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Influencing Behavior through Office Design

“Influencing behavior is almost all of what management is about, and buildings influence behavior. Failure to wring every benefit out of the most expensive capital asset most companies ever have (employees) would not be countenanced in any other aspect of corporate life” (Seiler, 1984, p. 120). This paper will examine how office space design influences employees’ behavior in desired and detrimental ways.

“Over the life of a typical office building, about 90% if the costs incurred are employee costs (mainly salaries and benefits), with the other 10% being for the creation, construction, and operation of the building itself (Building Programs International 1980). Every day, people have to work in a physical environment that affects their ability and desire to work. The building, then, regardless of its initial costs, aesthetics, or other considerations, must facilitate the utilization of human resources” (Goodrich, 1986, p. 110).

Explaining how the physical, work environment maximizes the utilization of human resources is a complex problem requiring a multi-disciplinary approach. Four models or frameworks will be introduced to aid in the conceptualization of the issue. Specific aspects of design and examples will follow to highlight theory in practice. One such example will be the open plan office and its benefits and drawbacks. Finally, attention will be paid to how workplace design relates to teamwork and organizational change.

How does the workplace influence behavior? This is the fundamental question in this field of study. Examining issues of workplace design may appear abstract on the surface, but to better influence organizational behavior, it is crucial to understand how the workplace influences behavior.

“Buildings influence behavior by structuring relationships among members of the organization. They encourage some communication patterns and discourage others. They assign positions of importance to units of the organization. Buildings (also) influence behavior by embodying messages. They tell people how the company operates, what it values, and where it has been and is going” (Seiler, 1984, p. 120).
The work environment influences behavior by acting in an instrumental fashion, in a mediational role, and in a symbolic mode as defined below.

“(T)he question is not so much whether behavior is influenced by the environment, but to what degree. Psychologist Roger Barker states that the ecological environment does not demand behavior but, rather, permits some behavioral patterns to take place, supports certain activities, and restricts others from taking place (Barker 1968). The environment does so by acting in an instrumental fashion, providing the facilities and space for the users to achieve their goals; in a mediational role, interceding with the users and causing them to adapt their behavior to the setting; and in a symbolic mode, providing a series of messages that convey information about the appropriate form of behavior” (Moleski and Lang, 1986, p. 7).

The work environment acts as a cast that mold (or behavior) can be poured into. The workplace can also act as a guide, or invisible hand if you will. Stress can be caused when one tries to resist or fight their environment and behave in a way that the context does not support or encourage.

“In high-performance workplaces the environment not only functionally enables desired behaviors to occur, it reinforces values guiding these behaviors through the silent language of environmental cues” (Becker and Steele, 1995, p. 39).

The work environment encourages the creation of social groupings, dictates the barriers to communication and movement, and can supply a degree of privacy. The work environment can also produce and sustain mental and emotional states “necessary for need satisfaction by fulfilling symbolic, aesthetic, and ambient functions. The ambience of the setting refers to overall expressive qualities that project an emotional feeling” (Moleski and Lang, 1986, p. 8). Ambience is very hard to quantify and is highly subjective. Depending on one’s personality, disagreement can occur in describing the ambience of a setting.

**Models**

Four models will be useful in describing how office design influences behavior. The first is Porter and Lawler’s revised model of the performance-satisfaction relationship. The second is
Goodrich’s perceived environment model. Organizational Ecology is the third model, and finally, Baron’s integrated model is the fourth. In the historical context, productivity research has focused on measures of satisfaction as a gauge of productivity. “The happy worker is a productive worker” assumption believes that if satisfaction and motivation are high, you can anticipate an elevated level of performance. Therefore, if you can increase satisfaction through various means, you can expect to observe an increase in productivity (Wineman, 1986).

Porter and Lawler added a third variable to explain the relationship between satisfaction and performance: rewards. Porter and Lawler propose an individual’s satisfaction is based upon their expectations concerning the rewards they should receive for a particular level of performance (Wineman, 1986). Illustration 1 of Appendix 1 provides a graphical representation of a revised Porter and Lawler model. The revised model proposes the organizational setting shapes the performance-satisfaction relationship by influencing both job performance and job dissatisfaction (Wineman, 1986).

