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**DEVELOPING ALTERNATIVES:
ENERGY, OFFICES AND THE ENVIRONMENT**

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ABSTRACT

This paper maps some of the social and commercial forces shaping the debate around "realistic" or "appropriate" levels of energy specification in the commercial office market. It discusses how the dynamics of the market, varying lease arrangements, increased building management, new technologies and cultural taste are all re-defining contemporary office space. Drawing upon interviews with developers, investors, agents, occupiers and property researchers in Britain and France, the changing, often conflicting, priorities underpinning decisions about energy standards are explored.

Looking beyond the current property slump, the paper points to current 'opportunities' for the development of alternative, more "realistic" energy specification levels. It is argued that a loose constellation of social and commercial forces promise a significant, new mutuality of interests between developers and occupiers which may cultivate more "appropriate", tenant-led specification and procurement practices.

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1. Offices in a Greener World

Environmental concerns are now firmly established on the social, political and commercial agenda. Each sphere of our personal and professional lives is increasingly being assessed for environmental consequences. The world of property is no exception. In fact the development and occupation of office space has a central place in debates about environmental sustainability (Rydin,1992). Emphasis on the limitation of energy related CO₂ emissions, of which around half derive from buildings (IEA,1992), is central to this 'greening' of the urban property market. Consequently, discussion of less energy intensive specification levels is shaping debate over what constitutes 'quality' office space.

The response of the property industry has generally been to view concern for environmental change as commercially untenable. At worst an expensive luxury and at best a means of promoting a good public image. However it is possible to detect an 'alternative' approach to the property market evolving which, while market-driven, is potentially environmentally benign. It takes as its focus the search for "appropriate" offices which match space and specification, more precisely, to occupiers needs. In particular, there is increased awareness of the value of the workplace both as a financial cost and a source of organisational benefit. Rigorous standards of commercial efficiency are being directed towards building costs, with levels of energy efficiency related to overall business performance. This cultural shift is motivated by a variety of social innovations, which are re-defining contemporary office needs, and commercial shifts, which are changing the context in which development and occupational choices are made.

However, there have always been conflicting pressures shaping building specifications, deriving from two competing ways of seeing offices, that of

development for investment or development for use. This commercial tension produces a struggle over the form and content of office space. Designers must weigh the demands of the institutional investors, who have traditionally desired highly specified buildings in order to maximise their potential market, against the actual needs of occupiers who must bear the cost of energy-intensive buildings. Consequently, decisions about the installation of complex systems of air-conditioning, raised floors, suspended ceilings, the provision of immense power-load capabilities and floor-loading capacities must be located within a commercial logic of 'exchange'. Here office space is judged in terms of its market value, its level of rental attraction, rather than its suitability to particular occupiers, its 'use-value'. This conflict is conditioned by the dynamic ebb and flow of the market, with occupiers voices drowned in circumstances of under-supply and attended to in conditions of over-supply.

Comparison with the dynamics of office development in other parts of Europe highlights the peculiar commercial context in which British developers work. In France owner occupation has traditionally been more prevalent, institutional investment less intense and leases more flexible (Bateman,1985). This, potentially, allows increased occupier involvement in shaping the form and specification of office space. Clearly the evolution of office energy standards in both Britain and France cannot be isolated from prevailing economic priorities and cultural innovation.

Focusing specifically on energy efficiency this paper maps some of the social and commercial forces shaping the debate around "realistic" or "appropriate" levels of energy specification. It discusses how the dynamics of the market, varying lease arrangements, increased building management, new technologies and cultural taste are all re-defining contemporary office space. Drawing upon interviews with developers, investors, agents, occupiers and property researchers in Britain and France, the changing, often conflicting, priorities underpinning decisions about energy

standards are explored. Pin-pointing cultural, technical, organisational and commercial factors fashioning specification levels, the paper will speculate as to the likely energy profiles of future office space.

This focus on dynamic social processes shaping the response of the property industry to environmental change contrasts with the approach of Government policy-makers and numerous property market analysts. Here, attempts to assess the significance of 'green issues' in the property world are typically concerned with the detection of attitudinal shifts. Great significance is placed on the stance of design and development professionals towards 'Environmental' issues. The introduction of green policies and charters are taken as signposts of corporate commitment. The 'greening of the property industry' is seen as almost a moral battle for the hearts and mind of occupiers, developers and investors. The rationale of this campaign seems to be 'change the attitude and alter the decision' (Guy,1994).

This notion of environmental change as the product of a slow cascade of rational individual decisions isolates and atomises individual decision-makers. Attitudes and decisions are always shaped and framed within wider social processes. Abstraction of the opinions and outlook of property actors from the contexts of professional action tends to isolate and freeze what are always contingent practices. In order to avoid this, exploration of development practices must be based on a conviction, supported by various reports, that property professionals are not, in the main, ignorant of environmental issues or lacking in technical knowledge. As David Cadman of Property Market Analysis (PMA) has found, all but a few property companies are "conscious of the need to confront environmental issues" (Cadman,1990). In light of this, the tendency of environmental pressure groups to dub developers as "ozone unfriendly" merely contributes to a confusion about the factors encouraging or inhibiting environmental action (Weir,1990). Instead of drawing up a hit-list of more or less green

developers it would seem more useful to generate an understanding of the factors that may encourage or inhibit designers, developers and investors in producing alternative developments. Rather than suggest the existence of "barriers" to energy-saving action, of individual apathy or financial cost, research should stress opportunities for property professionals to put their knowledge and concern into effect (Guy and Shove/1993).

