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## The Political Economy of Flexibility

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## THE POLITICAL ECONOMY OF FLEXIBILITY

### DEREGULATION AND THE TRANSFORMATION OF CORPORATE SPACE IN THE POSTWAR CITY OF LONDON

*Amy Thomas*

IN THE POSTWAR DECADES, the “open plan” became the primary architectural mode of arranging office space. Its value resided in its flexibility: the capacity to accommodate change and thereby prolong utility and increase cost efficiency for developers and occupiers alike. Flexibility became a prerequisite for the design of office buildings, and in subsequent years architects and engineers developed increasingly sophisticated ways to embed the potential for expansion and reorganization into the structural form of the building; it shifted from being a condition of use to a property of the building, as well as a profitable real estate asset. At the same time, the corporate demand for flexible space grew: as companies became larger and more complex, the reorganization of personnel and infrastructure occurred more frequently, putting a premium on adaptable buildings. Flexibility emerged as a central principle of management theory, positioning the capacity to accommodate flux as a key element for a successful organization. During the same period, the issue of flexibility was of central concern for architects seeking to escape the prescriptive dogmas of modernism and destabilize the fixity of functionalism.<sup>1</sup>

It can be argued that this mutually beneficial interest in flexibility in the corporate, real estate, and architectural spheres was a product of the political and economic developments of the postwar decades, whereby the shift from a state-controlled economy to a market economy reformulated the fundamental needs and character of the *user*. As the market became the central mechanism

underpinning society from the 1970s onward, the free agency of the individual, as consumer and producer, grew increasingly important. In his lectures, titled *The Birth of Biopolitics*, at the Collège de France, Michel Foucault defined this distributed economic mode of operation as “neoliberal governmentality,” a mind-set or approach encouraging the individual to self-govern.<sup>3</sup> In this mode of governance, investment, competition, and interest supersede rights and laws as the pivotal concepts, which are geared toward sustaining a market-based economy.<sup>3</sup> Foucault described how this process rendered the human subject an extension of the economic system through its *modus operandi* as “the generalization of the economic form of the market . . . throughout the social body and . . . the whole of the social system not usually conducted through or sanctioned by monetary exchanges.”<sup>4</sup> Neoliberal governmentality therefore became what Doug Spencer has termed “an environmental apparatus” oriented toward facilitating and reinforcing the mind-set and behaviors essential to maintaining a market-based economy.<sup>5</sup> Architectural flexibility in the corporate sphere became part of this “environmental apparatus” in the postwar period. The necessity for the user (and by extension the organization) to be able to manipulate his or her environment with ease in order to facilitate continuous productivity rendered flexibility a central concern in the design of office buildings. The real estate developer, the architect, and the organization became preoccupied with the development of easily adaptable structures, linked by their ultimate goal of fostering the “tendency to compete” in the neoliberal *Homo economicus*.<sup>6</sup>

A model case study for the development and proliferation of the flexible office building during this period is London’s financial center, the City of London (hereafter, the City), which was the subject of dramatic financial reforms from the 1970s onward, culminating in the deregulation of the stock market in 1986 under the Thatcher government. The policy changes transformed the character of the financial center from an inward-focused gentleman’s club to a global hub, triggering the rapid internationalization, reorganization, and technological innovation of firms. These transformations gave rise to unprecedented architectural requirements and in particular a reimagining of the notion of flexibility to meet the demands of an increasingly volatile, changeable industry. Firms such as DEGW reconceptualized the office building from a static object to an assemblage of temporally defined layers, embedding obsolescence into the structure of the building and in effect modulating the form of flexibility from open plan to open building.

Scrutiny of this development reveals important links between transformations in the architectural world and in the corporate world toward the end of the twentieth century that have hitherto been unexplored. It is arguable that the boom in commercial practice, the ascendancy of space planning, and the emergence of user research as a central component in architectural practice in

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FIGURE 5.1. Map showing the City of London, also known as the Square Mile, in the context of Greater London.

the United Kingdom were closely linked to the transformations occurring in managerial theory, which increasingly positioned worker agency and self-management as central to organizational productivity. Within this context, it might be argued that the notion of flexibility was central to these developments, as it linked architects and corporations in their pursuit of user freedom, which can in turn be linked to a reformulation of the subject/user under deregulation. In order to fully grasp the complexity of this relationship, it is first necessary to unravel the changing definition of the term “flexibility” in the context of the City, as well as its interrelationship with the political-economic transformations of the decades after World War II.

### **Technologies of Flexibility after World War II**

In the 1950s, a “flexible” office building meant “open plan,” which emerged as a new typology in the postwar office market. Bomb damage in Europe and the United Kingdom, as well as an economic boom in the United States, necessitated the rapid construction of commercial buildings to house displaced or growing businesses and, in turn, to boost national economies. While the scale and nature of the demand varied internationally (some speculative, some occupier-oriented), the market was driven by a fundamental demand for space.

In response, architects and engineers devised lucrative ways to maximize floor area by minimizing the floor space taken up by heavy stone frontages, using minimalist steel frame structures with slender, curtain-wall façades; as Alan Powers writes, “the thickness of the wall represented the profit margin, and the thinner it was, the higher the rentable floor area on the inside.”<sup>7</sup> The modular steel frame formula, comprising interchangeable standardized parts, was valuable to the architect and the developer for its repeatability and easy legibility of cost/space relationships.

In the City, the curtain-wall building became popular thanks to the opportunities presented by large-scale bombsites and high demand following the loss of 31 percent of office floor space as a result of the Blitz.<sup>8</sup> The local authority, the Corporation of London, was given compulsory purchase powers by the government to buy up large tracts of bombed land in the City to sell to developers on long leases in order to assist with the provision of office space and to restore economic buoyancy (the so-called Lessor Scheme). The idea was to prevent drastic increases in land values and provide developers with the opportunity to build on sites that would previously have been unavailable or costly due to the complex layers of land ownership in London.<sup>9</sup> In contrast to the small infill blocks that characterized development before the war, the availability of these large sites, in combination with the replacement of “cornice height” regulations with “plot ratios” (which placed limits on the total *area* of a building in relation to its site) enabled the construction of tall tower-and-podium/plaza buildings set back from the street.<sup>10</sup> Due to the imbalance of supply and demand, the curtain-wall building was appealing to developers, as it offered the maximum amount of floor space and could be built relatively cheaply. Jack Rose, a prominent developer of the period, later described these buildings as “the essence of attainable maximum rent: sacrificing elaborate façades in favor of curtain wall construction and limiting floor to ceiling heights to the minimum permitted by building bylaws. . . . The standard of building conformed to a sellers’ market.”<sup>11</sup>

