooms feel more crowded than cool rooms. Consequently, a full restaurant should be kept comfortably cool so that diners do not experience the discomfort of feeling hemmed in. Half-empty restaurants might benefit from warmer temperatures because the warmth helps create a feeling of more people in the room.

Overheated kitchens result in overheated tempers and, ultimately, have an adverse effect on productivity. “If you can’t stand the heat, get out of the kitchen” does not carry the weight in a labor-short marketplace that it once did.

Temperature control is a particular problem in the design of ballrooms or restaurants with window walls. Here, the heat loads—from the occupants of the room or the rays of the sun—can periodically overload cooling systems and make the rooms feel uncomfortably warm.

**KINESTHETIC SPACE**

Kinesthetic space is the psychological (not physiological) perception of space. Physical conditions affect kinesthetic perception. A room that can be crossed in 1 or 2 steps creates a different sensation than a room that takes 15 steps
to traverse. A 20- by 40-foot room with a 7-foot ceiling feels a lot smaller than the same room with an 11-foot ceiling.

Designers can manipulate kinesthetic space in the restaurant by a variety of techniques—mirrors, barriers, and furniture arrangements—that help achieve a desired psychological effect. A lowered ceiling over perimeter seating, for instance, affords a more intimate dining experience than a high-ceilinged central area in the same restaurant.

Another aspect of kinesthetic space is that the fewer restrictions to movement, the larger the space feels. When comparing two identical rooms with different furniture arrangements, the one that permits the greater variety of free movement is perceived as larger. This principle can be effectively applied in compact urban storefronts, where a wall-hugging seating arrangement keeps the space from feeling cramped.

The vocabulary of the social scientist can now be applied to the process of restaurant design. We examine next the psychological effects of three crucial design applications: spatial arrangements, lighting, and color.

**Spatial Arrangements**

Spatial arrangements should always be orderly, guiding customers and employees in a logical progression from space to space: from exterior to entry zone to dining room, from kitchen to dining room to bar and back to dining room. The restaurant exterior, including signage, parking lot, and landscaping (when applicable), is important because it creates the first impression and gives visual cues about the type of facility within. Spatial features such as large parking lots, the location of doorways, and covered walks between the valet and the entryway can draw diners in or prompt them to go elsewhere.

As for the interior, social scientists divide space into two main areas: barriers and fields. Barriers include walls, screens, symbols, and objects. Fields include shapes, size, orientation, and environmental conditions. In the restaurant, both serve functional and psychological purposes.

Barriers often act as space dividers to create feelings of privacy. For example, a dividing wall can separate the functions of entry and dining, and potted palms can help delineate small, intimate dining areas in a large room (Figure 3.8).

Fields can be thought of as the complete architectural plan: the overall layout of space with its accompanying environmental conditions of climate and lighting. These elements substantially influence how people feel in a space. A small room helps create a cozy feeling for a gourmet restaurant, and a large room helps engage diners in the see-and-be seen atmosphere of a theatrical restaurant. The mixed sensation of barrier and field of the open kitchen, and the proximity of work and dining areas, affects both the kitchen staff and the diners.

Shape also has psychological impact. Because people tend to be attracted to curved forms, architects often build large, curved walls. The upward sweep of these curved lines can be uplifting. Restaurateur Drew Nieporent suggests that restaurants "need curves, round tables, and banquettes. People like corner tables but designers don't know that. By curving the banquette, you end up with a corner."
Many recent restaurant designs use curved banquettes and other curvaceous shapes to great advantage (Figure 3.9).

Lastly, the interaction between spaces—between the outside and the inside, between the front of the house and the back of the house—can help communicate information about the quality of the dining experience and about the food itself. A display kitchen or more subtle kitchen references, like wood-burning pizza ovens or pickup windows, not only signal messages about the food but also allow diners a privileged glimpse of the back of the house. Psychologists maintain that people like seeing what goes on behind the scenes and that those staged regions that bridge the front and back of the house can generate a lot of customer interest. In this context, service staff uniforms also link kitchen and dining rooms and send messages about both the food and the type of establishment. Black jeans and a T-shirt, for example, carry a completely different set of associations from a full-skirted, blue-and-white-checked gingham uniform, the former belonging to a hip, expensive inner-city bistro and the latter to a popular, moderately priced pancake house.