Following such a logic, this research attempts to map differing ways of seeing property markets embodied by particular professional interests, and to weave them together into a sociological narrative. A review of rarely pieced together property literature, technical, legal, and commercial, is meshed with the insights and observations of property professionals, gathered from in-depth interviews. A chronicle of social and commercial change in real estate practices results which hopefully provides an informed focus for further debate. The analysis is developed through three sections which chart social and commercial factors shaping alternative contexts of development. These contexts highlight the differential effects of institutional investment, local and international office standards and demand-side markets on the shape and energy specification of office space. These different social and commercial configurations are shown to present varying opportunities for environmental action.

Exchangeable spaces maps some of the factors that shaped commercial property development in the United Kingdom until the late eighties. It identifies the structuring of concerns that conditioned the form and specification of office space. In particular it highlights the peculiarity of the English leasing system, the corresponding attraction property presents for investors and the effect of this institutional presence on commercial development. Specifically, attention is drawn to the ways in which a technologically driven rise in energy specification levels was escalated, standardised and spread through an investment-led commitment to 'prime value' over dedicated use.

Alternative developments looks to the rest of Europe, and in particular France, where real estate practices contrast with those of the United Kingdom. A higher degree of owner occupation, flexible leases and a sparse professional structure all contribute to a greater sensitivity to the occupier. This contrasting development pattern has spawned a localised real-estate culture fashioned by the particular tastes and desires of French users. Significantly, flourishing native practices have had a varying impact on the character of the European office stock. While investment-driven escalation of specification levels has tended to be resisted, adaption to often unsuitable and inefficient space is evident. In this development context, the potential of an investment-led globalisation of local office culture to raise the performance of European office space is stressed.

Realistic-Estates discusses possible 'futures' for office development in the United Kingdom. Mapping the ebb and flow of the market points to changing nature of tenant demand and current 'opportunities' for the development of alternative, more "realistic" energy specification levels. Looking beyond the current property slump it will examine the structural shifts likely to sustain any reformation of British real estate practices. In particular the paper highlights contemporary debates around transformation of the institutional lease and legislative codification of energy and environmental standards. It is argued that this loose constellation of social forces promises a significant, new mutuality of interests which are cultivating "appropriate" specification and procurement practices.

2. EXCHANGEABLE SPACES

While the globalisation of property investment is slowly, and selectively, blurring distinctions between national real estate markets, the legal, political and commercial history of the British property market is unique. A process of fitful, but frantic

development characterised the British commercial property boom of post-war years. The entrepreneurial action of largely speculative developers generated a modern office culture which is alternatively described as the most sophisticated or the most inflated in Europe! The environmental impact of this expansive sector has been diverse. Some of the space is advanced in terms of facilities, ambitious in architectural detail, exhibiting high standards of construction. But also much in evidence is poor quality, inefficient and inflexible space. The United Kingdom, while boasting neither the richest or poorest economy in Europe, seems to produce examples of the most loved and hated office space.

Recently, attention has focused on the ways in which this two-tier pattern of development has neglected the particular spatial and service needs of many tenants¹. Either occupiers have had to accept sub-standard accommodation, inefficiently heated and spatially inflexible, or they have had to pay huge rents and running-costs for prime space which far exceeds their requirements (Stanhope,1993). In environmental terms this mis-match of provision and need has encouraged a profligate use of resources. Moving towards "alternative developments", which avoid this waste, requires fathoming how such a vast and varied stock of office space appeared. This necessitates unpacking the practices of institutionalised speculative development (Cadman and Catalano,1983). In particular, highlighting the legislative and economic contexts which have encouraged large-scale speculative development and the legal and commercial context which has attracted investors into property

¹ See the proceedings of two conferences:

Design for Change, One Day seminar at the University of Reading, Wednesday, 3rd November, 1993.

Specification of Buildings, British Council for Offices 2nd annual conference, Friday 14th May, London Metropole Hotel.

The "booms" of contemporary property development began with early post-war legislation designed to encourage real estate activity. The reduction of planning restrictions, the removal of taxation on development profit and the elimination of betterment levies transformed the commercial potential of property speculation (Marriot,1969). Construction quickly came to be seen as a convenient vehicle to rapidly increase the value of land. In this way buildings represented little more than an economic symbol, a source of commercial value which had little to do with the form, specification or eventual use of each individual office. Valuing the built environment became a simple function of the expected income (rent flow), minus the development costs (professional fees, land and development costs etc) multiplied by the expected 'yield' of the developer/investor (Goobey,1992).

Blending recognition of the evident commercial potential of construction, legislative support and a pressing need to accommodate an expanding white-collar sector, an entrepreneurial spirit flourished and the development process intensified. Through the 1950's, spectacular packages of planning consent and finance stimulated construction and urban office space soon multiplied. A decade later, supply began to catch up with demand and a surplus of space began to appear. This threatened rental levels, the key criteria upon which a profitable development equation depends. However, with the election of a Labour government the political framework of development began to shift. Seeking to check the developers control of urban space the government introduced tighter legislation in the form of a ban on London office development and re-introduction of a betterment levy on development profit. The resulting absence of new space caused by the slump in development solved the developers dilemma and rental levels continued to rise. By nineteen seventy a similar reversal in the political climate again conveniently matched a shift in the balance of supply and demand. The newly elected Conservatives repealed legislative restrictions, reduced interest rates and

increased the money supply. As the economy exploded and the service sector further expanded, development activity boomed once more (Cadman,1983).