The appeal of these buildings wasn’t simply floor area and economy but also their performance over time. The universal space provided by the steel frame enabled occupiers to continually remodel the arrangement of their office throughout their occupancy cycle and also let developers accommodate an unlimited number of tenant combinations throughout the real estate cycle. The technology that enabled the open plan was commercially successful because it extended the building’s economic productivity beyond the point of construction. As Reinhold Martin has noted, the modular techniques used by firms like SOM in the United States internalized the logic of capitalism by embedding “flexibility” into every surface of the building via “three-dimensional modular matrices” in order to cater to the modern corporation, which was perceived to



FIGURE 5.2. Fountain House, designed by W. H. Rogers, 1957, for the City of London Real Property Company.

be in a state of constant and unending flux.<sup>12</sup> The capacity for change emerged as a precondition for the market and was further facilitated by the gradual adoption of the shell-and-core construction method, whereby the developer and contracted architect provided the “shell” (structure and cladding) and “core” (the services, including washrooms, physical plant basics, etc.), leaving the interior spaces for the occupier to finish during a “rent-free” tenancy period, by means of a “contract furnisher.” It meant that for developers, commercial buildings could be subdivided according to the number of tenants moving in rather than on a prelease basis, while occupiers could determine the organization and style of their offices.<sup>13</sup>

The necessity for adaptation over time, or “flexibility,” became a prominent subject within modernist architectural discourse in the postwar decades. Adrian Forty has claimed that the term offered “a way of dealing with the contradiction that arose between the expectation . . . that the architect’s ultimate concern in designing buildings was with their human use and occupation, and the reality that the architect’s involvement in a building ceased at the very moment that occupation began.”<sup>14</sup> The design of “flexible” buildings therefore enabled a semblance of future control beyond the point of completion. By the 1960s, the temporal dimension of architecture was being widely and critically explored across the professional spectrum. Neofuturist projects by groups like Archigram and the Metabolists implied architectural worlds in which nothing was fixed and anything was possible. Structurist architects like Herman Hertzberger, Piet Blom, and Aldo van Eyck designed limitless building systems comprising “linked identical spatial units,” which in theory could be repeated, extended, used, and reused ad infinitum.<sup>15</sup> Pragmatists like John Weeks, Richard Llewellyn-Davies, and Peter Cowan in Britain and Ezra Ehrenkrantz in the United States acknowledged the economic merits of planned obsolescence and indeterminacy through their experiments in state-led hospital and public school design.<sup>16</sup> Having proposed these neofuturist projects during a period of widespread sociocultural upheaval, all of these groups to some degree elicited the societal-political value of responsive rather than prescriptive design, positioning the architect as the creator of continually changing environments rather than static buildings.

The curtain-wall office buildings that dominated the postwar City embodied a rather limited definition of the term “flexibility” in comparison to these radical experiments in structural adaptability. While the modularity of the curtain-wall building theoretically offered continual change, the realities of stringent planning regulations in the 1950s, limited building plots, and a seller’s market restricted the adaptive potential of this technology to the provision of “universal space.” Developers exploited the flexibility of the steel frame module only to the extent that it enabled them to achieve the maximum floor space

area in any given plot ratio framework; there was as yet no financial advantage in having a stake in the structural life of the building after completion. The somewhat superficial level of flexibility permitted by the open plan was at this point sufficient to assure profitability, as the needs of financial firms were relatively straightforward in terms of technology and personnel organization. It wasn't until the 1980s that a more profound, structurally integrated conception of flexibility entered into the mainstream of office design, when shifts in the nature of organizations and the economy necessitated more readily adaptable buildings or, to put it another way, when change became a market necessity.

### Open Plan to Open Building

The collapse of postwar international economic agreements, alongside the oil crises of the 1970s, instigated the gradual but widespread adoption of monetarist economic policies by governments across Europe, as well as by the United States, and a shift in political ideology from state allocation of funds to a market economy. The instabilities caused by a market-based system, which were reinforced by financial deregulation and the rapid expansion of the service sector, meant that organizations became increasingly volatile and susceptible to fluctuations in staff numbers, putting a premium on the flexible use of space and therefore requiring a reconceptualization of the office building that placed intrinsic adaptability at its core.

As Britain's primary financial center, the City was at the epicenter of the government's neoliberal economic policies in the latter part of the twentieth century, and it consequently became the testing ground for innovation in flexible office buildings due to the rapidly changing demands of tenants and the real estate market. The collapse of the Bretton Woods agreement and the oil crises of the 1970s triggered a wave of deregulatory procedures implemented by successive governments to correct the perceived failure of Keynesian economics. The removal of remaining postwar currency controls in 1979 gave rise to the creation of global currency markets and novel financial instruments, initiating the internationalization of the financial center. In 1986, an epoch-changing agreement known as the Big Bang was forged between the Thatcher government and the Stock Exchange, resulting in the opening up of the UK stock market to international members and the erosion of the jobber-broker distinction, which had hitherto restricted participants' activities in the market to the buy or sell side. This meant that institutions could now take part in all areas of the market, ultimately enabling the formation of new multifaceted financial conglomerates.

Regulatory change transformed the organizational and technological character of financial firms, as well as their accommodation requirements. First, the scale of these companies increased dramatically. Unlike Wall Street, which



already had a number of large investment banks due to brokerage deregulation in 1975 and partial repeal of the Glass-Steagall Act in 1980 (which had hitherto separated investment and retail banks), in the early 1980s the City still comprised smaller, market-specific firms, which were unsuitable for the size and diversity of the new securities market. To compete, they needed to consolidate and grow, and that need triggered a spate of unparalleled expansions, amalgamations, and acquisitions among firms, with the aim of offering “the widest possible range of services to the widest possible range of clients in the widest possible range of countries.”<sup>17</sup> The mergers incorporated clearing, merchant, and foreign banks, as well as jobbers and brokers, securing the future of these financial entities by expanding their in-house capabilities.<sup>18</sup> In the first three months after Big Bang, daily turnover nearly doubled.<sup>19</sup> The banks also grew in size. For example, Morgan Grenfell expanded from two hundred to two thousand employees between 1975 and 1986 and increased in value from £160 million to £4 billion.<sup>20</sup> Second, Big Bang created unprecedented technological demands. The introduction of a new electronic trading system at the Stock Exchange, modeled on its NYSE rival NASDAQ, instigated the abandonment of traditional face-to-face, or “open-outcry,” trading in the City after 1986. The latter had dramatic spatial implications, rendering the centralized Stock Exchange trading floor completely redundant by enabling its members to trade from their own in-house dealing floors across the financial center.<sup>21</sup> The new dealing floors had specific and costly infrastructural and architectural requirements, including large slab-to-slab heights to house the cabling for computers and air-conditioning above suspended ceilings and beneath raised floors, and deep floor plans free of obstructions such as columns and service cores to provide sightlines and enable visual communication between traders (plate 12).<sup>22</sup>

