ABSTRACT OF DISSERTATION:

'Building for Business, A Typological Study of the Office Building'

DeWayne Anderson, PhD Candidate
University of Tokyo, School of Engineering, Department of Architecture
Professor Hiroyuki Suzuki

Perhaps the most fundamental reason why the office building is so often underestimated is that much of what it generates is, to all intents and purposes, invisible; certainly to the outside world. Information cannot be seen. In a materialist century, if you expect something to be noticed and talked about, immateriality is, not surprisingly, a disadvantage. Yet today, more than ever before, offices are essentially all about knowledge, the highest form of information, and the most precious commodity we have. It's rapidly growing importance in modern society, and the prediction that the management of knowledge will be one of the chief features of 20th century life, confirm the centrality of the office in modern society and make a serious re-evaluation of our attitudes imperative.

The office building was created in the context of the tremendous explosion of economic activity in the last two decades of the 19th century. The story of achievement in construction is well known; the rapid exploitation of the potential of the steel frame and the elevator to build tall, as is that of the development of such services as electric lighting and air conditioning to make these new buildings comfortable and attractive to work in. Less well known are the parallel advances in real estate practice and in city planning. Building tall meant multiplying the value of land, but to finance the construction of such huge edifices, and to make sure that they were profitably let and efficiently managed, required innovation in investment practice. Building tall meant that there was a constant struggle between developers responding to the roller coaster of the notoriously cyclical property market and those responsible within government for environmental safety and civic quality. The office building has served as a testing ground for technological and design innovation. Throughout the 20th century, elevators, steel-frame structural systems, fluorescent lighting, and metal and glass curtain walls were all eagerly embraced by both the design and business communities as ways to improve efficiency and productivity as well as profits. After World War II, air conditioning allowed people to work year round, day and night, virtually anywhere, forever changing the cyclical nature of commerce. While mass-production developments improved office productivity, they also unleashed a backlash of debate about standardization versus individuality. The office's image as a corporate barrack solidified after World War II. The war's military organization was mirrored in postwar America's management model of rigid hierarchies. Khaki-clad soldiers morphed into gray-flannelled businessmen. Complex emblems of their era, they were portrayed in various guises, from predictable drones. It's easy to see why modernism's graph paper-grid office blocks might seem plausible homes for modern business. They seem associated with so many of corporate industrial society's ideals; rationality, unsentimentality, efficiency, modernity, and mass production. They seem to express the spirit of our industrial age. Such, for example, was the claim of the celebrated architectural historian Sir Nikolaus Pevsner, writing about the then-new modernist architecture of Walter Gropius in 1936, "the creative energy of this world which we want to master, a world of science and technique, of speed and danger, of hard struggles and no personal security, is glorified in Gropius's architecture." This kind of architecture is inevitable in our century, Pevsner asserted, "a century as cold as steel and glass, a century the precision of which leaves less space for self-expression than did any period before." The answers that modernists gave to the moral, social, and political questions of the age—answers their architecture supposedly embodies—turned out to be grievously wrong.

Architects see themselves as pragmatic artists. Among themselves, architects talk about transforming the mundane necessities of factory life or office work to a higher cultural plane. To business clients, architects describe their skills in terms of problems they can solve and present their art as a powerful means to enhance business efficiency. But architecture advances in the hands of those driven by a personal aesthetic, if not a psychological agenda. The business client quickly recognizes this and often recoils. Business is never wholly comfortable making common cause with an endeavor that is not wholly devoted to its own agenda. This is why architecture and business, over the decades of the 20th century, have had much in common with the partners in a tempestuous love affair. American business has only intermittently succumbed to architecture's fascinations. After a dizzying courtship, business leaders often conclude that architecture, like a beautiful mistress too often consumes the bottom line rather than adding to it.

During the 1960s, the development of such fields as human relations and environmental psychology helped to recast the office as a nurturing environment. New informal office layouts came to be called office landscapes or Bürolandschaft a term favored by the German Quickborner Consulting Group who revolutionized business design and initiated today's open office and flexible furniture systems. Changes in the way business was done continue to transform the contemporary office environment. In the 1990s, the rise of the Internet, laptop computers, and telecommuting seemed to signal the demise of the conventional American office environment. Some of the country's leading management consulting firms and advertising agencies replaced offices and cubicles with mobile pedestals and telecommunications networks allowing employees to plug-in and work virtually anywhere, anytime. As technology allowed decentralization of the workforce, corporate headquarters seemed headed for obsolescence. Surprisingly, the recent growth of e-commerce has spurred a return to the office building - not the conventional corporate glass and steel skyscraper - but nevertheless a centralized place where employees gather, exchange ideas, and work. Contemporary idea-driven businesses have found that their success depends on collaboration between employees and clients and their work environment needs to foster that interaction. The modern workplace is no longer a single place, but a network of places. Exactly where one's office is has become less important in an age of e-mail, cell phones, faxes, and teleconferencing. People increasingly work at home, on airplanes, in restaurants - anywhere that new technologies reach. Whether these technologies will feel "real" enough for people to completely forgo face-to-face contact has yet to be determined. However, it seems likely that people will need some human contact and the social cohesion of the office's physical space to be productive. More than any other single factor, this need suggests that the office, continuing to change into forms we can't yet imagine, is here to stay.