Within the dining area, designers can manipulate spatial arrangements for a variety of psychological effects. A really bad table is never necessary. Terraced floor levels rising back from windows, for example, can provide each table with a view. In a large room, terracing from side to side defines spatial areas and creates islands of intimacy. Other techniques that facilitate comfortable dining and camouflage room size include lowering parts of the ceiling (mentioned previously in respect to kinesthetic space) and enclosing an area with architectural or decorative dividers. The larger the room, the greater the need for such enclosures.

Furniture arrangements can facilitate or retard interaction among people and should be chosen to suit the type of facility. For example, a restaurant that functions as a gathering and meeting place wants to encourage interaction among guests. Here, face-to-face seating and an asymmetrical bar shape can help draw people together. Other facilitators include uncluttered lounge seating and casual-
looking furniture. Conversely, when privacy is desired, widely spaced tables can be arranged at angles to each other to restrict views of other diners. Chairs in a row, barriers between chairs, and linear bars act to retard conversation.

Rooms with a regular layout of tables all neatly lined up in rows seem formal. Tables that are randomly spaced throughout the room, with different sizes of tables mixed together; and rooms divided with barriers lead to feelings of informality and even intimacy.

In the back of the house, equipment arrangements can retard or improve interaction among employees. The equipment itself, or divider walls, serves as barriers. However, half-high divider walls can help interaction among workers because they allow people to talk to each other. Limiting barriers can also improve supervision. Managers who can easily see every corner of the front and back of the house can more readily supervise employees.

**FENG SHUI**

Feng shui is the Chinese art of geomancy: the belief that the placement and location of buildings and objects can harmonize or conflict with the natural environment and cause good or bad fortune. Principles of feng shui can be used in site selection and the placement of buildings on the land as well as the placement of elements within a building and even the naming of a business.

A restaurant with good feng shui is said to be a good place in which to conduct business, and it affords a sense of well-being and equilibrium, while a restaurant with bad feng shui will be uncomfortable for diners and bad for business. For example, a restaurant built on a T-shaped lot across from a triangular pond surrounded by oddly shaped trees is said to have bad feng shui that will cause the restaurant to fail.

Many feng shui principles relate to sound design principles in general use. It would be prudent to consider the positive psychological impact of integrating good feng shui wherever possible.

**Lighting**

Lighting is arguably the single most important element in restaurant design because incorrect lighting can obviate the effectiveness of all the other elements. Lighting is a critical psychological component as well; more than any other design application, illumination creates mood (Figure 3.10). Lighting can make a room feel intimate or expansive, subdued or exciting, friendly or hostile, quiet or full of electrifying energy. Not only is the intensity of the lighting important but also the light source, the quality of the lighting, and the contrast of light levels in different areas. In the kitchen, lighting intensity must be maintained at a level that does not lead to eyestrain.

Ideally, a lighting design consultant is retained to handle the complexities of designing an effective illumination scheme. If the budget prohibits the hiring of a lighting designer, the architect or interior designer must be well versed in lighting psychology and sensitive to the specific demands of the facility. A bustling cafeteria calls for a bright ambient light level and brightly lit architectural surfaces to
help move people through the space. An elegant à la carte French restaurant should have a more subdued illumination scheme to encourage leisurely dining. A source of illumination between diners, like candles or reflected light bounced off the tabletop, draws them together while providing a complementary glow that helps overcome the negative aspects of downlighting.

Although the lighting scheme should always respond to the type of facility, the following guidelines for psychologically effective illumination apply to any restaurant. Remember that restaurant lighting is similar to theatrical lighting: both set the stage for a dramatic production that relies heavily on setting and atmosphere to carry it off.

A dimming control system that can modify illumination levels for optimum psychological effectiveness is important to any lighting scheme. The system should be changed in response to the time of day and to create different moods for different occasions. The same room can feel bright and cheerful for breakfast, restful for lunch, animated for cocktails, and romantic for dinner—all due to carefully planned light programming. If the budget permits, an automated system can be programmed to react to external light conditions and deliver the desired light levels for any time of day or type of function. Dimming systems should never be adjusted during dining hours, as this can be distracting to the clientele. Nevertheless, control systems should be clearly marked to facilitate manual lighting level changes, should the need arise.

Light transition zones are important so that customers don’t feel blinded when they enter from bright sunlight or disoriented when they leave at night. When people step into a dimly lit restaurant from the sunlit outdoors, for example, their eyes need time to adjust before they can see clearly. Light transition zones help eyes adjust before people move on to the dining area and impart a logical psychological procession from outdoors to indoors.