After conducting 1,685 surveys of a diverse pool of workers, Herzberg concluded in 1976 that there were unique characteristics of the work environment that add to satisfaction and others that contribute to dissatisfaction. Achievement, recognition, work itself, responsibility, and advancement were labeled as “motivators” by Herzberg, which he believed added to job satisfaction. Characteristics of the work environment such as company policy and administration, supervision, relationships with others, and work conditions, he labeled “hygiene factors” that contribute to job dissatisfaction. Herzberg also proposed that the opposite of satisfaction is not dissatisfaction, but no satisfaction. The opposite of dissatisfaction is no dissatisfaction (Wineman, 1986). In other words, a properly designed work environment can minimize dissatisfaction, but does not directly contribute to satisfaction.
Workers’ performance is influenced by the character of their environment through its affect on communication and commitment to efficiency and comfort (Becker and Steele, 1995). “(A national survey) showed a majority of office workers recognize that their satisfaction with their office surroundings affects their job performance a great deal… (Harris 1978)” (Goodrich, 1986, p. 128). The work environment can have a direct affect on performance through its ability to aid or hinder the accomplishment of tasks. Disruptions, distractions, or perceived lack of control can hinder productivity and performance and reduce motivation and intrinsic rewards (Wineman, 1986). “Dissatisfaction with work conditions may then lead to work absenteeism, turnover, and other behaviors that reduce organizational effectiveness” (Wineman, 1986, p. xv).

“Characteristics of the physical setting have indirect effects on organizational effectiveness through their role as rewards for performance” (Wineman, 1986, p. xv). The work environment can be an extrinsic reward for employees. In organizations, characteristics of physical environments have symbolic status values. For example, the corner office for the boss or a larger office with seniority can be seen as an external reward for a worker’s position and performance (Wineman, 1986).

The historical Hawthorne experiment involved varying the levels of lighting to observe the affect on worker performance. Whether lighting levels were increased or decreased, it was found that worker productivity increased. It was believed this provided evidence of the correlation between satisfaction and performance. The Hawthorne experiment may actually be an example of removing dissatisfaction. Since interviews found that workers believed the change in lighting was evidence that management cared about them and were trying to help, there may have been a hostile attributional bias among the workers. A high, hostile attributional bias may lead employees “to perceive unpleasant environmental conditions as stemming from
callous attitudes toward (them) on the part of management” (Baron, 1994, p. 39). By changing the lighting levels, the researchers may have been lessening or removing the hostile attributional bias in this situation. Workers who were dissatisfied with their working conditions became less so when they believed management was changing the lighting to assist them in their work.

Another theory of motivation may be useful. “Work is a social activity,” asserts industrial designer William Stumpf. ‘The first complaint of computer operators who are under high pressure is about the lack of sociability. They can’t see anyone’” (Russell, 1992, p. 71). This seems to be consistent with Alderfer’s ERG theory. Workers who do not have close personal contact in their everyday job tasks desire more interpersonal contact with others. They need a feeling of relatedness.

Goodrich proposes a model of the perceived environment, which can be found in Appendix 1, Illustration 2. Note the arrows between the user and the physical environment, hence, the dynamic aspect of the system. One example of the dynamic sociophysical system or the perceived environment is the influence of personality on workers’ desires for specific kinds of work environments. Introverts prefer work environments that provide isolation and quiet. On the other hand, extroverts prefer physical settings that allow them to meet others and interact more (Goodrich, 1986). The following is Goodrich’s definition of a dynamic sociophysical system:

“(T)he office environment is conceptualized as a dynamic sociophysical system, to differentiate it from the office as a place, a physical setting, or an organizational unit. This is also to highlight the interdependency between the physical systems (that is, the designed environment, the technology, work requirements and activities, and so on) and the social system (people, their values, expectations and needs, people’s relationships to co-workers, work perceptions and meaning, the organization’s culture)” (Goodrich, 1986, p. 111).
Becker and Steele propose another useful model to conceptualize the physical work environment and relation to it. They propose that just as animals are influenced by the physical environment they live in we are influenced by aspects of the physical environment we work in. “Its size, shape, layout, quality, furnishings, and equipment shape our work lives, at the same time as our behaviors, attitudes, and values shape the nature of that designed environment, how it is used, and the meanings we attach to it” (Becker and Steele, 1995, p. x). Becker and Steele’s proposed model is called Organizational Ecology and can be found in Appendix 1, Illustration 3. Becker and Steele argue that, “(J)ust as a Ferrari performs much better on a well-paved road than on a sandy beach, a high-performance team or organization requires a high-performance workplace” (1995, p. 3). In the next section of this paper on workplace design, characteristics of a high-performance workplace will be examined.