In Manhattan, the new spatial and technological demands caused by deregulation were accommodated relatively easily thanks to large gridiron building plots, which enabled the construction of big buildings with deep window-to-core distances. However, the City’s office stock lacked the vast footprints and adaptable forms required to house such spaces. After substantial petitioning by City firms and property companies, in 1985 the Corporation of London relaxed its conservation-oriented planning laws, granting developers “air rights” (the ability to build over roads, railways, parking lots, and bridges) and expanding the City’s jurisdictional boundaries to the north and east.<sup>23</sup> A construction boom ensued, with more than half of City office space rebuilt between 1985 and 1993 and with average floor space area increasing from four hundred to three thousand square meters.<sup>24</sup>

The architectural implications were less straightforward than space provision. Growth was accompanied by volatility, which in turn demanded greater flexibility in the workspace. By the end of the 1980s, investment banking was

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FIGURE 5.3. Comparative plans for trading floors in the United States and United Kingdom, designed by DEGW, 1986.

the largest financial sector in the City, employing approximately 20 percent of the City's workforce and operating in multiple fields, such as corporate finance, capital markets, corporate lending, and pension funds.<sup>25</sup> Such exposure rendered these firms susceptible to market fluctuations, which in turn demanded more responsive buildings and thereby put a premium on the flexible use of space.<sup>26</sup> The dealing floor was particularly vulnerable to change as the speed and volume of transactions increased with IT and deregulation, therefore requiring new fixtures and potentially even entire sections of buildings that could be rearranged and manipulated easily. Adaptive layouts were thus appealing on economic grounds and essential in organizational terms. With the ever-increasing value of financial transactions, the rising cost of better-qualified staff, and growing investments in IT and property, corporations were looking to cut occupancy costs where possible. "Churn"—the industry term for staff turnover and subsequent reorganization—was potentially an extremely expensive and regular occurrence.<sup>27</sup>

The firm to revolutionize office design in response to these organizational shifts, and to introduce the concept of "space planning" in the United Kingdom, was DEGW. By foregrounding change as the core design problem, the firm became one of the most prolific and successful commercial practices operating in the City from the 1980s onward. Cofounded in 1973 by Francis Duffy and John Worthington (the *D* and the *W*, respectively, in DEGW), the firm pioneered user-oriented design with a particular focus on workplaces. Duffy, who has also published widely and occupied the position of president (1993–1995) for the Royal Institute of British Architects (RIBA), was arguably the leading

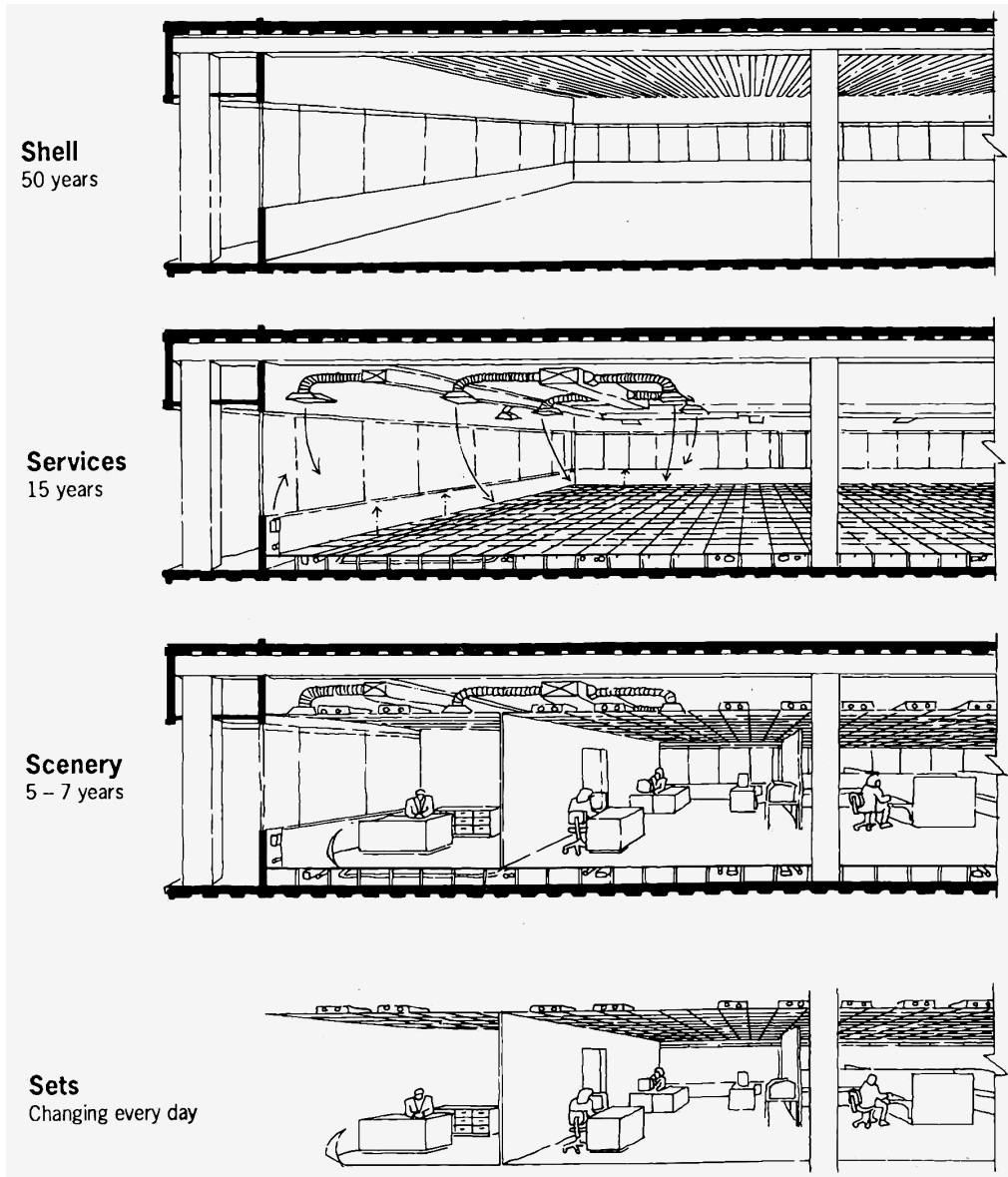


FIGURE 5.4. Diagram by DEGW breaking down the office building concept into temporally defined layers: shell, scenery, services, and sets, 1989.

theoretical mind of the practice, drawing on his postgraduate education at the College of Environmental Design at the University of California, Berkeley, and at Princeton.<sup>28</sup> There Duffy was exposed to a school of thought derived from the multidisciplinary “environment-behavior studies” (EBS) movement in the United States, which analyzed individuals as part of their socio-physical

environment.<sup>29</sup> Building on this methodology, DEGW approached the office building as a complex, multilayered organism that changed with the needs of the tenant, rather than a rigid, unchanging form. In short, the firm's philosophy reconfigured the office from a prescriptive environment to a responsive one.

