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## GOOD OFFICE DESIGN, BY DAVID LITTLEFIELD, SECTION OPENERS

### Section opener – WORKPLACE

This book draws on submissions to the annual awards programme run by the British Council for Offices since 2002. Over that period there have been more than 400 individual entries for projects around the UK, and this book highlights a broad range of them – drawn from across different sectors, locations, client type, budget, size and approach. It is telling that a large proportion of projects entered for the BCO's awards are located in the south of England, or even within the M25 (roughly half, in fact). This is perhaps to be expected, as the south-east is where large numbers of private enterprises are headquartered, while parts of London have addresses of such prestige that nothing but top-flight office developments can be expected. Nonetheless, this book contains projects from across the UK (albeit with something of a south-east bias), while Edinburgh probably also gets more than its fair share, as a political/commercial centre in its own right.

Wherever office developments are located, however, the approach to staff provision and spatial standards has remained remarkably consistent over recent years. Occupational density has ranged from one person per 24m<sup>2</sup> to as little as one per 6m<sup>2</sup>, while the average remains around 12m<sup>2</sup> per person. Similarly, light levels vary too, although the average of 400 lux has become the typical provision. Generally, all projects submitted for awards, and certainly all those featured here, put a premium on the creation of a positive, efficient and delightful workplace. Many clients have entirely bought into the idea that high quality surroundings will help attract (and retain) high quality staff; and it genuinely does appear that clients have been happy to explore the widest possible range of options in the search for the ideal workplace.

The move to open-plan working is a common feature of most contemporary offices, although plenty of spaces are provided for meetings and conversations to be held in private. This move in terms of spatial planning accompanies a change in the perceived hierarchy of employers – a pecking order remains, but as everyone has their own value and role to play status is no longer badged by the size or position of one's private office. In fact, clients appear to have seized the potential of wireless working to allow staff to work flexibly anywhere, and a wide range of spaces are provided, from conventional desks, to cafes, cellular rooms, "break-out" areas, light-filled atria and courtyards. "Plug-in-and-work" is becoming common practice, often allied to hot-desking where people work at whichever space is available and appropriate for a specific task; centralised computers know exactly who is working where, allowing others to find them. Offices seem to be characterised by a certain informality, based on the idea that it is a person's knowledge, capability and attitude that is important rather than where they sit. But informal does not mean uninspiring; typically, staff are grouped around perimeter windows for views and light (no longer are the best vistas reserved for board directors), while large atria, the application of colour and artworks, contemporary furniture and clear sightlines also animate the new generation of workplaces.

A serious consideration of staff amenity is also bound up with the provision of an appealing and motivating environment. A good number of BCO entries (perhaps because those entering will only submit their most prestigious projects) contain facilities such as a gym, showers, coffee bar, roof terrace, retail outlets, restaurants and libraries. Where businesses occupy out-of-town locations there is often an increase in retail provision and possibly even the inclusion of a health centre; transport, in the form of a private bus or extending the route of a public bus service, is also becoming good practice.

In planning terms, there seems to be a small number of office typologies emerging. Out-of-town offices, perhaps configured along the lines of a campus, often adopt the model of an internal "street" along which work spaces and other facilities are ranged; bridges across this street often function as informal lounge or break-out areas. Urban developments tend to go upwards rather than outwards, so the street becomes compressed into an atrium, while roofs are deployed as terraces. In both cases, almost everything is visible, and a sense of activity and identity is provided through one sweeping gaze. Also, attention is given to the sense of entrance, of arrival; often staff and visitors are treated to a certain grandeur on entry. Smaller developments are more difficult to characterise; often they will occupy just a single floor of a large building, or they will be conversions of buildings which come with their own curiosities and constraints. Even in these smaller, more individual, places, efforts are made to bring colour, light and openness to the working environment and amenities might be provided in simpler ways, such as the provision of bicycle racks, interesting graphics and coffee making facilities that are well-designed and on-view rather than hidden in dark "kitchens". The statistical research carried out by Davis Langdon on all the BCO award entries highlights one project which seemed to outdo all others in terms of staff amenity: there are free newspapers, free beverages, two coffee shops, an aerobics studio and much more. This is unusual, but the idea that employees are more than just workers is becoming fairly typical.

