

# The Value of Architecture

Context and  
Current Thinking  
Eric Loe

RIBA Future Studies



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## RIBA Future Studies

The RIBA Future Studies committee was formed in late 1998. It exists to create debate about topical issues and subjects that are likely to be important in the future. This is being done through workshops, seminars and publications.

It is intended that the work will have a high impact, informing the climate in which architects work by stimulating discussion and providing new ways of thinking through informed analyses which can make a contribution in the shape of policy debate.

The work will be informative and rigorous, but they may not necessarily reach definitive conclusions; it may for instance in some circumstances be appropriate to set out alternatives or define questions for debate and investigation.

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2000 Edition RIBA Future Studies/London  
ISBN 1 85946 070 4

Design: Cartlidge Levene  
Cover photography: Richard Learoyd  
Printing: Principal Colour

# Foreword

RIBA Future Studies was formed in late 1998 as a group which would investigate, debate and promote topical issues about architecture. We agreed at the outset that the most urgent topic for review was the “value of architecture” from the angle that “good design makes economic sense”. We architects are very good at blowing our own trumpets about award-winning design quality. However, in the outside world, where public and private clients are increasingly influenced by accountants and auditors, we still have a lot to prove to avoid the “well-they-would-say-that-wouldn’t-they” criticisms. In a similar vein adverse comments are passed, sometimes with justification, on buildings with a high capital cost. The other side of such an equation is seldom brought into the domain of public debate (lower cost-in-use and the regeneration effects of flagship projects etc.).

I am please to endorse this booklet by Eric Loe titled “The Value of Architecture – Context and Current Thinking”, which describes the various ways that economic and value measurement is made, and sets this work in context. We would encourage it to be read in conjunction with the companion booklet by Ken Worpole, which sets out the various issues which should be considered before any assessment of the “value” of architecture is made.

Both of these publications are intended to raise the issue of the economics of good architecture and set the scene for further research into the value of design in areas such as housing, healthcare, infrastructure, commercial development, cultural and educational buildings, etc.

It is a deliberate choice that this booklet is written by a non-architect, Eric Loe, a chartered quantity surveyor with over 38 years’ experience of the construction industry in both the UK and overseas.

I would like to thank the Head of Future Studies, Claire McCoy, for her work on this publication and to the committee for their ideas and support.

**John Lyall**  
Architect and RIBA Vice President  
of Future Studies

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# The Economy of Architecture

## Context and Current Thinking

*"Architecture is the only art that is wholly related to economics. The architect can virtually build nothing – and so cannot express his creative art – without incurring definite 'costs', which have an economic 'value'"*

I.E.D. Jefferiss Matthews OBE: Address to the RIBA  
Conference, 1956

01

# The Economy of Architecture

## Value in Context

### Introduction

It is virtually impossible today to turn over the pages of a construction related document, without meeting a phrase with the word "Value" inserted somewhere in the text. Value for money has become the industry's mantra, although the notion is far from new.

The unprecedented volume of work resulting from the Great Fire of London concentrated in time and place, boosted architecture and the very idea of having an architect at all. So too, it gave a lift to the already fledgling practice of having measurers.

*"The real purpose of Gothic drawing was to facilitate the design of complicated objects such as towers or spires... it needs to be stressed however, that so far as we can tell, designs on paper stopped short of complete buildings..."*

02

*"You have designed the Ground plat of a Building. Which, together with the instructions that follow, will much assist in making an Estimate For Building From a Design Given."*

03

Measurers begat Modes of Measurement and value began to be attributed according to quantities of work carried out using agreed prices or rates rather than the design given. The Measurers duly became quantity surveyors, sharing with other surveyors a common concern with property and valuation according to scientific principles.

The 19th century saw an era in which the great Institutions blossomed and were established (The Law Society about 1800, Architects 1834, Surgeons 1800, and Surveyors 1868).

*"The function of estimating however, remained in the hands of architects, performed from sketchy calculations and guesswork to propitiate their clients, until the revolution in contracting in the early 19th century which produced the all trades contract, and the single building contract undertaking to carry it out, and which enabled the modern quantity surveyor to grow out of the measurer."*

04

02 Fletcher, Sir Banister (1896)  
*A History of Architecture,*  
Architectural Press, p105

03 Manday, Venterus (1682)  
*Marrow of Measuring*

04 Thompson, F.M.L. (1968)  
*The Growth of a Profession,*  
Routledge Keegan Paul, p70

## Landmark building at the centre of change

The destruction again by fire, of the old Palace of Westminster in 1834 and the subsequent need for replacement gave rise to an opportunity for the public building project of the age.

A public design competition ensued, in which designs were not required to be produced with an attendant estimate of cost because:

*"it would have been productive of no public advantage, whilst the trouble and expense of producing estimates would have been a considerable bar to competition."*

05

The winning designer Charles Barry, was asked to produce a cost estimate following acceptance of his scheme. This he did, using a previous and in his view, comparable project, The Birmingham Grammar School to produce "an estimate made upon the value per foot cubic".

The discipline and technique of "cost planning" was effectively launched. (Not, however, without controversy, since the estimates were challenged, on the basis of comparables and location; however the less than 2% overrun on the final account was seen as a vindication of the approach.)

One hundred and fifty years later "The Houses of Parliament and Big Ben" sit at the foot of Westminster Bridge, subject to a stream of awed photographers, revered as a classic piece of architecture. Whilst its present value to users leaves question marks in the context of modern "office needs", its value as a tourist icon and national symbol are potent. Can this be measured?

Across the road, Sir Michael Hopkins' design for new modern offices for parliamentarians emerges above an existing underground station. Briefed to be like its forerunner, a building to last a century and more, it is drawing fire over its cost, and thus its "value". Igor Rukuts, Director of Quantity Surveyors Northcroft, and author of the recent Audit Report on Portcullis House, commented that like the Palace of Westminster, it is a building briefed over time. A holistic design in which architecture, structure and services are fully integrated. A good designer:

*"will push the boundaries, maximise the floor area, make the structure and facades work to support the function of the building design, create the bases for a 125 year life cycle."*

06

## The 20th Century

Destruction of the cityscape in the 1940s, this time by warfare, again brought a need for large scale and rapid post-war reconstruction as well as to meet the needs of an expanding, mobile population.

### Four key initiatives set the scene:

- The 1944 Education Act, set new standards of education (and raised the school leaving age) and in turn required a major programme of new school building and repair.
- The 1948 National Health Service Act revolutionised the hospital and health building requirement
- Successive Housing Acts in the 1950s set a huge programme of slum clearance and renewal into motion.
- Higher education created a demand for new colleges and universities (Robbins Report, 1963).

At the same time new industrial techniques were emerging, geared to automation and mass production of the motor car and "white goods". Office work grew as a direct result of an expanding economy in a technologically changing world, and in turn created a need for workspace, giving rise in the 1950s to the beginning of a fledgling industry – property development.

Whilst manufacturing industry automated, the building industry sought greater efficiencies in its production methods. Within education the CLASP system sought to standardise school buildings whilst the National Health Service, at that time a mighty organisation of building professionals developed a wide range of solutions from the NUCLEAS System to inform design, through to Capricode and Health Building Notes as well as a rigorous structure of cost limits.

Good design was thought to follow if the rules were obeyed.

Housing was similarly motivated following the Parker Morris Report, which established a design standard and cost norm approach.

05 Thompson, F.M.L. (1968)  
*The Growth of a Profession*,  
Routledge Keegan Paul, p68

06 Rukuts, I.N.A. Managing Director NNN Ltd,  
Interviewed 27 July 1999

Building economics remains, however, a new discipline, its roots stretching back barely fifty years, fuelled by the post-war building boom across the spectrum of the economy.

The RIBA Conference in 1956, devoted to the issue of “Architectural Economics” addresses issues unresolved in 1999.

*“The value of the architect to the community does not depend on his skill as a creative artist alone – it does not matter how good the building is in appearance, even in planning and function, if it is not right for the economic requirements of the client. It is for this reason that we cannot divorce ‘architecture’ from ‘economics’.”*  
07

Thirty or so years later, the questions being asked are:

*“We’re going into the market and asking the customer what they really want. There’s a very clear message coming back: they want a better product for less cost.”*

*The industry must get away from the ‘maximum marble, minimum value’ ethos. The notion that using good material makes a good building and conversely using cheap materials makes a cheap building.”*  
08

With public and private expenditure soaring during the 1950s and 1960s, it was increasingly evident that simply measuring and valuing work done was an inadequate technique to justify continuing commitment to expenditure.