According to DEGW's research, the high rate of obsolescence in existing City office buildings had been caused by their complete lack of adaptability, with one study revealing that several large banks were struggling with buildings only ten years old that were already outdated due to their incapacity to accommodate change and technological innovation.<sup>30</sup> Redundancy was caused by limitations in scale alongside the interconnectedness of the structural and cosmetic elements of the building, which prevented the constant updating of service provision required in the electronic age. Duffy's solution—which he had been working on since completing his doctoral thesis in the 1960s—was to break down the static office building, with its immovable central service core, into an assemblage of independent, temporally defined layers: the “shell,” incorporating the main structure, with a lifespan of fifty years; “services,” including elements such as ducting, air-conditioning, and plumbing, lasting fifteen years; “scenery,” the internal partitions, large furniture, and incidental items, lasting five to seven years; and “sets,” including plants, paper, smaller furniture, and the like, changing every day. In practice, these layered buildings took the form of deep-plan structures with atria and dispersed cores that facilitated easy service maintenance; generous slab-to-slab heights for cable and ducting cavities; and steel-frame shells with detachable façades.<sup>31</sup> Through this process of dismantling, the office building was reconceptualized as slices of time, each calibrated to assure the maximum profitable outcome for both developer and user. This way, the shell could be built and tenanted quickly and efficiently, and interiors could be maintained and updated more easily and economically than ever before.

In DEGW's approach, the open plan gave way to the open building, redefining architecture as a *process* rather than a fixed form. “Our basic argument is that there isn't such a thing as a building,” Duffy wrote, adding that “a building properly conceived is several layers of longevity of built components.”<sup>32</sup> As it had been for Llewellyn-Davies and Cowan, for DEGW the core argument for this mode of deconstruction was economic; in most cases, expenditure on the updating of buildings usually outweighed the initial cost of construction, rendering the lifespan of a building after completion just as important, if not more important, than the original structure itself. As Duffy noted, “it proves that architecture is actually of very little significance—it's nugatory.”<sup>33</sup> DEGW became successful because its principals considered the performance of the building throughout its entire life cycle in order that it retain value for the user and the investor. In turn, the layered building eventually became the standard

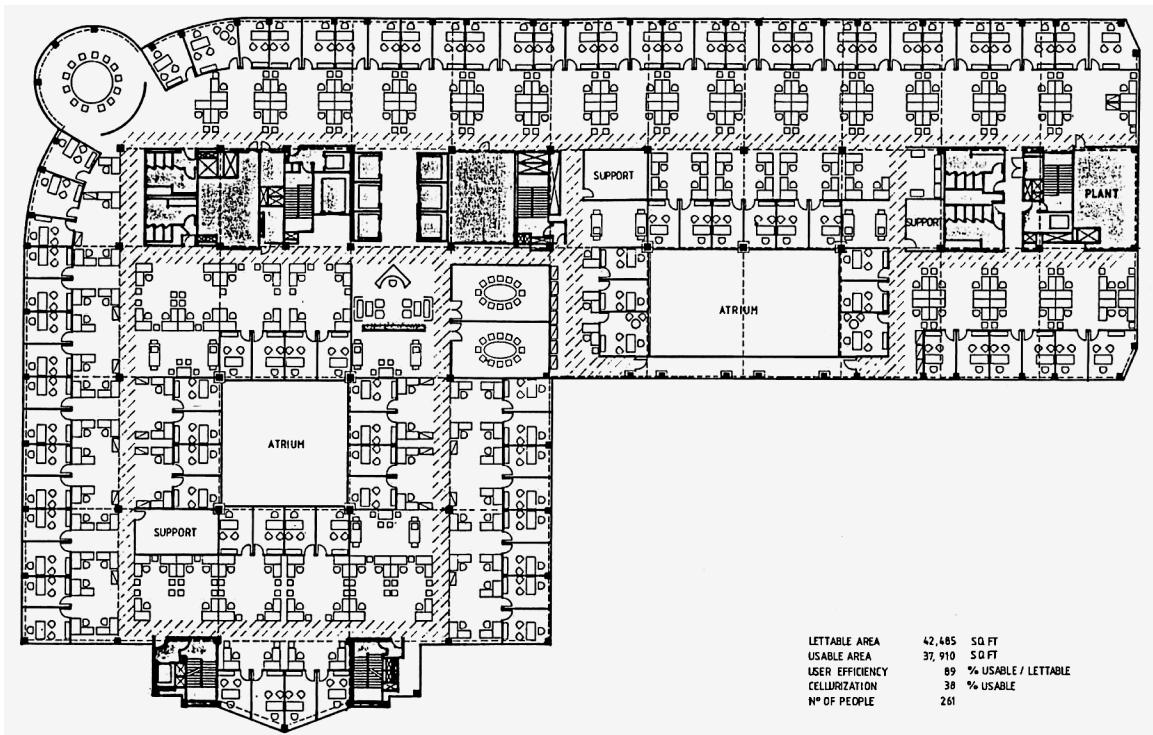


FIGURE 5.5. Floor plan of dealing room in Broadgate designed by DEGW, 1988.

for high-specification commercial structures in the City because it eased the architectural and economic burden of organizational change for the occupier—be the changes personnel-oriented, technological, or cosmetic—while also acting as a highly effective financial instrument, which was continually *productive* in real estate terms by virtue of enabling its workspaces to be continually *re-produced*, ever renewing and reinstating the building's profitability.

The idea of providing an architectural framework for change, which was itself a product of economic volatility, embodied the paradox of deregulation that was at the core of these real estate developments. In the societal context, economic deregulation was enabled by a reorientation of market regulations toward libertarian principles (such as the abolition of “restrictive practices” within the financial sector and the requirement for computerized trading on the stock market), rather than the absolute removal of regulation. Theoretically, the neoliberal paradigm was reliant on the contradictory idea that in order for competition to act as the dominant societal force, an intervening agent—the state—was needed to cultivate the external conditions for competition and protect against the market's natural tendency to form monopolies. Foucault explains that, paradoxically, “neo-liberalism should not . . . be identified with laissez-

faire, but rather with permanent vigilance, activity, and intervention.”<sup>34</sup> In the same way, DEGW’s architectural approach was commercially viable because it provided a framework for market fluctuations at the organizational level; this framework operated through continual intervention within the architectural container to enable change to occur, whether through changing the façade of the building, replacing the IT infrastructure, or rearranging partition walls. The success of Duffy’s deconstructed office was not predicated on making the future conditions of an organization *knowable* (as this would imply rigid planning, an idea anathema to neoliberal theorists like Hayek, who proposed that “necessary ignorance” of the system was a precondition for its effective, automatic functioning) but rather based on constructing an environment in which anything could happen.<sup>35</sup> In other words, DEGW actively constructed the conditions for change. As Duffy explained, rather than “attempting to use buildings to exploit behavior patterns, it is sanest to try to design buildings and organizations which permit all possible behaviors to coexist without coming into conflict.”<sup>36</sup>

In effect, DEGW adopted a systems design approach in order to resolve the temporal conflict between architectural longevity and organizational flux. For Duffy, the organization was a complex, self-regulating system, which functioned most effectively when unfettered by architectural impositions. “The building,” Duffy wrote, “is the framework that permits technology, organization and communications to exist” and the study of work is “the investigation of complex relationships.”<sup>37</sup> In order to enable the organization to function effectively, the building would need to become part of its operational process.