The full story is recounted elsewhere (Marriott,1969). But even a brief stroll around the post-war development boom highlights the importance of the beneficial conditions created by legislative change, expanded service sector needs and a fair degree of entrepreneurial acumen on the part of developers. In the minds of the financial community property had become firmly associated with capital and income growth. Large investors, pension-funds and insurance companies, were attracted by properties' long-term return, its low level of long-term risk, the need to balance their portfolio and the "psychic" value of a tangible, visible asset (Baum,1991). Investment in property was made particularly compelling by a legal framework which gave almost total security to the landlord. Before the war leases often stretched for ninety nine years with little or no rental increment. The onset of inflation following the war re-fashioned lease terms. Duration was progressively limited to twenty five years, and upward-only rent reviews every five years were introduced. These binding leases also placed liability for all repair and maintenance of the building with the leasee and were further subject to 'privaty', the acceptance of full liability should any later assignee default on rental payments or maintenance responsibilities (McIntosh and Sykes,1985).

As the post-war boom was sustained, the presence of these increasingly wealthy investors was more strongly felt. Unable to spend their substantial funds abroad due to exchange controls (until 1979) and with British equities performing comparatively poorly due to the weakness of the manufacturing sector, the appeal of property as a reliable long term investment became irresistible to investors. Dissatisfied with merely providing fixed-interest loans they fostered closer financial partnership with developers in order to take a greater slice of the profits (Marriot,1969). Taxation changes in the

mid-sixties which targeted property companies, but ignored rental incomes from buildings held as investments, encouraged institutions to buy buildings outright (Cadman and Catalano,1983). From the 1960's, the balance of institutional investment portfolio's began to shift sharply in favour of property.

Institutional dominance over development finance was confirmed during the seventies banking crisis. With the property crash of 1974-76, following the earlier economic recession, development activity halted. Rents had fallen and with construction costs rising in accordance with inflation, property prices plummeted. This allowed the institutions to consolidate their position as "investment barons" by picking up office space, constituting a 'prime' investment, at bargain prices (Cadman,1984). With substantially expanded property allocations, pension funds and insurance companies dramatically increased their share of the property investment market. By 1982, around 83% of commercial and industrial property investment was accounted for by insurance companies and pension funds (Cadman,1984). Critically, 'prime' investment potential was not measured exclusively in terms of "location, location, location". The design and level of specification also became important. Driven by the need to ensure the safety and return of their investment, which as we have shown above is based on the reliability and level of the rental income stream, investors preferred to maximise the long-term attractiveness of their buildings by demanding high levels of specification. Internal environmental control came to be seen as essential, with lighting levels, power and floor loading having to surpass the requirements of the most stringent potential 'occupier'.

These are the roots of what has become known as Institutional office space. The environmental ramifications of this institutional grip on property development can be seen as two-fold. On the one hand the institutions desire to create a reliable, long term investment meant that, in principle, they would fund or buy only "the best". This

pressurised developers into emphasising quality of construction, avoiding any temptation to cut corners on construction costs. In this way occupiers occupied a 'better' building. However, it is equally clear that a consequence of the pursuit of 'prime' was an exclusive emphasis on the commercial 'exchange value' of office space and the swallowing of any technical rationality, or 'use value', in the specification process.

In defining the location, form and specification of a 'prime' commercial investment institutions began to establish a controlling influence on the process of development (Goobey,1992). Agents played, and continue to play, a pivotal role here. In the unique position of advising all other actors on what the 'market' both offered and demanded, they could consistently insist on prime specifications as a benchmark for yields and rental performance. As many funds lacked experience in property they looked to established agents for advice (Goobey,1992). The message was simple. New developments had to maintain a parity of specification if comparable rental levels were to be generated (Plender,1982). With the Public sector, traditional fallback tenants, increasingly taking air-conditioned space through the nineteen sixties and seventies, developing non air-conditioned space seemed commercial suicide. In this way an institutional valuation of office space became written into building structures. Even custom build owner occupiers were not immune from this pressure as they always ran the risk of being in the position of needing to assign (sub-lease) or sell on their building in a marketplace driven by institutional norms.

As equities became increasingly attractive in the early eighties it was clear that the peak of institutional investment had been reached. But while alternative, more flexible, sources of funding began to enter the property market institutional standards had established a grip which, in order to protect their investment, nobody seemed prepared to challenge (Cadman,1990). What had begun as a kind of corporate headquarters

ideal had spread to become an industry norm, shaping development practice throughout the boom of the eighties².

Low inflation, a booming economy and an atmosphere of de-regulation again inspired entrepreneurial action³. Through a happy marriage with the growing needs of increasingly technologised users and the aspirations of ever more confident company directors 'prime' office space appeared everywhere. Importantly, lavish institutional specifications were not considered to be out of place here. There was a wide perception that "much of the city's existing stock is too tired, fragmented, and inadequate to meet new needs" (Duffy and Henney,1989). The redefinition of 'quality' here transcribed as a search for "bigger and better buildings". The "severe" demands of information technology, identified in the earlier Orbit study, necessitated powerful air-conditioning, generous raised floors and ceiling voids, high-capacity power supplies and lighting levels (Duffy,1983). The City of London and beyond began to groan with the weight, energy demands and corporate statements of prime investment office developments. Floor-loadings two and a half times the conventional requirement, full VAV air-conditioning and raised floors as standard, occupational densities at least double that of actual use, small power loads again double that of actual use became the norm (Stanhope).

While high-profile users shared the desire for this kind of 'prime' super-office the majority of occupiers were offered little choice. As demand outstripped supply through the eighties tenants represented little more than a taken for granted income stream. A take it or leave it system operated in which rents, which occupiers were forced to concede, were driven ever upward, encouraging new office developments to mirror the

² See the discussion in 'H.Q. Buildings', *CSW - The Property Week*, 21st October 1993, pp 27-39.