In 1957 the then Minister of Education published a crucial document ‘Building Bulletin No 4 – Cost Study’.  
09

Estimating became overnight, prediction, followed by the development of cost analysis principles, cost planning, and today, cost modelling.

## A chronology of building economics

The chronology of development in building economics has been charted in numerous publications, with the most succinct summary being set out by Alan Ashworth in his ‘*Cost Studies of Buildings*’.

Building economics Pre–1960s	Other development	Practice
Building Bulletin : Cost Study (1957) Building price books RICS Cost Research Panel	Post-war building boom	Approximate estimating Bills of quantities Final accounts
<b>1960s</b> Cost Studies of elements Cost limits and allowances value for money in building Building Cost Information Service The Wilderness Group	Cost-benefit elements	Elemental bills Operational bills Cut and shuffle Cost planning Standard phraseology
<b>1970s</b> Costs-in-use Cost modelling Contractor’s estimating Cost control	Measurement conventions Data co-ordination Building maintenance Information Buildability Value added tax/taxation Bidding strategies Computer applications Undergraduate surveying degrees	Computer bills Formula methods of price adjustment Cash flow forecasting Engineering and construction
<b>1980s</b> Life-cycle costing Cost data explosion Cost engineering techniques Accuracy in forecasting Value engineering	Co-ordinated project information Procurement system European comparisons Construction industry analysis Postgraduate education Single-point responsibility	Project management Post-contract cost control Contractual procedures Contractual claims Design and build
<b>1990s</b> Value management Risk analysis Quality systems Expert systems Added value in building and design	Facilities management Commercial revolution Single European market Building sustainability Information technology	Fee competition Diversification Blurring of professional boundaries Development appraisal

10

07 Rukuts, I.N.A. Managing Director NNN Ltd,  
Interviewed 27 July 1999

08 Lipton, S. ‘*Building*’ Interview 1995

09 Ministry of Education , Building Bulletin,  
(March 1957), Cost Study (Second Edition)

10 Ashworth, A. (1999 3rd Edition)  
(*Cost Studies of Buildings*, Longman 1990)



An interesting view is provided by two American authors Rosalie T. Ruegg and Harold E. Marshall who affirm that:

*"When OPEC increased oil prices fourfold in the early 1970s and again in 1979, building costs became serious stuff. The cost of energy did more to improve the basic design and cost procedures for architecture than most other technical innovations... of the time."*

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### The present day

Sadly, accounting procedures in public utilities and government in the United Kingdom ensured an effective disregard for the crucial aspects of value represented in running and maintenance costs through the life of a building. First cost or capital cost continued to rule supreme, despite the energy cost hikes. It has taken the recent surge of privatisations, and accompanying Private Finance Initiatives to begin to shift this focus in the public sector.

John Turner, Property Director at MACE developed this theme and observed that with the demise of the Regional Planning Authorities in the NHS, with their accumulated body of professional skill, healthcare building was for a time caught in a knowledge vacuum.

That vacuum is now filled by a radically new approach brought about through the Government's PFI. He comments that:

*"Whilst PFI has not fully lived up to its original intention, a major benefit has come about through its driving of quality (and thus design) standards up as a life cycle approach is taken. With Facility Management firms involved in the risk, design quality is enhanced, with attendant capital cost implications. When this and maintenance is capitalised at NPV, the benefits are apparent."*

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A different view on the benefits of good design in healthcare appears in a paper shortly to be published by Professor Bryan Lawson and Dr Michael Phiri of the University of Sheffield. It is based upon a research investigation into the contribution that the architectural environment of healthcare buildings can make to a patient's wellbeing and health outcomes. They conclude that good design can have a beneficial impact on patient stay times, emotional stress and medication levels. Equally interesting, they observe that:

*"Our work perhaps shows even more clearly that, when badly designed, and maintained, they (buildings) can most certainly cause distress to patients."*

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In the 1990s and into a new millennium architectural design needs to be at the centre of building economics in order to realise value.

Frank Duffy, in his Introduction to the "Design and Economics of Building" by R. Martin and D. Jagger takes this idea further:

*"It is no longer enough to consider the costs and value of construction independent of the way clients look at buildings. Ultimately clients are interested not just in the productivity of the building process but in the occupancy costs in relation to their own economic objectives. Clients are now becoming interested in a new and most important concept: measuring the productivity of building use through time."*

14

11 Ruegg, R.T. and Marshall, H.E. (1990), *Building Economics-Theory and Practice*

12 Turner, J., Director MACE Ltd, Interviewed 21 July 1999

13 Lawson, Professor B., and Phiri, Dr M., (1999) "The Impact of Healthcare Architecture on Patient Health Outcomes", University of Sheffield

14 Martin R., and Jagger, D. (1995) "Design and the Economics of Building", E & FN Spon

# The Economy of Architecture

## Concepts of Value

### Diversity of meanings

An Internet web search calling up the topic "Value" generated 67,273 results and clearly demonstrated the diversity into which value now falls. Sites exist to provide information on value pertaining to, amongst many others:

- Villas in the Caribbean
- Weather forecasts
- High value horticulture
- Value For Money clothing retailer
- Risk measurement: an introduction to the Value at Risk
- This week's news – Best Value
- Cyber-mowers – the Best Value
- Value for Lewisham
- Value added Pilot to Secondary School Performance
- Value added Bank Survey
- Manchester Web Site – Best Value
- Value in Housing Frameworks
- Ki Net – The Value of Business information
- Hiscot – Insurance for High Value Houses

It is possible to draw down a deluge of claims of value, out of which the value of good design will sometimes obliquely appear.

### Best Value

Early in 1998 the Government set out in detail its proposals for the introduction of a Best Value Programme, to apply to all council services.

*"Best Value is about driving up service standards. It is about putting the interests of local people, who both use and pay for environmental services, ahead of other vested interests."*

Hillary Armstrong, Minister for Local Government

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Interestingly, some Councils are interpreting this, as for example in Manchester, to include the rebuilding and enhancement of its city centre as an attractive place to live and work. Intrinsic to this aim must be the good architectural design demonstrated in "Homes for Change at Hulme".

The viewpoint of the politician, writer, and former London Mayoral candidate, Jeffrey Archer, interviewed in *'Building'* in 1998 coincided when he spoke of:

*"The need to learn the lessons of the 1960s in which cheap is rarely cheerful? And for architects to stay close to the people they are ultimately working for – the future residents."*

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### Other definitions

In parallel with the public sector focus on how to achieve 'Best Value', the private sector has been pursuing the demand to add value to organisational performance. With office based work becoming increasingly subject to automation, the office itself is required to be a place of stimulation and satisfaction to knowledge workers. At the same time occupancy costs need to be less, the space is required to operate efficiently, and the environment must be healthy; and all of this over time in the life of the building.

In 1991/92 DEGW and IT consultants Technibank undertook a major research project to assess the status of intelligent buildings in Europe. The project, Intelligent Buildings in Europe (IBE) led to defining four types of buildings that responded to differing requirements

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- Use value building; custom designed for the owner-occupier, maximises the use value for the end user organisation.
- Exchange value buildings, developed speculatively, and designed to maximise the building exchange value as a commodity to be traded.
- Image value building is designed to maximise the image value of the building often at the expense of efficiency or other qualities.
- Business value building is where use, exchange and image are synthesised into a building where technology is fully exploited to maximise the range of options for the end user.

Users, owners and investors in buildings have a crucial interest in knowing what the exchange value of their asset is in the market. Few building owners would embark on construction if the cost to build exceeded its worth, nor would users pay rentals beyond their perception of the property's worth to them.

### Commercial values

The developer profits only when the value exceeds the cost of development and funders do not provide finance if they perceive the risk to be excessive, itself a product of the margin between cost and value.

The determination of commercial "value" is a key requirement both in the process of realising a building and during its life as an asset to its owners.