The shift in the nature of flexibility within the commercial office building, from a condition of use to a structural property of the building, did not simply denote a reconceptualization of value from one that privileged *space* to one that privileged the performance of a building over *time*. Rather, it demonstrated a fundamental change in emphasis, from a quantitative to a qualitative definition of value. Put another way, this shift represented the redefinition, and foregrounding, of the client as a psychologically complex and sentient consumer: the neoliberal *Homo economicus*.<sup>38</sup> This was proven by the findings of a major report produced by DEGW in 1983, *The ORBIT Study* (Office Research: Buildings and Information Technology), which aimed to assess “the impact of information technology upon office work and office workers” to predict the future of office design in the United Kingdom. In the report the firm concluded that increased reliance on IT and organizational change would have “the effect of making sophisticated organizations increasingly dependent on buildings.”<sup>39</sup> The growing interdependency of user and building reciprocally heightened the interdependency of market and user, forcing developers and architects to produce appealing, functional, and, most importantly, flexible buildings in order to obtain the competitive advantage.

### Flexibility as a Tool for Producing the Neoliberal Subject

The idea of a codependency between user and workspace, as expounded by space planners like Duffy, was in large part influenced by transformations in management theory that had occurred in the postwar decades.<sup>40</sup> The shift away from scientific management, focusing on the productivity of the individual, to human relations, focusing on the productivity of social groups, revived discussions about the relationship between environment and behavior in the workplace. Stemming from the well-known Hawthorne experiments conducted in the United States during the interwar period, which concluded that interpersonal relationships rather than direct environmental factors (such as light and desk height) determined efficiency, management theorists ceased to look at the organization as an assembly line (a series of perfectible tasks) and began to view it as a communication system with inputs, processes, outputs, outcomes, and feedback.<sup>41</sup> Whereas scientific management had viewed “environment” as the immediate area around the worker (i.e., furniture and lighting to improve efficiency), human resources expanded the term to denote the more general architectural and spatial character of the office, as this was the container for social interaction and thus the enabler of higher levels of productivity. The open plan office was particularly desirable, because unlike the dominant “cellular” office layout, which emphasized hierarchy and architecturally divided the office into discreet functions, the open plan facilitated the free organization of personnel according to working groups, which could be moved around according to changes within the firm. This mode of “office landscaping,” first put forward by the Quickborner team (established by brothers Wolfgang and Eberhard Schnelle in Germany in the late 1950s) rendered the building an indispensable component of office management. As the Quickborner team itself commented, “We realized that the office building is, in effect, management’s most important tool. . . . The effective functioning of the organization is decisively determined by the type of office building and/or office layout used.”<sup>42</sup>

The transformations in management theory were also the result of the changing nature of work in the postwar decades. The rise of the service sector and the “knowledge worker”—a term coined by the influential organizational theorist Peter Drucker in the late 1950s—required a shift in the perceived status of the worker within the organization and in turn the manager-subordinate relationship. As Drucker explained, “Knowledge workers . . . own the means of production. That knowledge between their ears is a totally portable and enormous capital asset. Because knowledge workers own their means of production, they are mobile.”<sup>43</sup> As such, companies had to go out of their way to keep employees from taking their capital asset—knowledge—to other firms, replacing command-and-control management tactics with motivation

and employee freedom and fostering interpersonal relationships. The shift to knowledge work repositioned the employee in the overall accounting structure of the firm, transforming the worker from an *expense* to an *investment* and in turn augmenting the relative value of the office environment as part of that investment. As Drucker noted, whereas “economic theory and most business practice see manual workers as a *cost*, to be productive, knowledge workers must be considered a *capital asset*. Costs need to be controlled and reduced. Assets need to be made to grow.”<sup>44</sup> In effect, the worker had become “human capital,” rendering any action that increased the worker’s capacity to earn income or boost satisfaction—such as a training course or a pleasant work environment—an investment in human capital, thereby embodying Foucault’s conception of neoliberal governmentality.<sup>45</sup>

The increased prominence of the building in management theory brought with it a general improvement in architectural standards from the 1960s onward, and between 1965 and 1986 the average percentage of commercial building costs spent on office interiors and services in Britain increased from 30 to 60 percent.<sup>46</sup> Lightweight, mobile, fashionable furniture alongside improved lighting, acoustic insulation, and the inclusion of softer “decorative” elements with domestic overtones, such as plants and artwork, were introduced to make office work more appealing.<sup>47</sup> As the finance industry grew in scale and value, offices were increasingly used as a sign of status, as well as a magnet for new talent.

The flexible, deep-plan office became the dominant form of office building in the City toward the end of the 1980s, not simply because it enabled organizational change but also because it made visible to the employee core elements of an HR-based management strategy: open circulation paths and working clusters articulated ideas like collaboration, connectivity, and choice. The latter was particularly significant, as it reaffirmed the central differentiator between the knowledge worker and the assembly-line manual worker: the privilege of agency. The freedom for the individual worker to self-manage and self-improve (itself a mode of investment in human capital) was a core principle of a market-driven economy, as self-interest was the mechanism behind competition, or as Foucault put it, “*Homo economicus* is an entrepreneur . . . , an entrepreneur of himself.”<sup>48</sup> As such, the architectural expression of freedom and choice in the workplace was not merely in the interest of the worker but an investment in the capital assets of the firm. This is arguably why the socially focused experiments of more radical architects, like Herman Hertzberger, encouraging personalization, participation, and freedom of movement subsequently became a model for corporate office design: the user-satisfaction factor became the necessary economic driver of the commercial architecture practice, the management theorist, and, by extension, the real estate developer, and the flexible office building was the vehicle by which this could be achieved.