ENDS

Section opener – LOCATION

In 2008, submissions to the BCO's awards programme presented a skewed view of the UK's geography. The largest number of entries (45%) came from London, while a further 14% were from the south of England generally; the north of England, north Wales and Northern Ireland supplied 23% of entries; 11% came from the Midlands and East Anglia; with just 7% of submissions representing Scotland. These figures are fairly typical – the profile of entries for the previous year was not much different. As outlined at the start of section 1, this is probably unsurprising given the dominance of London and the south-east over national commercial and public life. The character of developments also matches that London bias – tall buildings, and projects with large budgets, tend to be found in the capital. There are obviously exceptions, though, and the £350 million GCHQ project near Cheltenham and a range of commercial developments near Edinburgh have ensured that London does not have a monopoly on top-flight, imaginative and high quality office buildings.

The response to context is variable, and this book contains examples of facadism, a polite acknowledgment of neighbours in terms of composition and scale, and a determination to prove that contemporary buildings can work well in historic areas if executed to a high standard. The result is that the term "context" becomes one of many factors with which the architect works, rather than the single dominating consideration which can lead to the architectural dead-end of pastiche. It is worth noting that other sections in this book contain interesting approaches to context and location, but they appear elsewhere because they also have other stories to tell in regard to matters such as structure or sustainability. Office buildings are rarely exemplars of a single idea or technique – they are, in a way, "multi-disciplinary". What becomes clear when looking into the programmes behind many of these projects is that architects and clients have often produced exemplary work by liaising closely with conservation officials; older buildings have been brought back into use and given a new lease of life, while entire neighbourhoods have been reinvented because of the rescue of a single building. In this sense, meeting the demands of context and location has a strong link with the sustainability agenda, if economic and social sustainability is part of the overall equation.

Architects have also cleverly used the arts of composition to insert an unashamedly new building into an elderly context. Broadly, historic heights and massing have been respected while architectural language and the use of materials have been thoroughly reinvented. When executed thoughtfully, this approach is entirely appropriate and successful. Even a leafy suburb can benefit from a commercial development, in a broadly Modernist language, as this section demonstrates.

Architects and interior designers also make an effort to maximise views when they can. Gone are ideas that cityscapes and distant rural vistas are distractions; rather, they provide people with stimulation and a sense of identity and belonging. Offices are an intrinsic part of national life, not separate from it, and the best developments put people directly in touch with what surrounds them. Intriguingly, this section also includes an example of an existing building changing its address by moving its front door – the position of the building remains unchanged, but its "face" has been brought around the corner to generate a more prestigious address and provide occupants with a grander approach and entrance. Quite apart from that, the building itself has been considerably improved.

Things become particularly interesting when the building itself responds to its context in such a way that it veers far away from the standard rectilinear box and becomes characterised by acute angles, set-backs and voids which respect ancient street patterns and neighbours' right to light. Buildings like these test the designers' ingenuity – it is so much simpler to organise staff in even rows without being compromised by awkward plans and floorplates of unequal area. But, done well, buildings like these gain a personality that would otherwise have been absent; they become rooted to their site as if they belong there.

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#### Section opener – STRUCTURE

Not all submissions to the BCO awards programme include details of building structure, but those that do suggest that steel is used more often than concrete; in the years leading up to 2007, slightly more than half of award entries were for steel-framed buildings, while the figure for 2008 was nearer to two thirds. There is little data available to explain why this should be the case, especially as the high price of steel during that period was causing increasing numbers of architects to opt for concrete. It may be that the London weighting of office projects (where commercial development includes tall buildings) may offer a partial explanation; also, many office schemes involve radical interventions in elderly buildings which may well involve the use of steel, especially when masonry partitions are removed in the search for open-plan spaces. The speed of construction, which of course also has a financial implication, may also favour steel. One project in this section, 5 Aldermanbury Square by Eric Parry Architects, uses a clever combination of concrete and steel, however; indeed, this development is

an exemplar project in any number of ways, but its structural innovation causes it to be located in this particular section of the book.