Organizational ecology is broad and multidisciplinary. It must consider a multitude of issues ranging from organizational behavior, human factors, architectural and interior design, and industrial engineering:

“Organizational ecology must consider organizational behavior issues such as incentive systems, performance appraisal, promotion, formal and informal communication, corporate culture, organizational structure and size; human factors issues such as lighting, noise, ventilation, and air quality; architectural and interior design issues such as how space is designed and allocated and the nature of furniture, materials, and finishes; and industrial engineering issues such as the layout and design of work areas to support work processes” (Becker and Steele, 1995, p. 14).

The organizational ecology model connotes an analogy of a living ecosystem. The multidisciplinary issues relate and to an extant are dependent on one another. In the environment, one cannot change or adjust one part of the system without having an effect on another.
Illustration 4 in Appendix 1 illustrates an integrated model of the effects of environmental variables on task performance, interpersonal behavior, and work-related attitudes. Baron proposes that environmental variables can have an affect on two group processes: groupthink and social loafing.

“It seems possible that environmental conditions serving to generate high levels of arousal, information overload, negative affect, and stress can facilitate or intensify tendencies toward groupthink… It (also) seems possible that certain environmental conditions (especially ones serving to generate negative affect, perceptions of lack of control, and information overload), may increase tendencies toward social loafing. This would be the case because such conditions would tend to strengthen the perception that individual contributions cannot be assessed, and also because such conditions tend to weaken cohesiveness and commitment to the group” (Baron, 1994, p. 37).

Architects will want to avoid designing workplaces that can promote these negative environmental conditions to minimize the role the physical environment can play in promoting groupthink and social loafing.

Aspects of Design

An examination of current trends and physical examples of the use of design to influence behavior will add concreteness to the above abstract theories. “Just as a magnet attracts metal objects within its force field, different kinds of environmental features and amenities can attract people and encourage certain kinds of behavior. Open staircase landings with a view below are good places for serendipitous conversation, chair-height planters encourage us to sit a while” (Becker and Steele, 1995, p. 78). An example of an open staircase or escalator can be found in Illustration 5 in Appendix 2, and Illustration 6 and 7 in Appendix 2 of Alcoa’s new corporate headquarters. Another example can be found in Moore Business Form’s new corporate headquarters in Appendix 3, Illustration 8 and 9.

Corridors aid in communication and information flow through a building. Illustration 10 of Appendix 4, provides an example of a corridor with permeable boundaries. Permeable
boundaries allow passers by to see more people and more of what is going on. In Appendix 4, Illustration 11, there is a real life example of the use of corridors to facilitate communication in Gruner & Jahr, a German publishing giant. The use of corridors is just one example of how companies are encouraging informal communication.

“Many businesses surround employees with amenities that are intended to lure them away from their desks and into settings where a casual remark or chance meeting may inspire ‘the next great idea.’ At many companies, the copy and fax area is placed next to a well-appointed coffee bar. Corridors widen into lounges. Fitness centers, company stores, handsome garden courtyards, and light-flooded stair lobbies and indoor atria are proliferating” (Russell, 1998, p. 138).

Many of these examples to lure employees into informal communication include attractive amenities that hopefully workers would enjoy using. Instead of dictating a company policy mandating informal communication, a company can incorporate such design features as a coffee bar, which will probably be much more effective. Why are companies trying to increase informal communication? Maybe, in part because of MIT professor Thomas Allen’s research. “(His) research shows that performance in R&D settings is related, in part, to the number of informal contacts people have with others outside their own department, discipline, and project team, as well as communication within the team” (Becker and Steele, 1995, p. 72).