In the United Kingdom the art of valuation is now enshrined in a science designed to generate value concepts that range through the ultimate worth of building investment to a price for sale.

Valuation of property is regulated both by a considerable body of professional liability case law, and through representative professional organisations (Royal Institution of Chartered Surveyors (RICS); Institute of Revenue, Rating and Valuation (IRRV); Incorporated Society of Valuers and Auctioneers (ISVA).

In 1996 the RICS in association with the other two professional bodies, published the *'RICS Appraisal and Valuation Manual'* known as the 'Red Book'.

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The 'Red Book', use of which is mandatory in certain valuation situations, e.g. company accounts and commercial property loans, sets out guidance on the appropriate bases of valuation, the reporting requirements and standards, and also defines who is able to undertake the valuation.

The sophistication now brought to property valuation is as much a reflection of the changing nature of economic life in the United Kingdom as it is of a maturing profession.

16 Archer, J. *'Building'* Interview (Issue 29) 17 July 1998

17 DEGW/Teknibank (1992) *"The Intelligent Building in Europe"*, DEGW, London

18 RICS (1995) *RICS Appraisal and Valuation Manual (New Red Book)*, RICS Books, London

As post war reconstruction gathered pace in the 1950s it was accompanied by a radical shift in the way in which property was owned and used. The Church, landed estates, and college ownership of property gave way steadily to property companies. In little over fifty years the market has developed from less than fifty publicly quoted companies having a market capitalisation of some £30 million, to the early 1990s when simply the top ten companies exceeded £4 billion

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Whilst valuers responded to this radically changing market, we have seen that the 1960s contained an equal shift in approach to the planning and control of construction cost. In the United States, at the same time a new technique now known as Value Management was evolving.

### **Value Management**

Value Management is a function oriented, systematic approach which aims to clarify and satisfy the needs of the customer, whether the customer is the client, the end-user, stakeholders or the wider community within which the proposed scheme is to be sited. It is about bringing together a multi-disciplinary team consisting of designers, cost consultants, representatives from client organisations, end-users, stakeholders, and, in some circumstances, members of the wider community in order to identify the purpose of the project itself and the activities it is to accommodate. Julia Dale, Senior Lecturer at the University of Huddersfield, Department of Architecture, describes this value to the wider community as “Third Party Value”.

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The technique sets out to satisfy the customer's needs at the lowest possible cost. It is not about searching for “cheap” solutions.

Project teams benefit from the clarity, focus and improved communication which Value Management studies provide, and for the client, a holistic solution to their needs emerges.

Value Management evolved during the 1940s in the United States of America as a response to the shortages of materials and components that accompanied wartime production and is largely attributed to the work of Lawrence Miles at GEC. The inability to acquire certain materials and components compelled manufacturing industries to search for alternatives that satisfied the original components performance criteria. This led to the realisation that people are really interested in buying functions, not parts or systems.

In many circumstances the alternatives found were cheaper to purchase than those originally specified, while still satisfying the necessary performance criteria, and often improving the performance of the product. Value Management can be defined as:

*“... an organised approach to providing the necessary functions at the lowest cost, without affecting the quality of the product.”*

In operation, Value Management is a structured, systematic, analytical process which seeks to satisfy customer needs (functions) by ensuring that all necessary functions are provided at the lowest total cost. Its purpose is to ensure that value for money is achieved and, in order to do this, takes into account a project's whole life, from inception through to disposal.

At the core of Value Management lies the technique of Value Analysis and the relationship between function, cost and worth. The analysis of the functions to be provided by a project is of great importance, and involves clearly and succinctly identifying what things actually do, i.e. what functions they perform.

When identifying functions the proposed project is not considered in isolation, but rather in the context of the whole scheme or system. The systematic view of the project accorded by this approach enables those involved in a Value Management study to view the scheme as a whole and to see how the proposed project fits into that scheme.

19 Dale, J.E.S., “Third Party Value”  
SAVE Proceedings 1995

20 Adair, A., Downie, M.L., McGreal S., Vos G., (Eds), (1996)  
“European Valuation Practice – Theory and Techniques”  
E & FN Spon.

Following the identification of the functions the cost of providing them, and their worth to the customer are calculated, resulting in the identification of value mismatches. A value mismatch occurs when the cost of providing a function is out of proportion to the worth of this function to the customer. Part of the cost of the function is therefore unnecessary.

Once identified those functions with value mismatches form the basis for the suggestion of alternative ways of performing the required functions, and eliminating the unnecessary costs.

The identification and elimination of unnecessary costs which forms the basis of Value Management is not found within other cost management systems, which tend to look immediately to architectural embellishments as a source of cost savings.

Value Management depends upon a multi-disciplinary team, comprising designers, cost consultants and customer representatives, led by a Facilitator. The Facilitator leads the team through a structured, systematic approach and capitalises on the potential constructive overlap of expertise and knowledge contained within the study team.

Traditional design processes ignore this potential overlap and rely upon specialists to work exclusively on their own areas of expertise. During a Value Management approach team members are encouraged to look beyond professional boundaries and to ask questions and generate ideas about issues outside their field of expertise.

Value Management is undertaken using a structured methodology known as the Value Management Job Plan, which takes the form of a five-phased workshop:

- Information is gathered and function analysed.
- Creative phase: ideas are brainstormed.
- Evaluation: a sifting of ideas into a shortened list.
- Development: solutions are worked up and tested.
- Presentation: the results are introduced into the project flow for implementation.

Value has come to be seen as obtaining the required level of quality for a least cost, or conversely, the highest level of quality out of a given cost, and the technique of Value Management is one further tool to be used to enhance good design. It is no substitute.

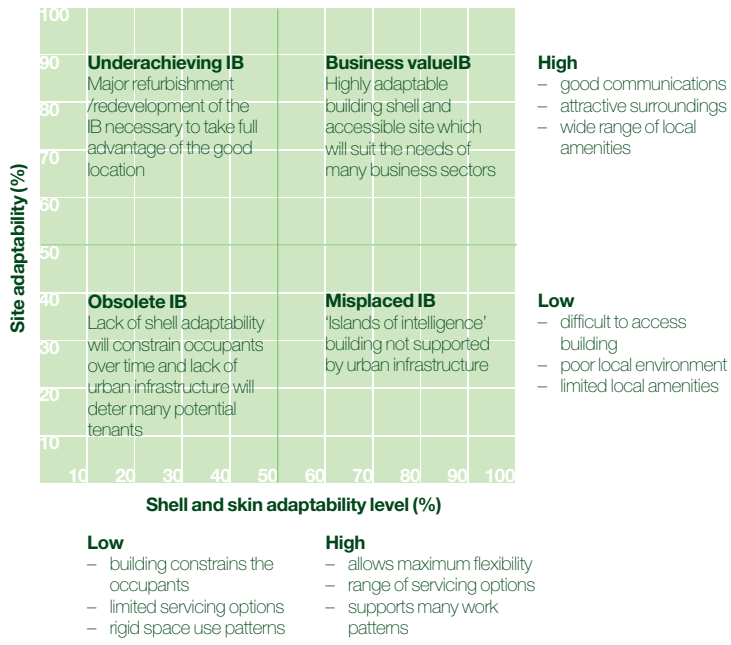
### Wider Values Sought

Aside from the mainstream activities of ascribing value to the tangible asset, the building, there has been a growing recognition that wider values need to be incorporated. Since the 1980s a number of building rating methods have appeared, largely as a result of increasing appreciation of building intelligence. In 1985 DEGW published their Orbit 2 Study. This developed a methodology for determining the degree of match between the building, the organisation occupying it, and the information technology being used. Other rating methods followed;

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- BREEAM. The Building Research Establishment's environmental assessment method.
- IQ Rating, developed by David Boyd and Ljubumir Jankovic at the Intelligent Building Research Group (University of Central England), set out to assess and score a particular building profile against comparables in the market place.
- Intelligent Building in Europe Study (IBE) in 1991/2 (DEGW and Technibank) developed a self-rating methodology aimed at simplicity in use to provide a rapid general rating of building intelligence.
- Real Estate Norm (REN) developed in the Netherlands as a method for evaluating office location and office buildings.
- Building Quality Assessment (BQA) emerged from the Centre for Building Performance (CBPR) at Victoria University in New Zealand. It sets out to provide a balanced assessment of the quality of the building as a whole, and of its component parts, against the requirements of a range of users.