³ See the retrospective review of a decade in Property, 'The Property Wheel', *CSW - The Property Week*, 29th October 1992, pp34-59.

current institutional specifications in order to assure comparable rents. Originally fashioned for specific user requirements, this "intelligent specification" came to represent and reinforce institutionally acceptable 'prime' standards. This further encouraged the use of full air-conditioning in locations in which it would otherwise be unnecessary. Following processes of de-centralisation, models of the City super office, fully air-conditioned, powered and loaded, soon appeared in the Thames Valley, Bristol, Manchester and Edinburgh (Fergusson,1987).

The commercial significance of air-conditioning highlights the environmental implications of subscribing to exchange-value logic. There are a whole set of beliefs surrounding the need for air-conditioning in the development process. Greater flexibility of potential use, a higher standard of internal environment and a prestigious, more marketable product. However, seen from the perspective of the tenant a different perspective is discernible. Like for like, energy costs and CO2 emissions tend to be at least 50% higher in air-conditioned offices (Harris,1993)⁴. Occupancy research has found perceptions of comfort to be no less in natural and mechanically ventilated buildings than in air-conditioned buildings (Wilson and Hedge,1992). Moreover, while sick building syndrome is little understood there is a wide suspicion of air-conditioning systems both on the part of employees worried about their health and employers who are additionally concerned as to their liability (Tyler,1991). In environmental terms the case is even clearer, air-conditioned buildings characteristically emit around twice the CO2 emissions of naturally ventilated buildings (Leaman,1992), while CFC's are commonly used in refrigerants (Carver,1991).

⁴ See: BRE,Energy Consumption Guide 19.

The most effective way to reduce the operational and environmental disadvantages of air-conditioning is clearly to minimise its use. However, the customary equation of 'prime' specifications with secure, peak rental income sanctions the suppression of more 'realistic' procurement practices. Here is the crux of the clash of the 'exchange' and 'use' logic of commercial office development. Re-writing office specifications to encompass energy efficiency requires re-defining 'quality space' as more than just "bigger and better buildings". A new notion of 'appropriate flexibility' seems urgently required (Kershaw,1993).

In terms of energy performance, the impact of replacing a user oriented technical rationality, which matches occupational needs with appropriate technologies, by a system of specification that privileges investment concerns, is profound. We have seen that this is fundamentally a commercial phenomena. A consequence of speculative development becoming too wrapped up with a way of seeing office space that relates purely to its status as an economic symbol. The first step towards less energy intense office buildings is to imagine a process of office development that offers greater opportunities for appropriately specified, and therefore more 'sustainable spaces'.

2. ALTERNATIVE DEVELOPMENTS

It is difficult to pin-point the origins of British development practices. Perhaps the background to the construction of institutional offices lies in the stabilising political influence of property ownership in the United Kingdom. British property interests have never been threatened by war or revolution. Correspondingly, there is a great tradition of residential and commercial estate management. The network of agents, surveyors, developers and investors, who have found a common interest in the construction of 'exchangeable spaces', is supported both by this historical continuity and by the

increasing commercial viability of property holdings. No such traditions exist in other parts of Europe where experience of war and revolution have shaken faith in the stability of property. In consequence European real estate practices are perceived to be 'unsophisticated' or even less 'professional' than in the United Kingdom. Further, some have ventured to suggest that real estate practices have traditionally been organised around a completely different principle.

In real estate terms Europe is perceived by many property professionals to be a world away (Duffy,1989). The contrasts are stark. Avoiding the dominance of speculative development practices, procurement is more typically owner-led. This encourages a tailored diversity of space. Workers councils can be heavily involved in shaping the working environment, insisting on self-controllable heating systems and opening windows, while access to daylight may be controlled by more rigorous legislation (Burt,1992). This shift in emphasis has a number of immediate development implications. There is less stress on achieving the maximum lettable area, less significance placed in the production of prime space and less pressure on the achievement of the 'highest' possible level of specification.

These are broad claims and conditions and practices obviously vary widely from one country to another. Nevertheless, an emphasis on the 'use' value of office space appears to supplant the "Anglo Saxon" stress on 'exchange' value. As Duffy puts it, "before the northern European office architect draws a single line, the users are already crowding around the drawing board" (Duffy,1989).

The roots of this contrasting development logic are confused. We have pointed to the historical lack of a professional culture of development as exists in the United Kingdom. Clearly, the role of the developer tends to be weaker in countries where people are inclined to rent their homes but buy their offices (Duffy,1991). Equally the

lack of a developed investment market in many regions may compel custom build, or at least make it a cheaper alternative to high-yield investment finance. Correspondingly, tax advantages and state funding often exist to aid self-development. Moreover the legal structure tends to be codified to favour the tenant rather than the landlord. This results in much shorter, less binding leases in which the onus of responsibility for repairs and maintenance is not solely on the tenant (Sweby Cowan Research,1992). This greater adaptability to market conditions focuses the minds of developers/investors on the occupiers requirements and potentially encourages greater flexibility in the form and specification of office buildings.

Again we are painting in very wide brush strokes. We will now focus briefly upon France in order to map specific legal, commercial, political and cultural determinants of European real estate practices and also to flesh-out some of the environmental implications of these alternative development practices.

France has a historically high commitment to owner occupation. There is a history of state intervention, both legal and financial, aimed at solving residential shortages and the difficulties of developing commercial property outside Paris (Erdmann,1992). Co-operative ownership is widespread, with developments often financed by a mixed collective of private, commercial and institutional investors (Stapylton-Smith,1994). Buildings have commonly been sold 'off-plan' to the end-user who would amortise the total cost over fifteen years, effectively self-financing the development. French developers/investors would rarely hold onto a building as they would want to avoid high development taxes (around 20% of development costs) by selling on within five years.

