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SUPPORTING WORK PERFORMANCE IN THE INFORMATION AGE

Disappear

The interior spaces for work are a playground of information technology appliances and the stuff that the computers and phones sit on. Spiral coil drops from the ceiling every 16 feet, filling the overhead space between the tops of the computer displays and the trusses, beams, and air-handling equipment. The jungle gym feeling establishes a sense of freedom and reinforces the corporate ethic of "do it yourself."

— Herman Miller Research, site visit notes, August 1998

In several of the organizations we observed during the research phase of the Resolve™ project, we noted a certain level of what might be called "visual honesty" regarding the appearance of the tools and materials used to accomplish work. In these environments, no attempt was made to camouflage electronic equipment or hide the tangle of wires and cables that feed it. The work settings had a frankly temporary look about them, as if in acknowledgement or even celebration of the fact that these are places where things could change at any moment.

At the same time, we were tracking the emergence of a new direction in architectural design that seemed related to the tendency toward transparency we were observing in the workplace. A 1995 exhibition at the Museum of Modern Art in New York dubbed the architectural movement "Light Construction," in reference to the way these new buildings use light as a central design element, to the visual sensations of floating and weightlessness they evoke, and to the new construction techniques and materials that make such effects possible.

A distinct departure from the Modernist and Post-Modernist schools and their emphasis on form, Light Construction explores the possibilities and the meanings of surface through the layering of glass, perforated screens, and other translucent materials. Where Modernists created geometric, rational, monolithic forms and used glass to reveal a building's structure, architects working in the emerging style create forms of complex curves and use glass as a veiling device. One architecture expressed the rationalist world view of the Machine Age; the other reflects the immediacy and transience of the Electronic Age.

Our analysis of the new architecture in light of the work behavior we were observing led us to conclude that both had emerged in response to a core set of cultural and economic patterns that signaled a sea change in the office workplace.

Monitor as metaphor

The now ubiquitous computer display stands as a central metaphor for the new architectural movement. The luminous quality of the buildings evokes the glow of a monitor screen; the layered surfaces suggest the overlapping "windows" of a graphical user interface. The walls of some of these buildings even double as projection surfaces.

Not coincidentally, the organizations in which we observed the highest levels of openness and transparency—both in the physical layout of interior space and within the corporate culture itself—were in the electronics and entertainment industries, where computer technology is the basis for both process and product. The people who work in these organizations spend a lot of their time gazing into a computer monitor and have become accustomed to nearly instantaneous information retrieval. Away from their screens, they become impatient with walls and file drawers that conceal coworkers and reference documents. They want to be able to see at a glance whether a colleague is in her office or otherwise occupied. They want their work surface to organize documents for visual access the way their computer desktop does.

The new economic forces are purveyors of virtual reality, and the immediacy and immateriality of the digital revolution is reflected in their architecture and its interiors.

Dematerialization

Increasing concern with the impact that architecture has on the environment, particularly in terms of energy use, has been a practical inspiration for the layering and double glazing we see in new building design. An additional layer of glass wrapping a glass-surfaced structure has insulating as well as aesthetic effects.

Technological developments in construction materials have enabled and inspired a lighter architecture that does more with fewer materials to further reduce the use of natural resources. Improvements in the tensile strength of materials like Teflon-coated fiber glass allow membrane structures to replace heavy steel beam edifices. New, flexible, and self-adjusting "smart" materials create organic structural systems that respond to different conditions as necessary.

Office work and the environments that support it are also undergoing a dematerialization of sorts. Information processing and communication are increasingly accomplished in the virtual reality of cyberspace. Work involves the use of fewer physical artifacts as people create, store, and manipulate files, documents, and images in a two-dimensional, digital world. Even workstation personalization is moving on-screen as people customize their computer desktops with "wallpaper," screen savers, family photos.

Corporate offices are certainly getting smaller. A recent study of large, trend-setting companies found that personal work space shrank 25 to 50 percent over the past decade. This is partially a business response to the need to use resources wisely; companies must continually reduce overhead costs to remain competitive, and corporate stockholders and customers are putting more pressure on business to be both fiscally and ecologically responsible.

But our field observations also suggest that information technology has served to concentrate personal work space into a much smaller area than formerly. With the mobility that portable technology affords, many people complete a significant amount of their work outside the corporate workplace—in their homes or on the road. The work they do on-site is more likely to be collaborative and to take place in shared spaces like conference and project rooms. People working alone in their offices are usually focused on the corner of their workstation where their computer is located. Personalization seems centered around the monitor, which people frequently adorn with toys, figurines, photos.

Natural light and visual access

Growing awareness of circadian rhythms and other physical and psychological effects of daylight has increased interest in using architectural design to provide and augment natural light in interior spaces. In the new "architecture of lightness," the widespread use of glass and other translucent materials allows a high degree of light penetration to the interior. Membrane structures of Teflon-coated fiber glass transmit the full spectrum of visible light, resulting in interior spaces that have the feeling of the outdoors.

A number of studies have established that worker satisfaction and self-assessed productivity levels increase in workplaces that provide plenty of natural light and views to the outside. Results of a 1998 study by the Centre for Organizational Health and Development at the University of Nottingham showed that sunlight penetration into the work space had a significant direct effect on job satisfaction and general well-being. The researchers also found that a view of natural elements, such as trees and other foliage, buffered the negative effects of job stress on workers' intention to quit.

Medical science provides a physiological foundation for the benefits of a view and natural light. For people who spend long periods of time looking at a computer screen, the ability to periodically refocus on something at a further distance (experts recommend at least 9-18 feet) is essential for relieving eyestrain and maintaining alertness. The identification and treatment of seasonal affective disorder underscores the importance of full-spectrum light on mental health and mood.

New priorities

Finally, our observations suggest that the organizations of the new economy are not interested in the architectural monuments that characterized corporate building in the industrial age. The new "dot-coms" tend to inhabit less imposing, more fluid structures that can be changed or left behind at little cost. Many start out in converted warehouse or retail space that is not well suited to interior division by traditional panel systems, which block the large windows, architectural details, and open access that attract these dynamic young enterprises.

As organizations focus more on work practices than on status-related office "standards" or interior design schemes, they are in need of a system that not only reflects the purpose of the work and the organization, but also makes the work, the people who do it, and the technology that supports it visible and accessible.

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