**The BRM site and shell scoring matrix**



Most recently (1998) The Building Rating Method (BRM) has been published (set out in "Intelligent Buildings in South East Asia" edited by Harrison, Loe and Read, E and FN Spon, 1998).

The BRM is based on the synthesis of building supply / organisational demand and the concept that building elements have differing life cycles. Buildings are rated in five sections, commencing with the building site and its locational factors, leading into rating the building shell, and the building skin. The organisational and work process issues of the building occupants are then assessed, followed by a rating of the building's services and technologies.

Scores are plotted first on a matrix to examine the relationship between site accessibility and building adaptability, and secondly to look at the match between organisational demand and the levels of provision of building technologies and systems. The key strength of the BRM compared to earlier models is in its ability to direct users in developing intervention strategies, e.g. redevelop the building, change the site usage, and improve the infrastructure. The Building Rating Method, with its adoption of a whole building and its users scoring, automatically incorporates an evaluation of where good design has introduced building and occupant benefit.

**The BRM site and shell interventions**

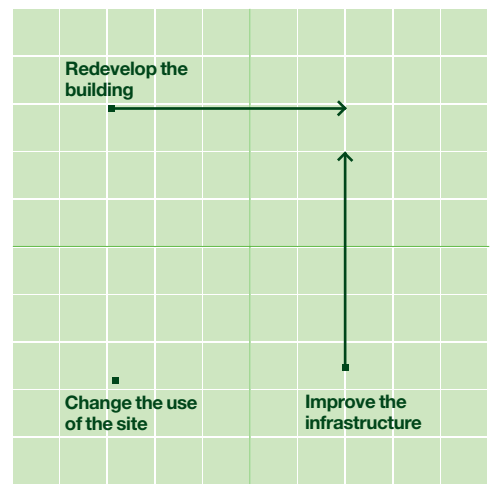


Diagram information from "Intelligent Buildings in South East Asia", Harrison, A., Loe, E., and Read, J., E & FN Spon (1998)

**Measuring the Impact**

Whilst the construction industry at large has paid scant attention to valuing anything beyond the tangible and measurable object, the building as designed, a significant start has been made elsewhere, in particular by the Barclays Site Savers community environmental programme.

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Although small in scale, a partnership between environmental action group Groundwork, The New Economics Foundation, and Barclays Bank, has made a promising start. They have produced a framework and monitoring mechanism that they claim is capable of measuring the wider social impact of regeneration projects on local communities.

The concept is drawn around a “four capital model”, which seeks to chart the different forms of assets or capital held within a community.

- 1 **Natural Capital**  
e.g. Clean water, soils rich in organic matter, clean air.
- 2 **Physical Capital**  
e.g. Infrastructure and machinery.
- 3 **Social Capital**  
e.g. Trust, connectedness, reciprocity, norms.
- 4 **Human Capital**  
e.g. self-esteem, attitudes, skills, knowledge.

By developing a framework of component parts, e.g. self-esteem, skills, effectiveness, services provided, the impact on social and human capital can be measured by examining the effect of the projects on these components. Using indicators developed against the framework components, data is being gathered through local interviews at the start and at the end of the projects.

A report is expected to be published in the Spring of 2000 setting out the results. Without doubt this initiative needs to be examined carefully by an industry that has yet to address this issue.

# The Economy of Architecture

## Valuing Design

### A need for change emerges

Building owners expect value for money. They expect that the value of their asset when it is built, will have a worth that is greater than the capital expended to achieve it. A building's primary function lays down the key attributes of value. Thus:

- School
- Factory
- Office
- Home
- Hospital

Equally, the determinants of Private/Public Owner/Occupier, Developer, come into play. A life cycle view of the asset creates a further dimension of value. We are led to ask whether if value is critical to a design's success, is good design critical to high value?

Buildings are largely one off, high cost objects attracting further costs to run and maintain and featuring as substantial assets in company balance sheets where capital has been expended, or rental value where buildings are hired for use. The elusive nature of value and worth now emerge.

Is the Jubilee Line, the new Parliament Building, the British Library or a retail superstore worth the money spent? Are they value for money?

It is possible to answer this question in the narrow but important sense that buildings such as factories, offices, homes, retail stores attract a commercial value that is singular and comparative. The economic value provides a benchmark for design, an outer limit of cost against which the design is "tested", and this applies to both public and private clients.

Design is one of the many activities that are undertaken in the process of creating a building. In the 1970s Christopher Alexander and colleagues at the Centre for Environmental Structure in Berkeley, California developed a Pattern Language to initiate a new attitude to architectural design; one in which patterns of language make "buildings which are poems".

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The patterns Alexander developed provide a romantic pathway to realising what Sir Henry Wooten in the 18th century translated as “Firmness, Commoditie, Delight” (from Vitruvius). Perhaps, more prosaically we might expect in the United Kingdom to find ourselves following the pattern laid out in the RIBA Plan of Work.

Whatever the route, the process entails a constant reconciling of function, form and economics, whilst at the same time seeking to create spaces that can:

*“transform the demands of economic production and quality control into a vision of art that the spirit can respond to”*

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### RIBA Plan of Work

In the RIBA Plan of Work we find a logical structure for creating a building, starting with the Brief and Feasibility, and progressing through Outline Proposals, Scheme Design, Detail Design, Measurement and Tendering, Contract and Construction and completion of the loop with Commissioning and post construction. At all stages a parallel activity of financial evaluation, prediction and control occur, with value moving from potential to realised during each stage.

In an industry renowned for its conservative attitude to change many years of debate have occurred on issues ranging from contract type and procurement procedures, to the roles of the parties involved in building. Alongside the “traditional” approach envisaged in the RIBA Plan of Work, has emerged a raft of other techniques for procuring buildings; key amongst them being:

- Management Contracting
- Construction Management
- Design and Build
- Partnering

### 1990s – A Decade of Reports

Fundamental issues remained unchallenged until the publication of the Latham Report in 1994 with its focus on simplifying procedures and improving communication and management. R. Martin and D. Jagger describe the Latham Report as bringing into the debate a vision of an industry moving away from confrontation and litigation and towards an orientation intended to meet the needs of clients, users and society. Complimentary work has been undertaken at Reading University, particularly by Colin Gray, in the area of improved efficiencies and productivity.

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Finally, in 1998, Sir John Egan, Chairman of the Construction Task Force, published at the behest of the DETR, a report entitled “Re-thinking Construction”.

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The exclusively client membership of the Task Force ensured a view of the need to modernise construction that came informed from other sectors of the economy. Five key drivers for change were identified to set an agenda for the construction industry at large: committed leadership; a focus on the customer; integrated processes and teams; a quality driven agenda; and commitment to people.

In addition to drawing on the experience of other industries, including car manufacturing, steel making and grocery retailing, the Egan Report drives home the overriding need for improvement now required by the industries’ clients. A recent survey by the Design and Build Foundation is cited to show that:

- clients want greater value from their buildings by achieving a clearer focus on meeting functional business needs;
- clients immediate priorities are to reduce capital costs and improve the quality of new buildings;
- clients believe that a longer term, more important issue is reducing running costs and improving the standard of existing buildings;
- clients believe that significant value improvement and cost reduction can be gained by integration of design and construction.

These requirements will not have come as a surprise to most architects.

24 Atkinson, S., ‘Building’ Issue 29 17 July 1998

25 Martin, R., and Jagger, D., (1995) “Design and the Economics of Building”, E & FN Spon

26 “Rethinking Construction”, July 1998, DETR <http://construction.detr.gov.uk/cis/rethink/index.htm>

In the mid-1980s, the multi-disciplinary practice Building Design Partnership (BDP) published a book entitled “*Expressing Corporate Personality*”.

27

Through a series of case studies they set out to illustrate that memorable buildings result not just from a good designer, but from the personality of the client being expressed in the building. Citing amongst others, the Hoover Factory on Western Avenue in London, they draw the conclusion, clearly echoed in the Egan Report one and a half decades later, that a clear focus is needed into the values the client holds, its attitude to its people and the community. Out of this will emerge good design.