British Airways’ new corporate headquarters at Waterside in Illustration 12 of Appendix 5 is a good example of the use of the city street concept to encourage workers to interact. SAS’s new headquarters is another example of an office-as-small-city in Illustration 13 of Appendix 5. Finally, Appendix 6 is TBWA/Chiat/Day’s office outside Los Angeles. This advertising firm put everything under one roof including a main street, park, and basketball court.

“Buildings that emulate the varied interactions occurring along a vital city street are intended to make the organization and its diverse parts literally transparent to each other. The socialness of the street is actually fundamental to the intellectual nature of rapidly responding organization, whether it’s in Covent Garden or Silicon Alley. The
density of the interaction is the way that intellectual resources are made to have maximum impact” (Russell, 2001, p. 145).

These are extraordinary examples of the use of design on a grand scale, and some might argue their cost makes them unrealistic. In reality, they are much more cost effective than common corporate headquarter skyscrapers and may be more effective promoting communication.

“Companies are increasingly seeking environments that encourage experimentation. ‘Design studios and theaters are the kinds of metaphors companies are using to develop innovative capabilities,’ says John Kao, an author and consultant who specializes in business creativity” (Russell, 1998, p. 138). In Appendix 7, Illustration 17, Silicon Graphics has an outdoor amphitheater to help employees reenergize themselves and whiteboard tabletops in its coffee bars to encourage brainstorming and creativity. “People cannot interact when they are laid out in this formulaic way. The best such projects use internal streets, garden atriums or courts to weave together the idea of shared space with the idea of comfortable, energy-efficient office environment” (Russell, 2001, p. 144). One example of a garden atrium can be found in Illustration 19 of Appendix 7.

Architecture can convey a sense of egalitarianism when there are high-ceilinged, loftlike floors, where everyone has access to daylight and views, regardless of their position in the company. An innovative, creative image can also be created with expressive exterior architecture. Features such as these can help attract and retain skilled workers (Russell, 1998). Plentiful windows can be a simple way to reduce stress and revive workers. Workers who spend a lot of time concentrating have reported that having a window is psychologically beneficial. The ability to look out provided them with an opportunity to reflect on what they were doing, collect their thoughts, and gain a larger perspective on what they were doing (Goodrich, 1986).
Worker’s sense of privacy can be increased with the use of large plants. Workers reported that their office seemed more pleasant and informal with plants, and it seems these characteristics reduced their need for a high level of privacy (Goodrich, 1986). “Throughout history eating and drinking have been tied in with social contact rituals, and they are no less critical in the workplace” (Becker and Steele, 1995, p. 78). The Japanese call informal break areas, “refresh” areas. Break areas and cafeterias can help reduce stress and invigorate the work force (Becker and Steele, 1995).

Above are just a few of the aspects of design to be considered in the attempt to influence behavior in the organization. Goodrich provides a useful description of characteristics of the office of the future. He says, “The new office will need to be more intimate, comfortable, sensual, casual, personal, soft, and informal. Quality, symbolic meaning, drama, excitement, and a sense of the natural will need to be evoked. In the office of the future, the ‘human logic’ will become more important than the ‘technologic’” (Goodrich, 1986, p. 128). With all of our technological innovation and fun new gadgets, let us not forget to design offices that meet people’s needs, such as the need for interpersonal interaction.

**Open Plan Office**

Walter Schnelle in the late 1950s developed the Burolandschaft, or office landscape, approach to office design. Burolandschaft replaces internal walls, partitions, and grid systems of furniture with adjustable screens, furniture clusters, and planters arranged to increase communication and work flow. It is claimed that Burolandschaft, or its variant open plan, is more responsive to organizational change with its flexible space and facilitates communication by removing physical barriers (Hedge, 1986). News can travel much faster in an open plan office, and the entire mood of the place can be changed in one day (Steele, 1986).
Burolandschaft offices are not without their drawbacks. In several studies, workers complained of a loss of privacy, increased distractions, numerous interruptions by other employees, and problems with the ambient conditions (Hedge, 1986). There have also been problems reported from workers who have moved from private offices into an open plan environment. The loss of status that a private office provides, the lessened degree to which their workspace can be personalized, and the amount of reduced privacy are commonly cited (Moleski and Land, 1986).