One of the issues of prime importance to developers, in the creation of office spaces, is floor to ceiling heights. Heights of around 2.7m is virtually non-negotiable in office buildings, and architects almost always manage to reach this criteria no matter what the constraints. Indeed, delivering heights of this order in Victorian or Edwardian buildings, where ventilation and cabling systems have to be installed under floors or above suspended ceilings, is remarkable. Ingenuity is often applied. BCO standards require that floor-to-ceiling heights fall between 2.6 and 3m; in 2007 the average height of award submissions was 2.75m, but by 2008 this figure had crept upwards to 2.8m (ranging from a slightly claustrophobic 2.4m to a grand height of 3.88m). Raised floors had also become rather generous by this time; the BCO expects floors to be raised 150mm off the floor slab, but the average for this year was 228mm (across a range of 100mm to a whopping 850mm).

Ideally, the structural frame and the services provided by the building (including environmental ones) are all part of an integrated system; steel beams containing circular apertures create an ideal way to thread cabling through a structure, while the thermal mass of concrete is frequently used as part of the cooling mechanism in office projects. As the projects featured in section this demonstrate, there is no single “best” way to structure a building, merely a range of options which are more or less attractive at the time.

Certainly, the benefits of prefabrication are cited on a regular basis by architects. Pre-fab generally offers superior quality control, and also frees up space on site as products are brought in and installed almost immediately. Pre-fabrication does appear to rely on a strong sense of teamwork between architect, engineers, contractor and supplier; and this degree of coordination often spills over into the project generally, saving money and time while improving attention to detail. Moreover, architects often mention sustainability and pre-fabrication in the same breath, largely because wastage is reduced and transport movements go down because different components arrive on site as a ready-made object rather than separately.

In terms of planning grids and structural loads, the majority of projects fall within BCO guidelines although, like anything, there are huge variations depending on the scale of the project in hand. A planning grid of 1.5m is typical, although the average for 2008 submissions was slightly larger than that at 2.07m. The average figure for live and dead loads were 4KN/m<sup>2</sup> and 3.12KN/m<sup>2</sup> respectively – both well within BCO guidelines. The holy grail in office projects is achieving uncluttered, column-free floorplates, maximising the amount of flexibility and usable space made available to occupiers. The manner by which this is achieved is often impressive – even breathtaking. Liftschutz Davidson Sandiland’s solution, with engineers WSP, to the problem of transforming the highly cellular, masonry spaces of an Edwardian era building in a conservation area of London guaranteed this project a place in this book. This project is not just radical surgery, but the height of inventiveness.

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#### Section opener – COST

Since 2002 the cost of a building project submitted for a BCO award has been around £14 million (£14.2m in the period 2002-2004; £12.8m in 2007; £13.8m in 2008). The year 2005 seems to have been an aberration when the average project came in at £22.5million. “This shows the level of commitment which these clients, particularly the private clients, are putting into the facility they are providing for their staff to work within,” says Davis Langdon, which has analysed all submissions over this period. However, DL warns, “these figures should not be taken as examples of a typical office development as it must be assumed that, generally, submissions will only be made for higher specification developments.” There is a further warning that must be added – increasing numbers of clients regard cost information as commercially sensitive, and they therefore decline to include precise figures in award submissions. In the period 2002-2004, just 14 applicants out of 94 felt the need to withhold cost information; this figure rose to 25 out of 63 in 2005, but fell back proportionately to 23 out of 94 two years later; in 2008 an astonishing 49 out of 115 submissions failed to include cost details.

The picture is further muddled when it comes to the important matter of costs per unit area (that is, cost per square foot). Often it is unclear what is and what is not being included in these unit costs, in spite of the BCO’s efforts to seek clarification in submission documents. However, a general picture does emerge from an analysis of the data – high cost buildings tend to be spread around the UK, but high cost fit-outs tend to be located in London. In 2008, just three out of the ten most expensive buildings (in terms of cost per square foot) were located in the capital, but all the top ten most expensive fit-outs were located there. This is undoubtedly due to a combination of (pre-recession anyway) cash-rich financial and legal institutions in the City, and the stiff competition among property owners to attract tenants.

Cost vary enormously, of course, and the value of projects submitted for BCO awards over the last seven years ranges from £150,000 to £350 million. But, in many respects, cost is less important than value for money – especially if an owner or tenant can be sure they are attracting/retaining key staff, maximising productivity and work effectiveness, able to reconfigure their buildings easily and cheaply to respond to changing circumstances, and can minimise running costs. For some clients the building is also a marketing tool, a demonstration of corporate capability or a brand asset. That, too, is worth paying for.