This is also repeated as a goal in the RIBA’s own strategy for architecture and architects 1999 – 2003, ‘Meeting the Challenge’ when it sets out to:

*“position architects as versatile but as experts within their own field. And as lean and efficient, client focused players in the construction business.”*

28

The need for just such a focus is seen in the comments made by Stephen Porter, a former head of property with British Airways, interviewed in ‘*Building*’ Magazine in 1995. As a client, he observed that;

*“all buildings are capable of good design, whatever their budget. Good architecture should not be reserved for signature buildings”, and went on to identify that from the important constituents of good design for me, the ideal answer would be excellent value for money. That’s not to say that all buildings have to be Volkswagens – they can be Rolls Royces if that’s what the client needs. Buildings must have good life-cycle costs – there’s no point putting up beautiful buildings relatively cheaply only to find they are a nightmare to maintain. They must provide a pleasant environment to work in and should be uplifting experiences and aesthetically pleasing – and they must be capable of being built to programme. But the most important attribute of a well designed building is that it meets the function it was designed for. **If it’s good design, that will add more value to the function.”***

29

Most recently (1999) the Urban Task Force, chaired by Lord Rogers of Riverside, has published its report “Towards an Urban Renaissance”. In this is set out a new vision for urban regeneration founded;

*“on the principle of design excellence, social well-being and environmental responsibility within a viable economic and legislative framework.”*

30

Amongst its many recommendations is a commitment to quality and creativity in the way in which we design buildings and urban spaces. Calling for a new national framework for promoting urban design, it defines “design” as a product and a process which not only solves problems but also determines quality in the built environment and goes on as a delivery vehicle into implementation.

Without doubt, the combined weight of the inputs by Lathan, Egan, and Rogers place construction in Great Britain in a unique position to move into the 21st century as an effective and efficient industry.

27 Building Design Partnership, (1986), *Expressing Corporate Personality*, Edizioni Tecno

28 Meeting the Challenge  
April 1999 RIBA

29 Porter S., ‘*Building*’  
Interview 1995

30 “Towards an Urban Renaissance”, (1999),  
E & FN Spon

# The Economy of Architecture

## An Economist's Perspective

### An Economist's Perspective

*"The tools, techniques and partnerships that can help us achieve environmental and social sustainability and human well-being in the age of the city will also be central to creating a sustainable relationship between people and the planet"*

Herbert Girardet. "Creating Sustainable Cities"

31

The primary aim of this booklet is to examine the value of good design in architecture. It began with an assertion that the architect cannot create design without incurring definitive cost which has an associated value.

Value in this context is linked to the singular utility, a building defined in time, space and cost in a specific location. Its exchange value arises from its completion as a construction project.

Since the 18th century the theory of value has been debated and refined by economists. For the purposes of this booklet the various components such as scarcity, utility, use and exchange value, marginal utility, and the all important cost of production, are taken as informing concepts.

We have seen that the building as an asset has a value within a market of similar assets. However the true value could be said to extend beyond this important but essentially narrow definition.

The work of the Canadian ecologist William Rees and his colleague Mathis Wackernagel, in developing the concept of an ecological footprint for cities, provide a starting point for a wider view.

32

Herbert Girardet used this methodology to calculate that London's ecological footprint extends to 125 times its surface area to resource less than 12% of the country's population. From this broad perspective it is possible to draw down to see an individual building drawing both tangible and intangible resources into its footprint from outside. These will have associated costs and benefits to the community at large as well as to the building owners and users.

33

31 Girardet, H. (1999)  
"Creating Sustainable Cities",  
Schumacher Briefing No 2,  
Green books

32 Wackernagel, M & Rees, W. (1996)  
"Our Ecological Footprint"., New Society

33 Girardet, H. (1999)  
"Creating Sustainable Cities",  
Schumacher Briefing No 2, Green books

Economist Graham Ive from the Bartlett School of Architecture draws attention to the fact that:

*“Until the 1970s, the conventional wisdom of the property world was that, for offices and shops, building value depended overwhelmingly on location and very little on architecture. It was assumed that, in the right location, there was a virtually inexhaustible demand for standard new office space, despite its often cramped and cost-cutting design. The architects’ role was therefore simply to maximise the lettable space on the site, within the limits set by the planners and cost-effective technology”*

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Such an approach was exemplified by Richard Seifert and Partners, whose Centre Point Building in central London has now achieved Listed Building status.

Increasingly in the 1990s environmental impact, sustainability, and good design are emerging as factors alongside that of location in creating value. Attention inevitably focuses on the “flagship” projects which have major effects on the external area in which they are located e.g. the new GLA Headquarters building in London (see Case Study 3). In some instances the “flagship” acts as a generator for change for an entire area as demonstrated by the Centre Beaubourg Project in Paris. The principle can however, equally apply to small scale projects impacting upon their immediate locality.

Successful creation of value is dependent upon inputs from a number of related partnerships and stakeholders. As an economist, Graham Ive refers to these supplementary benefits as “externalities” where if enough is going on in parallel in the external economy where a project is located, the area benefits by addition. The urban texture needs to be in place for good design to create impact and further benefit. Canary Wharf had its image building in Cesar Pelli’s Tower, but needed transport. St Ives was a tourist destination with a supporting infrastructure, and the arrival of the Tate Gallery gave the “flagship” boost.

Good design in itself does not guarantee sustainability within an urban context unless over time, adaptability is inherent within the design, and matched in the surrounding environmental and social fabric.

This can be seen particularly in the housing sector where developments such as the highly acclaimed Byker Estate in Newcastle is now at a controversial turning point of potential demolition for failing to meet the changing social needs of the residents. In London the converse can be seen as the Peabody Trust re generate their turn of the century housing estates.

Neither good design nor the “flagship” project can in themselves guarantee market success. This is no better illustrated at the present time than in Sheffield and Doncaster where two projects, the Rock Music Centre and the Earth Sciences Centre are acknowledged as innovative designs but struggle as economic ventures.

When we come to “measures” that can both predict and account for the costs and benefits we have been examining, we find few operational methodologies.



**The New Headquarters for the Greater London Authority**  
Model view of Building at sunset

34 Borden, I., and Dunster, D. (1995) *Architecture and the Sites of History*. Butterworth Architecture. Ch 27 Commercial Architecture – Graham Ive

In Australia, the Property Council of Australia has embarked upon an initiative called the Design Dividend. The Council is analysing the investment return accruing to owners of well-designed projects – the design dividend. The project is testing the proposition that good design pays. The aim is to improve the understanding of the benefits derived from good urban design and the resulting dividend to investors. The results are to be posted on the Web in October 1999 (< <http://www.propertyoz.com.au>>).

In Europe we turn first to the 19th century and a French economist Dupuit who is attributed with originating in 1884, “cost benefit analysis” as a tool to evaluate the wider utility of projects. The technique aims to set out those factors or ‘externals’ which require consideration when making an economic choice between options which have differing costs and benefits to the community.

The construction economist Ivor Seeley usefully summarises the technique as one that identifies and measures the costs and benefits stemming either from the investment of monies or operation of services over the lifetime of the project. He proposes a set of criteria and a methodology as follows:

#### **Criteria**

- 1 Which costs and benefits are to be included?
- 2 How are they to be valued ?
- 3 At what interest rate are they to be discounted?
- 4 What are the relevant constraints?

#### **Methodology**

- 1 Define the problems to be studied;
- 2 Identify the alternative courses of action;
- 3 Identify the costs and benefits, both to the providing authorities and to the external parties;
- 4 Evaluate the costs and benefits; and
- 5 Draw conclusions as to the alternative to be adopted.

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The limitations of the technique are those that will apply to any methodology that sets out to undertake an evaluation of what are essentially intangibles. In that it does collate all the influencing factors and by quantifying them, albeit in global forms, moves decision making to a higher level of awareness than that of an “act of faith”.

The growing awareness in recent years of the benefits of partnering and alliancing has in turn given fresh impetus to the development of Performance Indicators as a tool for defining and subsequently measuring intangibles in the delivery process.

These, linked to cost benefit analysis may well be the way forward for the building in its urban context, and a rating of the building itself to measure its impact on the surrounding environment.