Appendix 8 provides two examples of an open plan office. Timex’s new corporate headquarters is Illustration 20, and SEI is Illustration 21. Illustration 23 in Appendix 8 provides an example of the infrastructure used at SEI. It is important to note that an open office plan is not right for all organizations. With that in mind, Duffy created a basic office type taxonomy to help identify which office type is most suitable (Hedge, 1986). Illustration 24 of Appendix 9 illustrates his taxonomy with interactions on the vertical axis and bureaucracy on the horizontal axis.

**Teamwork**

“Physical design, by itself, will not change behavior patterns and guarantee teamwork. It can make some activities more likely than others, and when it is in tune with the social system, it can create the kind of lively, interactive setting that supports teamwork and collaboration” (Becker and Steele, 1995, p. 85). It is not enough for an organization’s leaders to say they emphasize teamwork. It is important that they also provide the physical settings that encourage group members to meet informally. Illustration 25 in Appendix 9 depicts two office environments. Which option (A or B) really supports and encourages teamwork? Office setting
B actually promotes teamwork because it has space for both individual and group work. Its corridor is also more permeable, which encourages more informal communication.

“Real teamwork is a focused work mode that needs two kinds of spaces: ones to support sequestered, group-collaborative work and others providing distraction-free space for individuals to do their assigned piece of the work” (Brill, 1996, p. 106). The Kombi-Buro concept in Germany provides both types of settings. “An office structured along Kombi-Buro lines may cluster glass-enclosed private offices around an unassigned, living-roomlike arrangement of furniture that is intended to lure users into casual conversations with colleagues” (Russell, 1992, p. 74). An example of a Kombi-Buro office can be found in Appendix 10 with the Goethering Buro.

**Change**

Change is becoming one of the few constants in today’s business world. New products must be created quickly, and teams need the ability to form quickly. “(Architects) must design for patterns of human interaction rather than simply detailing exotic wood paneling for upper management. And they must now make a space that can, if needed, be easily rearranged, often within months of its completion” (Russell, 1998, p. 138). Again, proponents of the open plan office design point out that work areas can quickly be rearranged to meet the changing needs of the organization.

“(M)any organizations are trying to reengineer their basic business processes and instill a new culture that emphasizes teamwork, seeks to flatten the organizational hierarchy, and empowers staff” (Becker and Steele, 1995, p. 49). One way of providing such changes is by creating a new working environment. “Change management doesn’t mean anything without physical redesign. That’s a big lever that could be seized by management consultants…” You
can redevelop via space, then the space becomes the language of the reinvention, which is 10
times more powerful” (Russell, 2001, p. 145). Illustration 28 in Appendix 11 highlights factors
that influence workplace change, and its subsequent redesign.

CEOs often cite the desire to create a new image or promote a more dynamic corporate
culture as a reason for building a new office or redesigning an existing one (Goodrich, 1986).
When organizational leaders are trying to transform their corporate cultures, they will create a
new physical work environment that does not reflect the current culture of their organization.
This transformation is often to aid the organization in adapting to a changing environment
(Becker and Steele, 1995).

“The big discovery we’ve made in the last two to three years is that the design process
itself is an amazing opportunity for a business to reinvent its culture. The expressive
component of architecture can be used as a medium of communication—one that makes
the intentions of the business powerful and ever-present. It’s one thing to say that a
company seeks organizational transparency, that it likes to be egalitarian. It’s quite
another when you use the language of architecture to say it. Then, design becomes
absolutely central to the business” (Russell, 2001, p. 143).

A new workplace that includes the basic qualities of an organization’s character will produce
new behavior and encourage new ways of doing things that were unanticipated and more
productive than originally imagined. The product will have an organic quality with a life of its
own, separate from its designers (Seiler, 1984).