### Flexibility through Architectural Labor and Aesthetics

The shift in the conception of productivity as something that was to be achieved through the restriction of the worker's freedom on the assembly line (through scientific management) to the encouragement of worker autonomy (through HR principles)—that is, from the fixed self to the flexible self—occurred right alongside the increasing flexibility of the office workspace. Rather than a linear organizational cause and architectural effect, these were parallel processes within a political-economic system reliant upon the productivity of the thinking, consuming subject. In office design, the architect's role therefore became to design a framework that users could adapt in order to perform their role within the continually changing market and in some sense to speculate on what form that future adaptation might take. As Duffy noted of DEGW's practice in the 1980s, "the unit of analysis for us isn't the building, it's the use of the building through time. Time is the essence of the real design problem."<sup>49</sup> The reconceptualization of the building as an ongoing process or, rather, the reconceptualization of the architect's involvement with the building as extending beyond the point of completion, in turn affected the operation of the architecture firm. Writing in 1984, Duffy argued that market shifts had necessitated a reconsideration of practice in relation to time, calling for a reorientation of the architect's relationship with the client from one that was "synchronic," in which "each transaction is separate and comes at a unique moment in time," to one that was "diachronic," "that is, continuing and developing through time."<sup>50</sup> In effect, Duffy was calling for architects to adopt a consultancy model, whereby architectural labor was reconfigured as a process that was ongoing rather than bound by a contractually fixed end point.

Duffy's call for operational innovation was driven by a high level of precariousness and competition in the marketplace, caused in part by the rapid increase in the number of commercial enterprises in Britain in the 1980s. The Thatcher government's cessation of funding for public housing toward the end of the previous decade, as well as the general emphasis on privatization, caused a rush of public sector redundancies for the many architects previously employed by the state. To add to an already competitive environment, the deregulation of the architectural profession ensued, beginning with the decision of the Monopolies and Mergers Commission to abolish architects' fee scales in favor of a free market approach and culminating in the overhaul of the RIBA rulebook in 1981. The latter finally allowed practices to advertise, to "go public" on the London Stock Exchange, and to engage in property development and the construction business.<sup>51</sup> With jobs scarce, a surge of firms entered the private sector. Without the protection of fee scales, architects were forced to lower their rates and develop significant areas of specialization.<sup>52</sup>

The increasing complexity of user needs demanded that practices develop departments capable of managing different elements of the life cycle of the building, in order to remain competitive. The deconstruction of the office building led to the subdivision of the architecture and construction industries into a spectrum of specialist professions, ranging from monitoring and evaluation (M&E) and telecommunications experts to space planners, interior designers, and facilities managers, and this division of labor in turn threatened to limit the creative (and professional) remit of the architect to the shell of the building.<sup>53</sup> DEGW avoided marginalization by developing a consultancy, or “diachronic,” model of practice, which offered research-based services that extended into the pre- and postconstruction life cycle of the building, such as postoccupancy studies, building appraisals, and sectoral studies to evaluate change for users, developers, and investors.<sup>54</sup> For Duffy, this model of practice required not only innovative approaches to construction but also a reimagining of corporate style, calling for a “totally new aesthetic based not on the bright, sterile and peopleless moment of move-in but on the gradual adaptation of space through time, an aesthetic of process and maturity.”<sup>55</sup>

It is perhaps unsurprising that the British “high-tech” style, with its embedded aestheticization of process and movement, became the lingua franca of office design from the late 1970s onward. Firms such as the Richard Rogers Partnership (RRP), Norman Foster and Partners, and Arup Associates produced large, deep floor plans by externalizing all cumbersome service elements to the façade and reducing them to a network of lightweight precision components, expressing temporariness and mobility. With a strategy commensurate with Duffy’s “deconstructive” approach, high-tech architects dissolved the building into a series of restless, maneuverable parts, visibly extending the flexibility of the open plan from the horizontal plane to the entire structure. On the surface, the appeal of this style in the newly deregulated City was, perhaps paradoxically, its monumentality. As Peter Buchanan noted in an article in *Architectural Review* in 1983, unlike its more radical original formulation in the works of Archigram and Price Architects, which sought to do away with any sense of the monumental in favor of mechanistic assemblages, the sleek high-tech productions emerging in the corporate sphere were “no longer anti-art but high art” striving “to be not so much pragmatic and playful process as refined and elegant thoroughbreds.”<sup>56</sup> Buchanan’s argument was that architects like Norman Foster were more fixated on the visual representation of high technology than its actual functionality, resulting in the production of iconic sculptural forms—building-as-object—rather than pure structural assemblage—building-as-process. While Buchanan’s critique was somewhat reductive, it is true that the notion of iconicity was an essential component of the London real estate market in the 1980s. The early part of the decade had witnessed financial

institutions' general loss of faith in property as a good investment. Increasing unemployment, high inflation, and rising interest rates resulted in a slowdown in the growth of rents and low returns for property.<sup>57</sup> Consequently, developers had to be competitive by providing high-quality "landmark" developments to lure tenants.<sup>58</sup> Facilitated by the deregulation of planning laws, the latter gave rise to large "prestige" developments spread around the outer edges of the financial center. Projects such as 1 Finsbury Avenue (1982–1984) by Arup Associates utilized the high-tech genre to create a salable building in an area that had been formerly considered too far from the Bank intersection (the City core) to be legitimately considered part of the financial center (plate 13).<sup>59</sup>

On the other hand, the appeal of the high-tech building could also be found in its propensity for assimilation and the provision of generic interior forms. In an essay about Norman Foster and his adoption of a "systems-based" method, Duffy argued that the genius in Foster's approach to design was a "severe, puritanical kind of ideology" that privileged the consistent provision of the generic deep plan, allowing the "rationalist, corporate orthogonal" to prevail.<sup>60</sup> High tech was appropriate for the new corporation because it rendered the building itself as *equipment*, which could be tailored to meet the needs of any organization due to its standardized, unencumbered interior, while also providing a visually arresting, if somewhat unreadable, exterior. In other words, it was a style that was servile to the occupier and the investor, rationalized to maximize productivity.

The pliable exteriors of the new corporate architecture were also exploited to reactionary ends in the City. The cultural shift from gentleman's club to global financial center was not as swift as the policy changes that were enacted overnight in 1986, and consequently approaches to architectural modernization on the part of developers were cautious. The results were buildings that either embraced tradition via retained façades or inflated postmodern neoclassicism, as in Terry Farrell's Landmark House on Fenchurch Street (1985–1987) and Beaumont House on Aldgate by RHWL (1988), or high-tech structures that compromised their modernity through the application of stone veneers, as was the case with the first phases of the Broadgate office complex by Peter Foggo for Arup Associates (1986–1987). Whereas Foggo had originally designed the building with a robust steel exoskeleton, the then-chief planning officer, Peter Rees, requested that the architect redesign it using a marble façade in order to reinforce social convention in the City.<sup>61</sup> Thin slices of marble were attached to an exposed steel frame and interspersed with chunky bolts, brackets, and glass, as if to highlight the elevation's superficiality. As with Duffy's dismantled building, the high-tech style was commercially viable because of its inherent flexibility. This flexibility operated through a distinct delineation between the building as a precision-engineered envelope, which could



FIGURE 5.6. 100 Liverpool Street at the entrance to Broadgate Circus, designed by Arup Associates under Peter Foggo (1985–1987); note the thin layer of detached stone cladding. © Danielle Willkens, 2013.

be calibrated and adjusted as required, and the interior as pure space, which could be subdivided as required. Thus, the high-tech building was the ideal instrument of deregulation, as it removed the temporal inconveniences of the building-as-object, enabling its continual manipulation to meet the complex and fluctuating demands of *Homo economicus*. The stylistic arrangements of office buildings in the 1980s and 1990s were not simply manifestations of capital accumulation but rather a visualization of the mechanisms of flexibility underpinning their design and economic rationale.