Herbert Girardet describes it thus:

*“The time may have come to develop a 1 to 10 rating system for the performance of local authorities on sustainability issues. This would benefit citizens, help local authorities to learn from each other’s experiences, and deepen the understanding on the most useful national policy frameworks for enhancing urban sustainability. Expertise in ecological urban regeneration is now widely available. The critical issue is to develop the ability to apply it in the real world and to do so involving the general public, business, NGOs, and local authorities in active partnerships.”*

36

35 Seeley, Ivor H. 9 (1996)  
*Building Economics 4th Edition.*  
Macmillan press Ltd

36 Girardet, H. (1999)  
“Creating Sustainable Cities”,  
Schumacher Briefing No 2,  
Green books

# The Economy of Architecture

## Understanding the Value Criteria

### Understanding the Value Criteria

*"Imagination-creativity-intuition, material understanding-analysis-design-economics, and an understanding of the political and social role of the process through which we realise projects are all ingredients in the making of architecture, and the urgent need to dissolve the intellectual boundaries between professionals is a fundamental necessity if we are to realise more intelligent and responsive architecture."*

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### Introduction

The analysis of awards, desk research into the development of economics in construction, and the Internet have provided a considerable volume of information to enable an understanding of how design value is interpreted. This section adds to that information a sampling of views taken from a number of interviews with key participants in the building process.

### Industry Viewpoints

The technologist will often look for a statement of completeness in good design, e.g. The Cable & Wireless HQ/Training Centre in Coventry.

Since the 1980s technology has developed to the point where it is no longer a restrainer for doing anything in a building, whereas previously IT had come to be a dominating factor. Good design should now be a core value in which people are the predominant issue. The next generation of technology will effectively by pass "building" in favour of people.

*There has to be some question marks over the 'landmark' buildings in Paris which have received so much praise and press attention in the architectural world. Is it just prestige? How much value is there in the energy cycle of these buildings? Are they cheap to run?*

*In the City of London the predominant form is the office building, where all too frequently the value is in the image. Good design is possibly achieved more successfully through 'quiet architecture', which offers itself as 'a good neighbour'. A bad neighbour building will create a negative impact, not just for itself, but in the surrounding area.*

*Dense cities with historic centres like London can live more easily with their landmarks when they are in scale, whereas newer cities, developed too rapidly e.g. Los Angeles rest less easily in their landscape, are more easily dominated by the motor car.*



Some of the above themes were succinctly put by Peter Rogers, Director of Stanhope Properties at a Discussion Meeting on "Redefining the Design Team", when he stated:

*"We have created benchmarking documents which illustrate a strange mixture of buildings – City of London offices built for £100 sf or £200 sf. Has double the value really been created between one and the other? When you look at the investment aspect the answer is no."*

38

Good design has to commence with the clients' inspiration. Again according to Rogers:

*"His vision may be naive; he may be completely inexpert, but he still has a vision, he has a need, he has to create something – it may be an office building, or a motorway – it really doesn't matter. But that element of creation is the first step in the process."*

39

Perhaps the most stunning example of this in a client is shown by the RIBA Client of the Year in 1998, Roland Paoletti, whose vision of commissioning different architects for each station on the Jubilee Line extension has created a "variety of spaces, forms, and ambiances".

40

That first creation thereafter devolves to a team effort, in which the planners role is to provide the "value pathway" within which architecture in cities has to exist. It is arguable that planning is the first value attribute of a site, an approved scheme being the essential starting point.

London Underground Ltd plays a crucial role for the Capital City to be commercially successful. As part of the briefing process in its ongoing programme of station refurbishments, it gathers data on its users response to the environment in which they travel. With a need to ensure that access is not only efficient, but also safe, pleasant for the short through time, LUL evaluate design success through "Mystery Customer Surveys". These are conducted at regular intervals using a subjective /objective questionnaire aimed at evaluating the station ambience. Low scores indicate a low current design success, which enables a Customer Benefit to be set, and later evaluated along side the traditional base of forecast construction cost and final cost feedback.

In Housing, one of the indicators of good design is its ability to be a "placemaker", with the architect acting as both an enabler and a visionary for the process.

In the often fraught debate on the relationship between architecture and volume house building a common sense viewpoint came from James Snell, Design Director of HTA Architects Ltd. He described a rising scale, starting with "orthodoxy" (standard speculative housing, any where), and rising in graduations of design quality to 'innovative' schemes that stem from the architectural imagination at its best.

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The architect will bring an agenda of good design into cityscape housing projects where a number of participants are involved. Particularly this works where City Council, The Housing Association, The Developer, and The Residents each have priorities that can result in conflict. In this situation the role of the architect as enabler comes strongly into focus.

*"The art of being a client can be likened to the Theatre. The client is the Producer, the architect the Director."*

42

38 Ian Ritchie (16th October 1995)  
"Redefining the Design team".  
A Discussion Meeting at the Royal Academy of Arts.

39 Idem

40 'Building' Issue 27 3rd July 1999  
Will Alsop Interviewed

41 James Snell HTA Architects Ltd  
Interviewed 23rd July 1999

42 Michael Launchbury  
Property Director – Museum of London  
Interviewed 23rd July 1999

*A key aspect of realising good design is the match between client and designer. Frequently the procurement route is set, particularly so in public bodies where EU rules prevail. The logic of EU selection ultimately generates teams brought together almost at random. This situation constrains the creation of teams that gel and who are in real sympathy with the clients' aims. It also can deny ongoing relationships built up over time.*

In an industry where “need for change” is becoming common coinage, there is a parallel expectation that Architects will re-evaluate their own processes. They ought to be more aware of the intellectual property they invest at the outset of a briefing. Their fees do not reflect the value created, but are based upon cost, and rise or fall with it, an issue tackled in the Egan Report. Earlier in this section reference was made to planning consent as one of the first attributes of value. It is also one of the first steps in a value audit trail. “If you cannot audit it, it does not exist.”

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In many sectors Clients need to feel that good design is contributing to meeting their business goals, but the interpretation of success varies. This fuels the way that design is perceived at a corporate level. For example, the retail grocery sector ranges from the strongly sales driven view of Tesco to Sainsbury, where the sales equally matter but design is more likely to be viewed at Board level as “art”. A scale can be drawn, with a number of applications and for this example could build up as follows:

	<b>Tesco</b>	<b>Waitrose</b>	<b>Sainsbury</b>
<b>Selling Produce</b>			
Weighting	90%	70%	60%
<b>Good Design</b>			
Weighting	10%	30%	40%

The scores are not researched, but show how values can be attributed across a sector.

*In retail, where fashion is a constant driver of change, value to the client emerges in the “power of the design to draw customers into the store”.*

44

43 Roger Zogolovitch.  
Interviewed 27th July 1999

44 Gerry Ackerman.  
MACE Ltd Interviewed 8th July 1999



# The Economy of Architecture

## In the Context of Europe

### **The Netherlands**

Interview with Peter Derks, Managing Partner, DEGW

Traditionally in the Netherlands the architectural practice spans several roles that in the United Kingdom are separated, particularly that of economic management of projects. Briefing tended to be poorly executed with consequential effects on design, the technical specification (which the architect undertakes) and contract documentation (again the architect, with quantification from the bidding contractors who are paid to undertake this function).

The need to respond to a small number of high density urban areas set in an unremittingly flat landscape focused architectural design into housing. The emergence of industrialisation, particularly high quality concrete specialist units twinned with a strong emphasis on landscape architecture has been very successful.

Peter Derks believes one of the differences between Dutch and UK practice which has a significant effect on architectural design is the approach to numbers. The detailed appraisal undertaken in the UK is less important for the Dutch, who would look to the overall economic effect to create long term value – getting it “*approximately right rather than precisely wrong*”.

Another strong influence on good design is the planning system, part of which involves a non mandatory review separate from the city hall officials, and reported to the mayor. Every scheme submitted is examined for its effect on the local environment. In this way the “soft” interests of “people” are maintained in the “hard” planning system.

### **Denmark**

Interview with Scott Hollingsworth, Architect, Dissing+Weitling

Denmark is a small European country of some 5 million people. Growing out of a craft tradition at the turn of the century, today design is a public issue. There is an awareness in general of what is good design, stemming in large measure from a long culture of good product design.