In conclusion, after examining how the work environment influences organizational
behavior and explaining that influence through the use of four models, specific aspects and
examples of design were presented, such as the use of windows and the value of well-designed
cafeterias. Next, emphasis was placed on the Burolandschaft design created by Mr. Schnelle that
increases communication and flexibility. SEI was one of the examples presented of the open
plan office design where the entire office is on wheels. It was shown that design can also
facilitate teamwork, and one such example is the Kombi-Buro design presented. Finally, it was shown how organizational change can be initiated through the redesign of current facilities or the building of new ones. Clearly, organizational behavior can be influenced through office design, and it is a subject matter that should not be ignored by leaders of organizations.
Appendix: 1

Illustration: 1, Revised Porter and Lawler Model

Illustration: 2, The Dynamic Sociophysical Environment

Illustration: 3, Organizational Ecology

Illustration: 4, Integrated Model
“‘Architecture and space design can make a significant contribution to organizational effectiveness,’ says Paul O’Neill, chairman and CEO of the Aluminum Company of America. According to O’Neill, Alcoa’s new headquarters really changes the way people relate to each other and takes away the symbolic stuff of who’s important. ‘This is about encouraging the free flow of ideas’” (Marmot and Eley, 2000, p. 339).

“People move through the new building on escalators rising through an atrium so they can see on another, and stop and chat, rather than changing levels by using an enclosed elevator... One intention was that the new building should be open and nonhierarchical. Everyone including O’Neill has an identical workstation measuring 9 by 9 ft, and nobody works further than 45 ft from the windows” (Marmot and Eley, 2000, p. 340).
Corporate communications

American corporations have been slower than their European counterparts to recognize the benefits of natural light and employee interaction on worker happiness and productivity. Even so, things are changing here: witness Helmut Otsa & Kassaibaan’s new corporate headquarters for Moore Business Forms U.S. Division.

Located near Chicago, this 250,000-square-foot complex responds in part to the client’s desire to convey a “progressive” corporate image. Toward that end HOK designed the building to reflect the company’s ongoing transition from manufacturing to information services. Toward that end HOK designed the building to reflect the company’s ongoing transition from manufacturing to information services.

Light wells on each office floor allow natural illumination to enter the building’s interior office areas. P.M.S.

Illustration: 9
“At Gruner & Jahr, a Hamburg publishing house, editors exchange ideas in long skylit corridors connected to adjacent floors by many convenience stairs. By recognizing that useful work does not always take place in settings with fixed functions, these new concepts challenge an important American notion of office space: that you get maximum efficiency by minimizing circulation. In an age of knowledge-based work, the cliché ‘corridors of power’ takes on new meaning” (Russell, 1992, p. 72).
“A major international airline, British Airways is in the communication business, bringing business and private individuals together across the world. Changing the organizational culture was CEO Bob Ayling’s aim in moving to Waterside, the company’s new headquarters office building designed by Norwegian architect Neils Torp. Communication between people running the company was difficult in the scattered old buildings, creating a brake on business development. Executives were hidden behind their closed private offices along soulless corridors, protected by outer offices personal assistants who controlled access and ruled the appointment diaries—not the best way to make rapid corporate decisions in today’s competitive international airline business.

Waterside is designed for people to interact, to meet casually as well as formally. A grand covered street is the axis along which the six office buildings open, filled with coffee shops, bank, grocery store, and florist. All occupants and more can be assembled here for major company events. The training center, management development suite, theater, corporate library, Internet café, and medical center bring a constant flow of people from all parts of the airline to Waterside, the corporate heart. Services for the whole person—a gym, hairdresser, and grocery order and delivery service—help staff to feel valued and loyal to the company” (Marmot and Eley, 2000, p. 281-282).

“In Scandinavia, the headquarters designed by Neils Torp for SAS is seen as a prototype for a new generation of offices-as-small-city. The idea is that courtyards filled with greenery and overlooked by coffee bars, lounges, and other informal meeting spaces lower the barriers to communication”(Russell, 1992, p. 72). “(It has a) lively interior ‘street’ that forms the main thoroughfare at ground level through the building… SAS’s street is lined with shops and cafes—real shops, where you can buy everything from cards to suitcases, and real cafes that serve fresh pastries, fresh-brewed steaming coffee, and hand-cut sandwiches. A bank and travel office are also located here. The feel is less like a staid corporate headquarters and more like the bustling center of a market town” (Becker and Steele, 1995, p. 81).
The city planning image crops up frequently in describing office buildings. The introduction of many activities not considered to be 'office,' such as coffee bars, shops, banks, and fitness centers, gives weight to the idea of a 'Main Street' from which shared amenities can be reached and where people can work hard and also need to play. The pressure to accommodate leisure time, as you might find in a basketball court in a Parisian park, with ice and small cubicle offices, cafeteria and a clubhouse, is an extreme example of a more healthy population, who wish to remain fit and active. This one has paid attention to the leisure needs of staff. There is a basketball court, a small tennis court, a fitness facility — but probably much more popular and certainly good for people whose jobs are based on teamwork, rather than those who work hard and play hard. (Marmot and Elay, 2000, p. 401.)
Silicon Graphics’ design for creativity