### Conclusion

The deconstructed, high-tech-style office devolved control to users/clients, giving them the freedom to adapt the building to maximize productivity, whether this was in the sense of its aesthetic expression as an “appropriate” and therefore salable City building or its spatial expression as an enabler of organizational flux. This functionality in part explains why the style became

so popular from the 1980s onward: it embodied a culture that thrived upon, and reveled in, its own volatility. As the City became a subject of the neoliberal government agenda in the late-1970s, commercial architects developed increasingly flexible office buildings to accommodate increasingly unstable market conditions, which were affecting the occupancy demands of City tenants. Increased rates of personnel “churn,” the need for continual expansion, and the necessity to adopt continually updated IT systems required offices that were not static forms but flexible frameworks for change. Frank Duffy and his firm DEGW transformed the definition of architectural flexibility from open plan to open building—from a spatial technology to a structural technology—which repositioned the temporal dimension of architecture at the center of commercial practice.

In some senses it is clear that the emphasis on the future performance of the building was intrinsically related to the shifting dynamics of real estate in a deregulated system. The value of a building after the completion of construction became increasingly significant as real estate became integrated into financial markets through strategies such as “securitization,” which transformed property mortgages into tradable securities, and “unitization,” which made it possible to trade in small units of a building.<sup>62</sup> Within this context, developers and financiers adapted accordingly. The former became more focused on property trading, while “property investment banking” became popular among the new financial conglomerates, which used capital markets and a range of financial instruments to fund developments.<sup>63</sup> The office building became a financial instrument, and, as such, the economic worth of corporate buildings was inseparably tied to future property values in the City. It hardly seems surprising then that architects would also be working toward developing buildings that had the capacity to be continually productive in the future or even that they visually embody this practice with styles like high tech. As Fredric Jameson has noted, “Time and a new relationship to the future as the space of necessary expectation of revenue and capital accumulation . . . is now the final link in the chain which leads from finance capital, through land speculation to aesthetics and cultural production itself, or, in other words . . . to architecture.”<sup>64</sup> Yet such an explanation does not reveal why this move toward flexibility in architecture was paralleled by commensurate developments within organizations that provided the perfect client, or to put it another way, How is it that Duffy’s approach was so successful with occupiers, developers, and investors?

What this chapter aims to show is that the necessity for flexibility in the organization and the demand for adaptable future-proof real estate were linked by virtue of existing within a neoliberal system, which operated via the logic of competition. In order for competition to function in this context, the individual subject had to be free to act in self-interest and “to choose between

competing strategies” so as to be productive in the economic realm.<sup>65</sup> Developments in management theory reflected this by adopting an HR approach that foregrounded agency, choice, and sociality in the workplace. Similarly, in architecture the development of space planning, research-based consultancy methods, and the physical deconstruction of the building into temporal layers aimed to maximize productivity through the provision of choice for users. Duffy’s significance wasn’t that he *invented* integrated flexibility—Weeks, Llewellyn-Davies, Cowan, Ehrenkrantz, et al. had been experimenting with planned obsolescence in building for some time—but rather that he *synthesized* this flexible planning with management theory, the environmental and the behavioral, the architectural and the organizational.<sup>66</sup> As the thinking, consuming individual—*Homo economicus*—emerged as the protagonist in the market-based economy, the worker and, by extension, the organization became an increasingly complex and important driver of design. Duffy’s quest for user agency was therefore solved by a comparably complex architectural solution that involved extensive research into the state of the market and the activities and prospects of the client. In this sense, DEGW’s model embodied the neoliberal paradox that individual freedom, and therefore competition, would be obtained only through careful *management* and regulation. As Foucault wrote, “This governmental practice . . . is a consumer of freedom . . . inasmuch as it can only function insofar as a number of freedoms actually exist: freedom of the market, freedom to buy and sell, the free exercise of property rights, freedom of discussion. . . . It consumes freedom, which means that it must produce it . . . it must *organize* it,” yet doing so “entails the establishment of limitations, controls, forms of coercion.”<sup>67</sup> Duffy’s design methodology was a superlative medium of deregulation in the commercial realm and therefore a strong influence on the direction of commercial architecture, not because it actively sought to “limit,” “control,” or “coerce” but quite the opposite: because in aiming to achieve individual user *freedom*, it embedded the capacity for the continual reproduction of space, of profit, and therefore of competition within the very structure of the office building.

## Notes

1. Adrian Forty, *Words and Buildings: A Vocabulary of Modern Architecture* (London: Thames & Hudson, 2000), 142.
2. Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*, ed. Michel Senellart, trans. Graham Burchell (Basingstoke: Palgrave Macmillan, 2008), 63.
3. Jason Read, “A Genealogy of Homo-Economicus: Neoliberalism and the Production of Subjectivity,” *Foucault Studies*, no. 6 (February 2009): 29.
4. Foucault, *Birth of Biopolitics*, 243.
5. Foucault quoted in Douglas Spencer, *The Architecture of Neoliberalism: How Contem-*

porary Architecture Became an Instrument of Control and Compliance (London: Bloomsbury Academic, an imprint of Bloomsbury Publishing, 2016), 12.

6. Read, "Genealogy of Homo-Economicus," 28.

7. Alan Powers, *Britain* (London: Reaktion, 2007), 95.

8. City of London (England) Department of Architecture and Planning, "Background of City Planning Policies," in *City of London Development Plan: Background Study Summary; Economic Activity* (London: City of London Corporation, Department of Architecture & Planning, 1976).

9. In 1939, livery companies owned around one-fifth of the land in the Square Mile, with smaller private interests taking up the remainder, meaning that even prominent institutions such as the Stock Exchange had taken up to 150 years to accrue sufficient title rights to be able to build bigger premises. Richard Barras, *The Development Cycle in the City of London* (London: Centre for Environmental Studies, 1979), 58.

10. Charles Holden and William Holford, *The City of London: A Record of Destruction and Survival; The Proposals for Reconstruction as Presented, in 1947, to the Court of Common Council* (London: Architectural Press for the Corporation of London, 1951), 256.

11. Jack Rose, *The Dynamics of Urban Property Development* (London: Spon, 1985), 153.

12. Reinhold Martin, *The Organizational Complex: Architecture, Media, and Corporate Space* (Cambridge, MA: MIT Press, 2003), 103–4.