These legal and economic mechanisms provide the foundation for a differing cultural approach to the occupation of office space. The French do not seem to have wholly

embraced the global office culture. The separation between home and work is less pronounced than in Anglo-Saxon regions, spawning a desire to work and live locally. Preferred spatial configurations similarly ignore international office conventions in the pursuit of divisible space. Cellular spaces emphasise hierarchical distinction rather than operational efficiency (Burt,1992). Social tastes are also important. There is a common dislike of air-conditioning and, despite noise levels, a corresponding desire for opening windows. These environmental factors contribute to an apparent Parisian preference for often ill-suited Haussmann refurbishment's over the international spaces of La Defence.

Importantly, the divergence of European and Anglo-Saxon real estate practice extends beyond that of development procurement. The cultural, legal and economic contrasts of the rental sector are just as pronounced. Here it is important to stress the importance of Paris as the commercial centre. Paris is the headquarters location of 96% of banks and 70% of insurance companies. 60% of all French office space is concentrated in Paris (Erdmann,1992). Accordingly Paris also possesses a huge rental sector, estimated at over one million sq ft of commercial space.

The lease terms of this rented sector seem generous by United Kingdom standards. Derived from post-war legislation leases last for nine years with options to break in the third and sixth years in favour of the tenant. This creates a much greater sensitivity to market conditions. Tenants have the freedom to move as their needs change, particularly in conditions of oversupply. Rental increases are indexed and responsibility for repair and maintenance shared with the fabric and services taken care of by the landlord. The legal obligations of landlords and tenants are enshrined in the Napoleonic codes which structure the French legal system. This results in much shorter, standardised lease documents which both reduces the need for professional arbitration and encourages a less conflictual negotiative process.

The greater emphasis on custom-build together with this more prescriptive legal arrangement, with its contrasting pattern of landlord/tenant dynamics in the rental sector, has an impact on the structure of real estate professionals. A company requiring a new building may more readily organise finance, approach an architect and commission exactly what it wants or can afford (Vale and Vale,1991). The role of the developer is here limited to the management of construction. Similarly, in the process of developing/letting space the role of the agent is more often that of a broker rather than an adviser, rarely involved in the design process. While international institutional investment has ebbed and flowed, French investors have entered into flexible, mixed funding packages often selling on quickly to avoid high taxation. Importantly, none of these property actors dominate the development/letting process. The traditional French approach to real estate is then a simpler affair than in the United Kingdom. Rather than a legal, commercial and professional structure designed to extract the maximum surplus economic value from the production and use of office space there is a more equitable distribution of power between providers and users. Avoiding the tense dynamics that characterise the British landlord/tenant relationship it is a less complicated system that "works". Instead of the specification process being wholly directed by a conglomeration of agents, developers and investors the French occupier has the opportunity to actively shape standards of office space and performance.

However, opportunities are not always taken. It is vital to dispel any emerging image of France/Europe as a 'green-office' utopia in which benign occupiers insist on appropriate spaces to the chagrin of greedy developers. Here we must be sensitive to tensions within the ways British or French property professionals interpret local real-estate practice as either "undeveloped" or "appropriate". For while French office space seems to have avoided the worst excesses of the 'pursuit of prime' experienced in the United Kingdom, much of the stock is poor quality. While the thermal requirements of

French building regulations are much higher than those of the United Kingdom, the insulation standards of much of the traditional French office stock is lower than that of the modern British stock. Inefficient, inflexible and poorly constructed, it is the environmental mirror-image of the over-specified flagship.

The cultural preferences of the French occupier outlined above together with a legal and economic context which supports the satisfaction of occupational desires has sanctioned an adaptive, 'localised' office culture. Technological and organisational innovation has not stimulated any universal leaps in design standards. Instead a mechanised adjustment to the limitations of facadism has emerged. Rather than the rapid institutionalisation of construction standards there has been evolving process of compromise. Correspondingly the technical evolution of French office space has been steady. This chameleon spirit is evident throughout the French stock. From the acceptance of irregular spatial structures and high noise levels to barely adequate raised floors and unreliable heating and cooling systems. Even space situated in apparently international zones such as La Defence often fails to meet "accepted" standards of institutional investors and major international companies.

This is the source of a prevalent view of French real estate practices as years 'behind' the United Kingdom. Specifically, the 'localised' culture of office development/occupation is regarded as an inhibitor to technical change. In contrast, the drive towards international standards of space and performance, stimulated both by the requirements of transnational corporations and the presence of international investors, acts as motor of change.

Here we must acknowledge a global process that is refashioning the spatial and temporal organisation of the world economy. Particularly the rapid growth of the service sector, the expansion of information technology, the internationalisation of markets, the acceleration of manufacturing and escalation of competition (Laing, 1993).

These global shifts are having an effect on the development desires of worldwide corporates. The real estate expression of these aspirations are new forms of "intelligent office" which unite spatial flexibility, sophistication of services, and environmental efficiency (DEGW/TECKNIBANK,1992).

With the arrival of these 'international tenants' and the global real estate 'investment market' a two-tier French market is developing. There is a tangible struggle between the pull of global standards, supported by international users and investors, and the resistance embodied in the cultural preferences of localised occupiers. The former attracted to the purpose built spaces of international zones, pulling building structures up and out to accommodate more sophisticated services, while the latter clings to established centres, stretching existing spaces to the edge of their limited capabilities. How then do we understand French real estate practice in relation to that of the United Kingdom? It is clear that any notions of a development athletics in which the French are struggling to catch up with English standards or the elevation of the French system as a model of user oriented realism is flawed. We must begin by simply viewing each set of practices as different, conditioned by their own cultural, commercial and legislative histories.