“A ‘fifth building’ (left) open to the skies forms the center of SGI’s Amphitheater Technology Center, the third major R&D campus for this fast-growing software house. In this carefully crafted outdoor space, people can be reenergized by sitting in the sun, playing ball games, or eating lunch together. The design intention behind the whole campus is to create a place that fosters creativity so that products can be rapidly developed and speedily brought to market” (Marmot and Eley, 2000, p. 353).

“Throughout the four-building campus, coffee bars and game areas provide staffers with ‘hangouts,’ which, it is hoped will be the birthplace of new ideas. Whiteboard table tops (right) and a generous supply of pens in the foyer and coffee areas encourage impromptu brainstorming sessions.” (Marmot and Eley, 2000, p. 353-354). 

Illustration: 17

Illustration: 18

Illustration: 19, example of an Atrium
“All of the 275 employees—including the CEO—work in a single, open room roughly the size of a football field: No walls, no partitions, no cubes divide them. ‘There’s a direct link between physical boundaries and the perception of intellectual ones,’ says Douglas Disbrow, an architect at Fletcher Thompson, the Bridgeport, Connecticut firm that designed the building. “Certain knowledge gets contained if space is defined in a certain way.” By opening up space, Timex hopes to promote all of the usual behavior expected from workspace design these days: collaboration, interaction, spontaneous meetings” (Lieber, 2001, p. 48).

“(W)hile employees may take an occasional stroll along a pond at lunchtime, they spend a lot more time communing with one another inside, thanks to an office design that makes it impossible to avoid co-workers. Approximately 150 employees congregate in large, open rooms, with windows all around. No walls or cubicle dividers separate workspaces. Instead, each person is given a suite of minimal furniture, all on wheels, the better to form on-the-fly teams. When a project is done, team members disband by unplugging the voice and data cords that coil to the steel beams overhead. With a wave good-bye, they’re literally ready to roll” (Sung, 2001, p. 150).
Illustration 24, Duffy’s taxonomy of office types

Illustration 25, Which design encourages teamwork (A or B)?
In the German city of Offenbach, the Frankfurt firm of Albert Speer & Partners is completing plans for a speculative office building that conforms to a philosophy called the Kombi-Buro. The guiding principle in the German city of Offenbach, the Frankfurt firm of Albert Speer & Partners is completing plans for a speculative office building that conforms to a philosophy called the Kombi-Buro. The guiding principle in the German city of Offenbach, the Frankfurt firm of Albert Speer & Partners is completing plans for a speculative office building that conforms to a philosophy called the Kombi-Buro. The guiding principle is to provide an office environment that encourages informal interaction and facilitates the exchange of ideas. The design is based on the concept of the Kombi-Buro, which consists of a central hub connected to smaller, flexible workspaces. This approach allows for easy reconfiguration and adaptation to the changing needs of employees. The plan for the Offenbach project illustrates how the central hub can accommodate a variety of team settings, from small meetings to larger conferences. The project also includes a central atrium with a core of public meeting areas, which is accessible from all offices along the edge.
Illustration: 28, contributing factors of change that influence design
Illustration Sources

1. (Wineman, 1986, p. xiv)
2. (Goodrich, 1986, p. 114)
3. (Becker and Steele, 1995, p. 12)
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13. (Russell, 1992, p. 75)
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17. (Marmot and Eley, 2000, p. 355)
18. (Marmot and Eley, 2000, p. 356)
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21. (Sung, 2001, p. 150)
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24. (Hedge, 1986, p. 141)
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