*“Ask a person in the street in Copenhagen to name five architects of international repute – all can do it. Architecture as a profession is valued – Arne Jacobsen’s ‘egg’ was named product of the century – the close link between architecture and products is in part achieved through the nature and style of our architectural schooling. Dissing + Weitling (formerly Arne Jacobsen) are not unusual as architects in spanning the design of a postage stamp,*

*a renowned and over several decades, highly successful pair of spectacles – whilst at the same time being the designer for the largest suspension bridge in the world with concrete pylons (the Great Belt Bridge between Denmark and Sweden), and Poole Harbour Bridge in the United Kingdom.”*

Before registering Denmark as the idyllic centre of good design, there are some qualifying changes emerging. In the area of products a slowness to perceive that volume production in a global market would reach dominant levels, has meant that, for example, Swedish IKEA has based its design centre in Copenhagen for the quality of design idea, but manufactures elsewhere. In some niche areas Denmark retains its traditional quality hallmark despite international competition, as in Bang & Oulfsen (stereo equipment), and Royal Copenhagen (china products).

Up until the mid 1980s this sense of quality informed the construction industry. Since then an influx of overseas investor/developers in the property market, and a series of punitive taxation measures has brought “cost” firmly into focus as a dominant issue in making design decisions, particularly in the housing market. This is amply demonstrated in the way in which quality levels have been shaved in the detailing of housing design. “Throw away housing” is now a phrase in usage, demonstrating a public anxiety that a house may well have hidden defects resulting from lowered specifications, which may well shorten its life cycle.

In public construction, still based upon a 50-year loan funding basis, design gears to this life even though capitol costs have been driven up.

As with the Netherlands, zoning laws are strictly applied in Denmark, and will in many situations require an anonymous design competition to select the best design. With turn-key projects the major procurement route, architects find themselves commuted from design winner linked to the client, to design architect working for the contractor/developer. A conflict of interest pattern familiar to UK professionals emerges.

The 1980s investment boom led to large swathes of “landbank” property emerging into the portfolios of a small number of contractor /developers, which today both fuels and informs the process of architectural commission and thus design.

In this new market for Denmark, good design still falls back on time honoured qualities – a “good” client (i.e. one who will insist on high quality) – a persuasiveness and a stubbornness on the part of the architect to realise something better.

## France

The views of a French architect:

François PELEGRIN, state-certified architect, town planner, President of ARCHINOV (Architecture Innovation Association), Administrator of UNSFA (National Association of French Architects Federations)

Contrary to what some architects seem to think, “good” architecture does not just concern the architect but also a chain of participants. Quality is required at every level.

### At Scheme Level

Architecture responds to society’s constantly changing needs and has to be able to anticipate future needs or at least, make it possible to adapt to future needs. The scheme must have meaning: it is not a mere checklist of the surface area of the premises. The architect must be able to enrich it and at any rate, to validate it right from the first sketches.

### The Total Cost

Every architectural competition shows the diversity of submissions for a single scheme. In France, the issue of total cost (or building rating) has been alluded to for many years, but actually very rarely applied. Furthermore, the winning project in architectural competitions is rarely the most reasonable one cost-wise.

The architect knows that, to win the competition, he has to appeal to the jury (who, by selecting him, is also accepting responsibility) and so the architect strives to produce a very positive, attractive project image, intending to sort out any unresolved operational problems later, including issues of quality and running costs. However, the architect is a prisoner of the image he “sold” and he will often have trouble solving the contradictions inherent to the project, whilst keeping within the budget. This is the point at which the architect’s relations with the client often begin to deteriorate.

### At the Human Level

All the people involved in the project must be fully competent, starting with the contracting authority. There must also be a firm partnership between the architect and the consultant engineers.

In France, architects and engineers are separate entities. Indeed, they are frequently at loggerheads, and it often takes time to agree on the allocation of tasks and fees. This could be seen as being both the strength and the weakness of French architecture: the architect comes before the engineer.

Architectural ambition is not curbed by technical concerns, although he may be interested in such matters the architects generally only designs the building’s “skin” and “structure”.

The task of drawing up the final detailed plans almost always falls to the building companies and not the designers. The construction company, quite naturally, does not want to lose money, so it is not concerned with the architect's intentions and will only build what was specified in the contract. The project must, therefore, be very well designed and described in great detail. This is why technical studies are so important. In France design is badly paid, and it is often the architect who will spend his own time and resources completing this task out of a passionate sense of loyalty to the project.

The success of a project does not just depend on the competence of the people involved, but also on mutual respect and shared trust.

Large-scale projects, can often be easier, because the authorities are able to call upon the necessary resources (due reflection in advance, planning, fees, etc.) to ensure that the 1977 Law – in which architecture was officially declared a national asset – is respected.

However, it is in everyday architecture that the most difficulties are found. In such a context, the architect is confronted with poor project management and insufficient resources and he will struggle to accompany the project single-handedly from the design stage to completion.

#### A Quality Approach

One must not confuse architectural quality and a quality approach. The latter concerns work organisation and improvements in an architectural firm, whatever its size. Architectural talent is not enough – the architect also has to be able to ensure that his project is completed soundly by making the best choices and avoiding costly delays.

As architects do not receive sound management training at the start of their studies, their firms are not always as well organised as they should be.

There is, therefore, a distinction to be made between the two sides to an architect: the creator and the producer. Architecture does not just depend on the creator's talent – it is also based on his rigour as a producer and it is this aspect which is most implicated in the quality approach.

Whatever its size, the architectural firm (even a one-man firm) will benefit from boosting its management skills, if only in economic terms. As the cost of a lack of quality is usually estimated to be 10 to 15% of the turnover of the production structure, it is easy to measure the economic benefit in relation to turnover one may draw from exploring the important source of productivity with the use of a quality approach.

The quality approach aims to satisfy the client's expectations. What the client is primarily interested in is that the budget, the deadline and the technical quality be respected, with the architect offering the architecture on top. The other construction professionals continually contest the architect's capacity to manage the cost – time – quality triangle successfully. The architect as manager of the operation has to assert himself. That is exactly what the quality approach allows.

Adopting a quality approach in the architect's firm is an opportunity to reconsider every phase in the development of a project and with one's colleagues and partners, to re-examine working procedures, to detect flaws, to consolidate one's position, in short, to capitalise on the firm's methods. It is also a unique opportunity to demand the same rigour in the success of a project from one's partners (particularly the contracting authority).

The Involvement of the UNSFA (National Association of French Architects Federations)

For many years now, the UNSFA has been working on this area. It has studied the tasks in architectural firms, analysed the processes of the different phases in the development of a project, designed systems of reference for skills, made an inventory of tools, and helped to define and implement the training and counselling programmes with two clearly stated objectives:

- To improve architectural firms' organisation and productivity.
- To facilitate access to ISO 9001 certification.

The UNSFA ensures that small companies and one-man firms working in a network are not disqualified from the quality approach by ill-adapted procedures that are often criticised as being too costly and full of hot air.

#### Conclusion

The avowed enthusiasm of the various professions in the construction industry for the quality approach is a good sign, but we should remain vigilant.

One thing is sure: we are all concerned and we are facing the extraordinary challenge of reducing – and in time, eliminating – the 40 to 50 billion francs wasted through a lack of quality every year in France in the construction industry.

*To do so, all the people involved in this industry, rather than just concentrating on improving their profit margins, need to put the quality issue at the top of their priorities, as architects already do naturally. This will entail no less than a cultural revolution.*

# The Economy of Architecture

## Conclusion

"Use the word **post-modern** without being quite sure whether it is the dominant cultural logic of late capitalism or pop-culture shorthand for messy looking buildings."

*Life's Little Deconstruction Book* – Item 277

45

In these closing months of the 20th century Andrew Boyd's piece of self help for the post hip generation serves as a timely reminder that good design alone is an insufficient construct in a world of change.

The United Kingdom, as a relatively small group of islands set off a major continental land mass, has largely met its needs for a built environment. As we move into the next millennium our debate is focused on how we use and sustain what is there, how we improve, replace, and modernise, and create what Richard Rogers has styled an "urban renaissance".

46

The technological backdrop is relentless. World-wide electronic networks are transforming leisure and commerce, new digital markets are overlaying traditional trading patterns and routes. The pace of change, its fluidity and the sense of impermanence that new technologies engender can lead to a view that therefore design does not matter.