In Paris we can begin to identify a 'developing' struggle between localised real estate practices and a growing 'institutionalised' practice of development/investment attracted by the influx of international organisations demanding higher specified buildings. This globalising pressure on the traditional form and specification of the French office stock will be shaped by the localised structures, desires and practices identified above in a process of cautious experimentation. Optimistically a process of compromise may develop with international investors zeal for global specification standards tempered by cautious national users. Resistance to the escalation, standardisation and spread of

'prime-space' may prevent the spiralling specifications that characterised the British experience.

Alternately, it may be that eventually the global/local pattern will intensify, as in some southern European cities such as Lisbon. Here the localised office market constitutes a knotty tangle of rigid lease arrangements, sitting tenants, low rental levels and dilapidated buildings (Erdman,1992). Eager to attract international business the government is creating independent development zones, bypassing the traditional business areas. Structured by an internationally recognised legal and commercial framework, global organisational practices and social tastes are able to flourish. It is interesting to note the beginnings of this process in the capitals of developing countries, and recently in Eastern Europe, in which tiny investment markets spring up in order to satisfy international tastes neglected by the local market⁵.

In environmental terms it is important to highlight the differing ways in which international/institutional influences on the specification process have contrasting implications. We have noted how the peculiar political and commercial conditions arising in the United Kingdom encouraged an escalation of standards out of all proportion to most user needs, encouraging a profligate use of resources. In France we find a very different picture emerging. One of international investors and users encouraging essential improvements to levels of office energy performance. Of course this is not a commercially innocent action. Again it is necessary to reiterate the fact that dynamic social processes shape these events rather more than the environmental attitudes of individual property professionals. It is the commitment of International business to higher levels of commercial efficiency that is fostering closer attention to energy performance.

⁵ See: *JLWorld* (The international house magazine of Jones Lang Wootton), No. 28, November 1993.

It remains to be seen whether this balance between localised and international cultures will produce more "realistically" specified, and therefore environmentally benign, office spaces. Nevertheless, this emerging reorientation of French/European real estate practices presents an opportunity to identify the social, organisational and commercial tensions inherent in the production of 'alternative developments'. In particular it highlights the culturally contingent impact of international investment criteria and user demands. In this way we can avoid the customary exaltation of users and corresponding demonisation of investors/developers. Instead we can begin to locate the processes and conditions likely to promote the construction of more energy efficient office space.

4. REALISTIC ESTATES

In tracing the dynamics of the French real estate market we located 'opportunities' for developing "alternative" specifications for office buildings. Observing the latest turns of the property wheel across the channel suggests the appearance of a similar break in traditional development practices and a corresponding prospect of reformation.

The dominance of British real estate practice by investors is currently under threat. The source of this power shift is a commercial slump produced by the most recent property crash. In 1992 vacancy rates in London were up to 15% (the highest in Europe), while rental levels dropped by 20% from the previous year (Klemann,1992). This shift in urban property, from an investors to an occupiers market, is the background to the contemporary debate over the development of alternative, "realistically" specified office space⁶.

⁶ See the PROCORD business index. reviewed in *The Times*, 20th October 1993, p33.

The ripples of change effected by this economic shift are numerous. Occupiers, at least temporally, have the capability to negotiate about the kinds of space they are leasing. This takes many forms. Obviously the first point of attack are rental levels and lease terms. In an effort to prevent rental income from sliding below economic levels many concessions have been offered to the standard institutional lease (Lizieri,1994). Shorter terms, break points and rent free periods have all surfaced. Wider economic recession has directed attention to expenditure. With rents dropping service charges have become more noticeable (Owen,1992). Energy costs are normally the largest single element of these charges, pushing costs-in-use of buildings higher up the users agenda when selecting new space (Harris,1993a). Significantly, with occupiers presently facing a choice over accommodation, agents are increasingly featuring analysis of occupation costs as part of the consultancy process. With Property Holdings, responsible for the management of the civil estate within the Department of the Environment, producing specification guidelines which recommend stringent energy conservation and the avoidance of air-conditioning wherever possible, agents are beginning to recognise the commercial potential of efficient, non air-conditioned space (Smith,1993).

Developers have been equally concerned with expenditure. While yields were rising and rental income declining, developers have been keen to cut construction costs in order to make development economically feasible. Questions were asked as to why buildings cost so much to construct in the United Kingdom (Kershaw,1993). Initial costs are high, construction periods lengthy, energy and maintenance expenditure expensive (Aspinall,1993). Comparing the construction costs of a basic air-conditioned building (£893-1,706/m²) with a basic, non air-conditioned building (£622-904/m²) illustrates concerns over the indiscriminate use of air-conditioning (Spons,1991). Further comparison with the construction costs of a prestigious, high-rise air-

conditioned office (£1,806-2,486/m²) illustrates developers worries over widespread practices of 'over specification'.