Sparkle is said to enhance and encourage conversation. Sparkle comes from light fixtures such as chandeliers and multiple small pin lights. It is also produced from certain reflected light, such as light bounced off glassware, mirrored surfaces, and shiny tableware. Especially appropriate for leisurely dining, sparkle seems to create an almost magical effect that makes people feel animated but not restless.

For environmental comfort, and to avoid a homogeneous, boring effect, direct lighting (light cast directly onto an object, without reflections from other surfaces such as walls or ceilings) should be counteracted with indirect lighting. The juxtaposition of direct and indirect lighting can create an interesting yet comfortable effect. Indirect lighting can create small shadow patterns that feel friendly; however, large, dark shadows can appear hostile and should be avoided.

One of the most important aspects of psychologically effective restaurant lighting—and the most overlooked— involves making people look their best. When people feel attractive, they not only enjoy the environment more but also tend to return for repeat visits. If flesh tones look good, food also tends to look good. Both look best under incandescent lamps, but a careful mix of warm (or tinted) fluorescent and incandescent lighting can also provide a rosy, flattering glow. Strong downlighting, however, is extremely unbecoming to people because it highlights every imperfection, and light sources improperly angled can throw unflattering shadows over faces. Guests also tend to feel uncomfortable when their table is lit more brightly than the environment around them; the effect is
Light and cool colors recede. This principle can be used in restaurant design to expand a sense of space.

something like looking into a black hole. Therefore, people should not be spotlighted as if they were on stage but rather surrounded with soft light. Although strong downlighting centered on the tabletop can be used effectively, designers must install easy-to-aim lamps that can be adjusted when tables are moved.

Perhaps the most crucial element of psychologically effective restaurant lighting is balance. If a room is too bright, too dim, too deeply shadowed, or too homogeneously lit, it won't feel comfortable. Achieving the right balance involves not only the correct selection of light sources but also light programming that is sensitive to overall brightness, daylight, and the color spectrum.

**Color**

Color should always be chosen in concert with lighting because the two are so closely associated. Together they communicate a variety of psychological messages on both obvious and subliminal levels. Their relationship stems from color perception being a function of the type of light source and the reflective surface itself. In other words, the same color takes on different hues or appears to be a different color when seen under different light sources (fluorescent or incandescent, for example) or when viewed in direct or indirect light. Light is color itself, whether the source is a tinted bulb, a neon tube, sunlight, or a candle.

Another consideration is that the source of light affects the perception of color. Some of the light is absorbed, but the light that is reflected is highly charged with the color of the surface material or, in other words, its hue. In addition to hue, brilliance and saturation affect the perception of color. Combined, the Munsell color system gives a graphic depiction of how these three elements interact. The higher the value of the color, the greater its reflectance. The saturation of each value level can be thought of as the purity of the color. Pure yellow has a higher saturation level than a shade of yellow produced by mixing yellow with black or some other less reflective color.

Light and cool colors recede. This principle can be used in restaurant design to expand a sense of space. Conversely, dark and warm colors advance and can be used in large rooms to keep the space from feeling vast and impersonal and to instill a sense of intimacy. Warm colors become excellent highlights as points of color on a tabletop and add to a feeling of elegance.

Bold, primary colors and bright lighting encourage turnover and are appropriate for fast-food and casual restaurants that depend on fast turnover. Extremely high illumination, however, washes out the effects of colors (as well as the effects of texture), leads to eyestrain, and lessens the impact of design detailing.

Muted, subtle colors create a restful, leisurely effect. Pastel color schemes, in addition to making a small room appear larger, evoke a calm atmosphere.

Light colors can also make a room look brighter because the brightness of a color is a function of its hue. Light colors such as yellow appear brighter than dark colors such as navy blue, even when measured brightness is the same. Measured brightness is expressed in lumens, which are absorbed into dark-hued surfaces and reflected from bright surfaces. As mentioned earlier, brightness is also affected by the light source.
Because they carry various associations, colors can evoke a theme, a style, a culture, or a country. Purple, for example, is the color of royalty; green is the color of nature; and red and gold suggest a Chinese influence.

Color schemes should relate to climatic conditions. Simply put, warm colors feel right in colder climates and cool colors feel right in warmer climates. On their own, however, cool colors are generally unappetizing (maybe this is partly why food is never blue). Therefore, even in a tropical climate, cool color schemes should also employ warm accents.