The ratio of net to gross internal floor areas is also a vital indicator of value for money. This compares the amount of space within a building that is genuinely usable with the total amount of space within the building envelope (including, for example, stairs, plant rooms and WCs). The BCO suggests that architects should aim for an efficiency ratio of 80-85%. In the last year for which figures are available (and for 2005 also), award entries achieved an average of 82% efficiency (ranging from 46-99%), although typical floors achieved a more impressive average efficiency rate of 85% (from a more respectable range of 70-97%). This is a welcome move upwards from earlier in the decade when buildings recorded a 79% efficiency rating. Figures like these cannot be absolutely clear-cut, though. A point made elsewhere in this book is that contemporary offices tend to offer a wide range of spaces (from the enclosed, the semi-enclosed and the open); atria, which by and large function as reception spaces, can also offer cafés and informal work areas; circulation routes may become points for occasional meetings where valuable “work” (no matter how unformed and ad hoc) can be done. Certainly the vogue for “touch-down” and “break-out” spaces blurs the boundary between what is work and what is not. The key consideration is that the business of the tenant gets done, profitably, without the building getting in the way.

ENDS - 690

#### Section opener – SUSTAINABILITY

It is, perhaps, questionable whether a book such as this should include a section devoted to sustainable design. Sustainability, in all its guises, is such a matter of regulation, good practice and sheer common sense that any building project should embrace its principles. Most do, in fact. Generally, when making submissions to the BCO's awards programme, applicants stress their project's environmental credentials but not all of them have managed to secure a rating under the Breeam scheme (Building Research Establishment Environmental Assessment Method). Often, applicants have not had time to secure an assessment before compiling an award submission, partly explaining the relatively low numbers of Breeam ratings; also, it appears that some private clients do not feel the need to seek external validation of the performance of their building, in spite of the fact that sustainability was an important part of the original project brief. In 2008, only half of the buildings presented for an award had been given a Breeam assessment; of those, 11 received a rating of Excellent, 41 were Very Good, two were Good and one received a Pass. The previous year, just 27 projects out of 94 award entries were accompanied by an environmental assessment; five were ranked as Excellent, 16 very Good, three Good, one a Pass and one a Poor. It is a similar picture over previous years.

The sustainable tools and techniques employed in office projects across the UK are hugely variable, and often the matter of sustainability depends upon one's definition of the word. There are, on the one hand, the clean energy facilities such as photo-voltaics, wind turbines and ground-sourced heating and cooling; on the other hand a building project can score points for sustainability by sourcing construction materials locally, reducing waste and considering the transport needs of its users. Furthermore, reusing an elderly building (possibly the ultimate act of recycling) is also a highly sustainable act even if a Breeam assessment is either unimpressive or unavailable. This book (and particularly this section of the book) contains examples of all these approaches; certainly the case studies on the Heelis and Beaufort Court buildings provide an almost comprehensive view of low-carbon energy generation, passive environmental techniques and intelligent engineering; the project at Lemsford Mill is also noteworthy for its reinstatement of a waterwheel, while the Wellcome Trust building is a strong demonstration of how a very large, highly populated, central London office can seek to minimise its environmental impact.

Many of the techniques listed by award applicants are rather low-key – such as the creation of permeable car parks to reduce the burden on the drainage system; rain water harvesting; and the installation of bicycle racks. But some buildings do more than offer bolt-on accessories, and their entire form, materiality and operation revolves around a sustainable agenda. Typically, buildings with large atria use these big internal volumes as an integral part of the ventilation and cooling strategy; buildings are often orientated and clad to control heat gain and shade; also, as mentioned earlier in the book, concrete construction can offer thermal mass which can be integrated into a building's heating/cooling strategy. As ever, there are always trade-offs, and an inner-city location often adds extra complexity to an environmental programme because of road noise and pollution (making natural ventilation a less attractive option). “Although much attention is being focused on this subject, it is clear that there is still considerable work to be undertaken surrounding this issue. Within the commercial sector the projects are frequently being driven by time and cost requirements,” says a David Langdon study. It does

appear that public sector clients are more willing to subject their buildings to the rigours of a Breeam assessment (and incur the costs that go with them).

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