13. Murray Fraser, *Architecture and the "Special Relationship": The American Influence on Post-War British Architecture* (Abingdon: Routledge, 2007), 195.

14. Forty, *Words and Buildings*, 143.

15. Herman Hertzberger and John Kirkpatrick, *Architecture and Structuralism: The Ordering of Space* (Rotterdam: Naio10, 2015), 133.

16. Daniel M. Abramson, *Obsolescence: An Architectural History* (Chicago: University of Chicago Press, 2016).

17. David Kynaston, *The City of London*, vol. 4, *A Club No More, 1945–2000* (London: Chatto & Windus, 2000), 631.

18. Philip Augar, *The Death of Gentlemanly Capitalism: The Rise and Fall of London's Investment Banks* (London: Penguin, 2008), 52.

19. Bargains of more than £1 million increased by 25.2 percent of equities' turnover value in the three months post Big Bang. Eric K. Clemons and Bruce W. Weber, "London's Big Bang: A Case Study of Information Technology, Competitive Impact, and Organizational Change," *Journal of Management Information Systems* 6, no. 4 (April 1990): 55.

20. Augar, *Death of Gentlemanly Capitalism*, 61.

21. Clemons and Weber, "London's Big Bang," 43.

22. Francis Duffy, *The Changing Workplace* (London: Phaidon Press, 1992), 218.

23. City of London Planning and Communications Committee, Corporation of London, "City of London Local Plan: Modifications to the Revised Plan," December 4, 1986.

24. Simon Bradley and Nikolaus Pevsner, *London 1: The City of London* (London: Penguin, 1997), 142; Francis Duffy, *The Changing City* (London: Bulstrode Press, 1989), 56–57.

25. Duffy, *Changing City*, 95. The 1987 crash of the stock market in particular took its toll on a number of investment banks, leading to a bout of large-scale redundancies and retrenchment in certain markets and subsequent transformations in the internal organization of departments.

26. Duffy, *Changing City*, 106.

27. According to Duffy, "The costs of 'churn' combined with the costs of accommodating IT are very high in unsuitable buildings. For example, one bank found that the cost

of moving a particular department had been about £200,000 and took six weeks when it was in an old building. The cost reduced to £10,000 and took only two weekends in a new building which had been designed to allow ease of movement.” Duffy, *Changing City*, 40.

28. A full appraisal of Duffy’s contribution to the field of space planning is not possible in this chapter. For a good summary and compendium of articles, see Duffy, *Changing Workplace*.

29. In 1969, the architecture department at the University of California, Berkeley, had inaugurated a PhD program in social and behavioral factors in architecture and environmental design, which was a highly regarded program in the field of EBS. Avigail Sachs, “Architects, Users and the Social Sciences in Postwar America,” in *Use Matters: An Alternative History of Architecture*, ed. Kenny Cupers (London: Routledge, 2013), 77–78.

30. Duffy, *Changing City*, 23.

31. Duffy, *Changing Workplace*, 218.

32. Quoted in Stewart Brand, *How Buildings Learn: What Happens after They’re Built* (London: Penguin, 1995), 12.

33. Quoted in Brand, *How Buildings Learn*, 12.

34. Foucault, *Birth of Biopolitics*, 132.

35. Spencer, *Architecture of Neoliberalism*, 18.

36. Francis Duffy, “Architects and the Social Sciences (1968),” in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 9.

37. Francis Duffy, “Petrified Typologies (1969),” in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 22.

38. I owe this observation to Reinhold Martin in his response to my conference paper at the College Art Association annual conference (New York, February 2017) in a panel entitled “The Cost of Architecture: Part II,” organized by Claire Zimmerman.

39. Duffy Eley Giffone Worthington and EOSYS Ltd., *The ORBIT Study: Information Technology and Office Design* (London: DEGW and Eosys, 1983), 2; Duffy, *Changing Workplace*, 227.

40. Francis Duffy, “Office Design and Organizations (1974),” in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 29–43.

41. Rita Gunther McGrath, “Management’s Three Eras: A Brief History,” *Harvard Business Review*, July 30, 2014, <https://hbr.org/2014/07/managements-three-eras-a-brief-history>.

42. Quoted in Francis Duffy, Colin Cave, and John Worthington, eds., *Planning Office Space* (London: Architectural Press, 1976), 62.

43. Peter F. Drucker, “Knowledge-Worker Productivity: THE BIGGEST CHALLENGE,” *California Management Review* 41, no. 2 (Winter 1999): 87.

44. Drucker, “Knowledge-Worker Productivity,” 87.

45. Read, “Genealogy of Homo-Economicus,” 28.

46. Francis Duffy, “A Case for More Collaboration (1986),” in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 113.

47. Adrian Forty, *Objects of Desire: Design and Society, 1750–1980* (London: Thames & Hudson, 1986), 140.

48. Quoted in Read, “Genealogy of Homo-Economicus,” 28.



49. Quoted in Brand, *How Buildings Learn*, 12.
50. Francis Duffy, "The Changing Role of the Architect (1984)," in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E & FN Spon, an imprint of Routledge, 1998), 100.
51. Powers, *Britain*, 197.
52. Les Hutton, "The Profession in the Marketplace," in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 75.
53. Duffy, *Changing Workplace*, 232.
54. Kenneth Powell, *Design for Change: The Architecture of DEGW* (Basel: Birkhäuser, 1998), 47.
55. Duffy, "Changing Role of the Architect (1984)," 100.
56. Peter Buchanan, "High-Tech: Another British Thoroughbred," high-tech special issue, *Architectural Review*, July 1983, <https://www.architectural-review.com/rethink/viewpoints/high-tech-another-british-thoroughbred/8604479.article>.
57. Peter Scott, *The Property Masters: A History of the British Commercial Property Sector* (London: E&FN Spon, an imprint of Routledge, 1996), 214.
58. See Graham Ive, "Commercial Architecture," in *Architecture and the Sites of History: Interpretations of Buildings and Cities*, ed. Iain Borden and David Dunster (New York: Whitney Library of Design 1996), 375–82.
59. Peter Wynne Rees, recorded interview by Chris Ingram, October 8, 2012, referenced with the kind permission of the interviewer.
60. Francis Duffy, "Systems Thinking (1991)," in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 54–55.
61. Rees interview.
62. Scott, *Property Masters*, 226.
63. Scott, *Property Masters*, 221, 225.
64. Fredric Jameson, "The Brick and the Balloon: Architecture, Idealism and Land Speculation," *New Left Review* 1, no. 228 (April 1998): 43.
65. Read, "Genealogy of Homo-Economicus," 29.
66. Francis Duffy, "Buildings Never Lie (1976)," in *Architectural Knowledge: The Idea of a Profession*, by Francis Duffy with Les Hutton (London: E&FN Spon, an imprint of Routledge, 1998), 47.
67. Foucault, *Birth of Biopolitics*, 63 (emphasis added).