Through the nineteen eighties, small power allowances in speculative city office developments increased from 5-10 W/m² to 25-40 W/m² (Lopinto et al,1993). Here we see manifested a commercial logic of exchange which defines "more as better". This escalation of capacity results in energy expensive services operating below their peak performance band, thereby reducing levels of air circulation, potentially increasing occupants discomfort. The 'exchangeable logic' of maximum flexibility is also evident in swelling floor loadings. Typical provision in speculative developments is in the range of 3.5kN/m² (+1) to 5kN/m² (+1) while the British Standard code of practice has a threshold of 2.5kN/m² (+1) (Fitzpatrick et al,1992). With only 1% of office space requiring in excess of 2.5kN/m² (+1) the level of redundancy is remarkable. Similarly with occupation densities. British standards recommend 5m²/person while developers expect densities to range from 8-9 m²/person (Katskakis,1993). Both assume densities higher than those generally existing in practice. Importantly, estimation of occupational densities is crucial for the sizing of air conditioning and heating requirements. Repeatedly we can see how specifications driven by market competitiveness tend to spiral augmentively.

Albeit for different reasons, developers and occupiers now seem keen to foster greater sensitivity to actual occupational requirements in the design of office specifications. There is of course great reluctance to be the first to 'reduce' specification levels. Aversion to market exposure is enhanced in periods of development slump. However, there are signs of a collective will at work. The British Council of Offices, a diverse amalgam of interested property professionals, are producing a recommended 'appropriate' or 'realistic' specification for the nineteen nineties. Similarly, the Building Services Research and Information Association (BISRIA) are composing an

environmental code of practice for building services. Aimed at designers, surveyors, owners and occupiers these 'manifesto's' seek to stimulate enhanced working conditions, minimise waste and promote the use of renewable resources. Energy efficiency is a central plank of this strategy.

In sum, a general interrogation of the economic priorities of building design is underway. Under the rubric of financial efficiency attention is being sharply focused on the uses and abuses of costly resources. These commercial contexts provide the background to emerging social innovations fashioning alternative development practices. With cultural, organisational and technical change altering patterns of demand (Healey and Baker,1986; Strohm,1994), energy performance is now located within a wider set of concerns. Rather than embodying an isolated concern energy efficiency is beginning to represent a "performance indicator of effective management" (Leaman,1992a).

Recognition of the efficacy of the co-ordination and planning of services has encouraged the recent growth of a new profession, Facilities Management (Mole et al,1993). Here the collective management of previously disparate services such as mechanical and electrical engineering, cleaning, security and catering is promoting a new sense of buildings as an organisational asset. Replacing the traditional lone ex-serviceman, facilities managers are progressing from "the boiler room to the boardroom", seeking to influence the initial specification of buildings, co-ordinating service provision so maximising system efficiency (Owen,1992). A professional journal, "Facilities" was established in 1983, followed by the formation of the Association of Facilities Managers in 1986 and more recently a European association EUROFM (Harris,1993). Importantly, this professionalisation of management services provides a coherent disciplinary framework in which to express the growing energy concerns of developers and occupiers (Melvin,1992).

At the same time, desire for an increased 'quality of life' is stimulating awareness of the environment in which we work (Doak,1993). Lack of fresh air and natural light is provoking health worries and high levels of dissatisfaction have been found with sophisticated buildings which offer little individual control (Leaman and Borden,1993). There are signs that this is likely to become an increasingly important factor in the attraction and retention of key staff (Hodgekin,1993). At the same time, growing public awareness of environmental issues is encouraging companies to adopt 'green policies' or 'charters', with a related corporate desire for a more 'back to basics' image into the next decade (Parsa,1992). These cultural shifts will increasingly inform future property choices. Consequently, many agents and developers are interested in environmental friendliness as a letting and sales aid (Barnard,1992). The Building Research Establishment Environmental Assessment Method (BREEAM) is beginning to be utilised in order to raise the environmental profile of organisations or give a market edge to new developments (Foggo,1991). Here environmental quality is quantified through an exhaustive assessment of technical features. This is an attempt to give a clear meaning to the notion of 'appropriate' standards, fostering a new emphasis on the minimisation of waste and the maximum use of available resources, principally that of energy.

Contemporary concern with the efficient use of resources is being driven by both culture and commerce. Economic recession has sharpened consideration of expenditure on the part of occupiers and generated market conditions which prompt developers to attend to their needs. But what signs are there that this sensitivity to energy efficiency will extend beyond the next boom? The risk is that fresh stimulation of demand will simply result in the re-confirmation of institutional structures and the endless pursuit of 'prime' space?

Currently, the legal framework which traditionally attracted investors into the British property market is under attack. Beyond the temporary concessions to leases

introduced to accommodate a tenant friendly market some of the cornerstones are being overturned. The Department of the Environment is presently considering a white paper which threatens to revise "upward-only rent reviews", "confidentiality clauses" and the use of "arbitration" in dispute resolution (McKibben,1993). Each of these attributes is said to introduce market distortions which protect the landlords interest, especially in times of recession. Comparison with European real estate practice highlights this. In contrast, landlords argue that these features are essential to maintain stability in the marketplace thereby ensuring investment activity. The controversy rages fuelled by conflicting opinions and information. While some research denies that upward-only rent reviews have fuelled inflation, subsequent analysis contradicts this, arguing that businesses are paying inflationary rents which rise faster than their profit margins (Baguley,1993). It has been further suggested that removal of upward-only rent reviews would ironically push the level of rents ever upwards. It would also lower the asset value of property, discouraging investment and therefore development, creating scarcity and a further rise in rental levels (Harold,1993). The abolition of 'privaty', the automatic liability of original tenants for any de-faulting sub-tenant, would magnify this de-valuing of property as an investment class (Harrison and Mcdougal,1993). The lack of a guaranteed cash-flow, traditionally the bedrock of institutional property investment, would additionally undermine investment potential (Patterson,1993). These worries are confirmed by fund managers who stress that institutional interest in property is purely contingent on its performance relative to other investment media.