The office is a microcosm of social transformation and a yardstick of cultural progress. Dialogs between freedom and control, the individual and the crowd, private agendas and public concerns, personal mobility and communal connection are played out in the office. The constantly shifting interaction between building design, technology, finance, and employees has yielded a dynamic environment whose significance extends beyond its physical boundaries. Although the office has had an enduring role in world history, it wasn't until after 1900 that the modern office developed as we know it today an exemplar of the science of business management, information systems, and construction technologies. As the economy's emphasis shifted from farm to factory and office, legions of employees joined the ranks of white-collar workers, and women entered the workplace in force.

Japanese production companies (first and foremost, the automobile manufacturer Toyota), were the trailblazers in the eighties with new management method that was described as 'lean production' or post-Fordian production. By creating teams of multitalented individuals who produce large numbers of different products at every stage of production, lean production combines "the advantages of craft skills and mass production, while avoiding the high costs of the former and the inflexibility of the latter." This system is oriented towards processes as opposed to structures and functions, enabled optimum integration of the new information technologies and enhanced effectiveness and adaptability to the changing requirements of the market. The sweeping success of the Japanese enterprises led the world-wide corporate restructuring at the beginning of the nineties, the so-called "business process re-engineering." These 'new' reticular

enterprises are distinguished by flat hierarchies, decentralized, polycentric decision-making and organization in interdisciplinary project teams. Team work is task-based, process-oriented and result-oriented, with team members working together for the duration of a project empowered to make decisions, these units can react directly to problems and customers requirements without having to waste time going through functionaries high-up in the hierarchy. The flow of information is no longer vertical, but horizontal. In de-centralized work, human qualities such as intelligence regain importance that Taylorism has suppressed. Social competence, the ability to communicate, initiative and flexibility as important and necessary employee capabilities supersede diligence and obedience. The boss is no longer an authority, but a team member, moderator of the group process. By transferring the responsibility and risk to teams and thereby to the individual workers, the employee becomes an entrepreneur who determines working hours and work site himself/herself.

One of the most underestimated functions of architecture is its capacity to express, powerfully and unambiguously, the values of those who commission and who use the buildings. Architecture is an expressive medium. Although many architects - through a long process of habituation - seem to have become desensitized to its full meaning, the language of conventional office design emphasizes two factors: sustaining barriers and reinforcing hierarchies. Analysis of most conventional office design - of architectural form, of interior layout, and, perhaps most of all, of office furniture - shows how powerfully strong is the emphasis on keeping office workers separate from each other and showing them exactly where they stand in the corporate pecking order. If office design contradicts organizational intentions, the business consequences are serious - exactly as they would be if an organization's public mission statement was being continually contradicted by managerial behavior. Misleading, and especially untruthful, messages are quickly picked up by employees - leading to cynical and sub-optimal behavior - and eventually by outsiders, customers, and suppliers, eroding trust, interest, and commitment. In other words, broadcasting the wrong message through design damages business. Forward-looking managers who want to drive their businesses as hard as possible to survive and succeed must relate the use of office space to their overall business objectives, they must look at spatial resources in relation to human ones and information technology; they must solve accommodation problems in the context of change; they must compare their spatial performance, the productivity of building use, with what other businesses are doing. The design of the office environment can now be seen as an integral part of a complex and open-ended system that embraces rethinking work processes as well as skillfully using human resources to find the best and most profitable ways of managing change. What managers must avoid is thinking that design doesn't matter. Like war and generals, design is too important to be left solely to designers.

Buildings keep being pushed around by three irresistible forces; technology, money and fashion. A building is not primarily a building; it is primarily property, and as such, subject to the whims of the market. Commerce drives all before it, especially in cities. Wherever land value is measured in square meters, buildings are as fungible as cash. Cities devour buildings, and no more so than in Tokyo. Commercial buildings have to adapt quickly, often radically, because of the intense competitive pressure to perform, and they are subject to the rapid advances that occur in any industry. Most businesses either grow or fail. If they grow, they move; if they fail, they're gone. Turnover is constant. Office buildings are forever metamorphic.