Stylish color schemes reflect trends in the consumer marketplace. In the early 1980s, restaurant color palettes began to coincide with the shift toward cool hues like seafoam green, deep blue, and aqua, often combined with burgundy, peach, or rosy terra cotta. In the late 1980s, bright, clear colors became the leading fashion statement and found their way into the color palettes of the restaurant designer. In the late 1990s, warmer full-saturation colors were used to create accents against subtle background colors. Color cycles literally move around the color wheel, gradually shifting from the cool colors to the warm colors and back again, with each trend enjoying a lifespan of about eight years.

An analysis of colors themselves must be tempered by at least three facts. First, the effect of any color depends on its hue and intensity. Sky blue, aqua, and navy are all blue, but each carries a different association. Second, the perception of color changes with distance. When choosing colors, designers must compensate for the public distance from which customers view a restaurant when they enter. Third, ongoing research by experts and associations has yet to quantify scientifically the effects of colors. On the contrary, color psychology engenders much disagreement. Nonetheless, it can be helpful to consider individual colors and their psychological effects.

**RED**

Historically, reds suggest aggression, hostility, and passion. A limited number of colors harmonize with red because it is so intense, but the edge can be tempered with gold, wood, brass, crystal, or mirrors. Red and black are a classic combination, with an upscale, stylish association. Some say that red enhances the appetite.

**GREEN**

Green is associated with nature and general well-being. Because of its link to the outdoors and, therefore, to good health, it has become a trademark of natural and salad bar restaurants. Green is also linked with “lite” and good foods. Live plants and light-colored woods can complement green. Although it can be refreshing in moderate doses, green should not be overused because its reflective nature negatively affects the appearance of skin tones and some foods.

**YELLOW**

Yellow suggests radiant sunlight, expansiveness, and high spirits. In small doses, it can evoke cheerful, exuberant feelings, and it is particularly appropriate
in breakfast areas. Yellow commands attention and can be used effectively as a color accent or an architectural symbol, as in the McDonald's arch. Green-cast yellows, however, have a disturbing effect.

**Gold**

Like yellow, gold has a warming influence. It can help offset cold materials (like stone) and brighten dark materials (like dark wood). Gold is associated with wealth and power, and it tends to invoke a timeless feeling because of its historical overtones.

**Blue**

Blue is stark, cool, and refreshing. It can visually expand a room, but it does not complement most foods and so should be avoided on the tabletop. Blue goes particularly well with warm colors and materials and is complemented by bleached or light woods. It is said to have a calming effect.

**Neutrals**

Darker browns suggest masculinity, and lighter terra cottas suggest warmth and femininity. A rosy hue complements food and people. Neutrals are excellent for the tabletop because they tend to enhance the colors of food. Another advantage of neutrals is that they provide an excellent backdrop and an effective canvas for a variety of color effects. A neutral backdrop also allows for flexibility, because the mood of a room can be changed just by changing the color accents.

**White**

White is extremely effective when it is harmonized with other colors. It works well as a background or as a statement in its own right, but it is not ideal for walls because its brightness produces glare that can lead to eyestrain. However, in a fast-food environment, where contact time is minimal, white walls can encourage turnover and are in keeping with the bright, clean atmosphere. Although white is traditionally associated with tablecloths, it is not always the best choice because white tends to neutralize the color of the food and the tabletop pieces. White tablecloths can also contribute to glare in sun-filled restaurants.

**Black**

Black has negative sociological connotations. It is associated with depression and mourning, but it can be stylish and it works well as an accent with all other colors. Black goes especially well with white—its opposite—creating a classic statement. It does not usually work well as a background color, with the exception of nightclub environments or in conjunction with colored lighting.
Summary

All design applications in the restaurant engage and manipulate the senses. Today, design elements are looked at separately and analyzed for their psychological contribution to the whole. Whether or not intentionally, almost every design element and environmental condition in the restaurant works as a psychological tool. From lighting to color to texture to temperature, the nuances that influence people’s feelings and behavior number in the hundreds. Design choices, therefore, should reflect careful consideration of their psychological impact. Customers can be encouraged to leave or to linger, feel exuberant or mellow, feel like part of the action or secure in an intimate enclave, all as a result of design applications. Such attention to the psychological impact of design can have a marked effect on the diner and, hence, on the operation’s profitability.