However, survey analysis casts doubts on any assumption that property investment depends on the survival of the institutional lease, considering it more a matter of convention (Herring Baker Harris Research,1992). Even in the event of its demise it is thought that institutions will continue to invest in property (Romney,1993). Indeed,

comparison with Europe suggests that successful property investment is possible even with six year, index linked leases! In fact a feature of property investment in recent years has been the influx of non-UK banks and funds familiar with flexible leases and dynamic markets (Cadman,1990). Recent research has confirmed this trend (Pringett,1994). This shift to more 'adaptable' finance is welcomed by critics of the institutional lease as more suited to the dynamic commercial environment we now inhabit (Lizieri,1994). The capability of the development industry to construct 'alternative developments may then depend on abandoning institutional lease terms.

Concern with greater organisational and energy efficiency is also likely to outlast the present slump. Global financial development, characterised by an acceleration of competition with the development of international markets and technological innovation, provides the background to the present focus on management of services. While the immediate pressure on expenditure may relax at the cessation of the present recession, world economic dynamics are likely to accelerate. Along with other parameters of performance, consideration of energy efficiency is unlikely to fade away.

Environmental interests are similarly linked to wider structural change. In particular worries over the impact of the built environment on climate change are being legislatively codified. Recent amendments to the national building regulations stress the importance of efficient, well commissioned air-conditioning systems. While new regulations will not be binding on existing office space they will shape new industry standards. Future European harmonisation of building standards would increase the pace of this evolution.

International co-operation on environmental action, such as the Rio summit agreements, will similarly focus on the property world. Early signs of this include the movement towards eco-labelling which will take in both construction products and

complete buildings. The Building Research Establishments Environmental Assessment Method (BREEAM) could become mandatory, as similar schemes are in other parts of Europe. Environmental auditing of building management and impact assessments of new developments (now subject to an EC directive) are likely to become more common-place. A domestic political shift could encourage implementation of European energy taxes, which will further sharpen attention to energy consumption. These environmental considerations are likely to complicate decisions relating to the location and specification of property.

Adding these cultural and commercial dynamics together clears the way to redefining traditional notions of 'quality' office space. "Less can do more" seems to be the watchword for the nineties developer (Lipton,1992). As the property sector starts to move again there is broad awareness of the dangers of over-development of 'prime', grade 'A' accommodation (Faith,1994). Old certainties are being questioned and caution urged (Jones and Harris,1994). Building quality is now thought to override location with even 'prime' locations unable to ensure demand (Herring Baker Harris Research,1992). Have we at last seen the "last waltz of the dinosaurs round the Prime Property totem pole?" (Oakeshott,1985).

Despite evidence of these fundamental changes to British real estate practices the predominant view of property professionals is that the property wheel will again turn and that boom, will once again, follow slump. As the market recovers occupiers will be forced to accept institutional leases. Rents will return to previous levels, and investors will return in numbers to once again wrest control from occupiers (South,1993). More specifically, there is growing evidence that it is prime, air-conditioned space that is in demand (Mills,1994).

Clearly there are no certainties in the world of commercial property. The social processes shaping these events are dynamic and often conflicting. We can begin to identify a loose constellation of cultural, organisational and commercial forces that have the potential to provide a new flexibility in the development process. If sustained, opportunities to enhance the energy performance of office buildings will present themselves. However, this is not the only scenario. There are counter-forces to social and economic innovation. It is clear that some tenants continue to desire the prestige of a 'prime', fully specified office. Moreover, a general conservatism masks vested interests in the preservation of existing practices. From designers whose fees are related to cost, to developers worried about market and legal risks involved in 'underspecifying', resistance to change is significant. Some argue that 'alternative specifications' must let more readily, at a higher initial rental level and command a better rent at first and subsequent rent review before agents will be interested. Additionally this must be achieved at lower capital, maintenance and refurbishment costs (Arding,1993)!

Nevertheless, the future shape of office development and occupation seems unavoidably wrapped-up with issues of environmental change. Minimising the contribution of property development and occupation to environmental degradation unquestionably depends upon the production of energy efficient office space. However, 'green concerns' do not have to be seen merely as a liability to the property industry. Instead environmental action can be seen as a catalyst of reform, presenting exciting new opportunities. A commitment to 'alternative development' practices clearly offers the prospect of a new 'mutuality of interests' between occupiers and developers. Occupiers may capitalise on their new knowledge and heightened concern with commercial efficiency while conserving resources and limiting environmental damage. Similarly, through a commitment to "realistic" design developers may reduce

construction costs, thereby stimulating development opportunities and providing more user-oriented offices.

The outcome of this struggle over the form and specification of future office space will be shaped by localised tensions between investors, developers and occupiers. We have seen, in France, that 'alternative', more energy efficient developments, will depend on the demands of international users and global finance for 'better quality' space. At the same time local traditions, tastes and practices may balance the process of international standardisation and prevent the imposition of unwanted prime specifications. In the United Kingdom we find, by contrast, 'alternative developments' depend upon a loosening of the institutional grip on real estate practices. Developers and financiers must work closer with tenants in the tailoring of supply and demand. This is not to suggest that by simply moving from an investors to a tenants market we will automatically produce more energy efficient buildings. Just as we must recognise the environmental impact of investors as contingent on particular markets we must also understand the priorities of 'occupiers' as structured by commercially dynamic needs and concerns.

Instead an active partnership between development professionals must be forged. One which recognises the mutual cultural and economic benefits of concern with the efficient use of resources in the built environment. The property cycle is not inevitable. It is the product of events shaped by all property professionals; developers, investors, agents and occupiers. The future of British real estate practices and the construction of 'alternative developments' depends upon the outcome of all the processes described here.

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