It is perhaps the greatest paradox of architecture that global abstractions need to be housed in structures of permanence. Otto Riewoldt calls this for architecture, "a return to its elementary protective and identity-creating functions, to its basic role of providing accommodation, a real living environment separate from the insubstantial world of the computer".

47

This booklet, and the companion volume written by Ken Worpole, have looked at how we value architecture and the architectural imagination. We have seen how the necessary intellectual building blocks have been developed and written over time, and turned into processes. New tools and techniques are being introduced to boost the industries performance and raise its profile in a sceptical world.

48

45 **Boyd A. (1999)**  
*Life's Little Deconstruction Handbook*,  
Penguin Books

46 "Towards an Urban Renaissance" (1999)  
E & F Spon

47 **Riewoldt, O. (1997)**  
*Intelligent Spaces – Architecture for the Information Age*.  
Lawrence King Publishing

48 **Worpole, K. (1999)**  
*Design, Economy and the Architectural Imagination*.  
RIBA Future Studies

Yet despite this impressive level of debate and activity, reconciling the value of good design in architecture remains an elusive concept.

The techniques for capturing economic value within the context of market forces are well represented and skilful, we are adept at exchange value but have still to weld to this technique the means of measuring the benefits that well designed buildings bring to the social, political, urban, and image values.

This is possibly the construction industry's next and greatest challenge.

## Case studies

### Case Study 1

#### Newham International Design Competition

Interview with Harmesh Jassal , Major Projects Officer.

Newham in East London is a long neglected zone of intense social and economic deprivation. Despite recent press coverage of fast growing house prices, over a third of the borough's population exist on means tested benefit, unemployment runs at over 11%, and an image of decline is not helped by having one of the Capital's largest sewage treatment plants sited in Beckton.

Newham has cause to feel neglected.

The more remarkable therefore that under the guiding energy of Wendy Thompson, the borough's chief executive, Newham has launched itself into the largest regeneration project in Europe, with more than a margin of flair.

The **Arc of Opportunity covers** 485 ha of land extending from Stratford with its proposed international station, southwards along the Lea Valley and the new Jubilee Line to Thameside and eastwards to the Royal Docks and the London City Airport.

Using language of vision and enthusiasm, an international design competition was undertaken between September 1998 and April 1999. With an aim to establish an achievable strategic design framework, the borough set its sights high recognising that good design would require:

*"The help of talented professionals to create a vision of the future which fires imagination, makes the seemingly impossible a reality"*

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Talent was assembled, in a briefing and assessment panel to ensure that as the designs were assembled and evaluated a strong external view prevailed:

*"We did not want our own prejudices to dominate, we wanted to be challenged"*

50

A key element in the competition was openness, with the few short listed finalists involved together in brainstorming, public consultation, and information sessions with local people and the Council Team. The involvement of the Architecture Foundation ensured a "bottom up" approach and focused ideas onto "early wins" in the development process.

The eventual winning design by MBM Arquitectos from Barcelona proposed an 80 ha basin to include a university, a business centre and a canal system.

Likening itself to the redevelopment of London's Docklands, Newham recognises that attracting developers, retailers, and investors into the area requires business confidence in the achievability of the re generation, and an environmental framework aimed at the highest quality.

An uncompromising good design is the starting point:

*"If you let the market do it, you'll just get sheds. The competition exists to instil some imagination."*

51

Case Study 2

### **The Church of All Saints, Hereford.**

Interview with Jackie Mumford – Finance Director, Spire Trading Ltd.

The medieval church of All Saints in Hereford is sited in the ancient city centre, surrounded on all sides by shopping streets, a large Tesco supermarket, and the Bus Station. The image this immediately conjures can be replicated a hundred times throughout Britains cities. By the early 1990s a backlog of repairs and maintenance common to so many inner city churches had accumulated to the point of public danger:

*"The roofs leaked and the interior smelt of damp, jumble sales and drains".*

52

To day, All Saints is a remarkable meeting place in which sacred and secular co exist, The rhythm of worship continues alongside exhibitions, a sale of art books, and an award winning café. The connecting link in this medieval space is an uncompromisingly good design by local architect Rod Robinson, and the determination of the client to realise it to the full.

Good design does not emerge from a vacuum, and here the starting point came in 1991 with a young priest the Revd. Andrew Mottram arriving with:

*"vision, energy, and determination – indeed passion – to lead and see through to completion a massive programme of repairs and development."*

53

Translating vision into design and at the same time allaying the fears of a congregation adapting to the need to change became the first challenge, closely followed by funding.

A brief was achieved which emphasised that the client wish was for something that was not a Gothic pastiche, but was modern, was honest, was something to be proud of. A monument was not needed and any fear or shame in adopting a commercial attitude to making the building pay its way was soon dispelled. It was to be a project realised in the real world.

Inevitably choices were made, the budget exceeded, but throughout the process a determination to maintain the high quality of the initial vision prevailed.

Jackie Mumford, member of the Client team for the project and now Finance Director of its trading company is charged with the ongoing life of the project. She identified a number of values that contributed to the perception of the scheme being a good design:

Pride in the result and its quality-evident enjoyment of visitors – it makes a statement – no compromises, not making do-in the real world – opened on time – working relationship with architect.

50 Harmesh Jassal – Major Projects Officer,  
Newham Regeneration Project,  
Interviewed 28th July 1999

51 Wendy Thompson – Chief Executive Newham Borough Council.  
Quoted "Estates Gazette" 13 March 1999

52 Church of All Saints. Brochure

53 Idem



All Saints Church



### Case Study 3

## Greater London Authority Headquarters, London

Interview with Liam Bond, Construction Director, CIT International

The new GLA Headquarters Building, scheduled for completion in the autumn of 2001, is located on the South Bank of the Thames opposite the Tower of London and is bounded by London Bridge to the west and Tower Bridge to the east.

More London Bridge is one of the key strategic sites remaining in central London. Following purchase by CIT International in 1997, a new master plan was prepared by Foster and Partners and approved by the London Borough of Southwark in May 1999. The new master plan creates not only an opportunity to add some 2 million square feet of office-led, mixed-use accommodation to the London Bridge area, but in addition sets the scene for substantial public open spaces and riverside environment.

One of the first “values” of good design at the level of the master plan is its ability to both remove traffic (parking is underground) and open out the site to a wider audience. Liam Bond saw this in terms of “Valuation is transient – the longer term value of the asset has to be sought, since market conditions will change and vary. The river frontage is a value creator, so the master plan aims to place public space at the riverside, with the buildings formed behind, connected to the view. It is not so much the buildings themselves as the spaces in between, the sense of place is a value enhancing quality.”

The Government selected the site for the GLA Headquarters after an open competition with over 300 entries. The competition building met the initial client brief but within the context of the site with its stunning river generated views did not “excite the imagination”. The resulting design has already established itself as that, a building now tailored to be a showpiece yet where economics matter, a case of “understated excellence”.

The dramatic form of the building will ensure its ‘landmark’ status in the same way that the great works of French public architecture have starting with the Pompidou Centre in 1977. But there the analogy ends. The GLA Building is a result of a

rational and detailed analysis of an environment that must be sustained and maintained over time. The seven-point energy concept highlights this.

- 1 Spherical form minimises surface area – reducing heat loss and heat gain.
- 2 Responsive cladding system – shading relates to building orientation.
- 3 Integrated energy circulation system – re-circulation of energy from deep plan areas.
- 4 Low-level air supply – displacement ventilation system.
- 5 Passive cooling with chilled ceilings.
- 6 Free cooling on air supply.
- 7 No boilers, no chillers.

Good design, creating value, needs to follow through into the execution of the building. Liam Bond speaks of the creative process of realisation as one where the team are “consumed by the project” with the user joined to the process and overlapping within it.

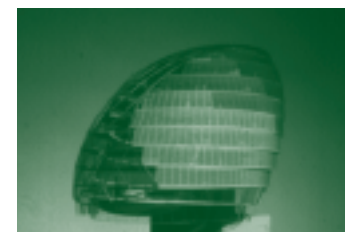
The new GLA Headquarters will enter the new millennium as good design realising value, thus ensuring its place as a landmark. Only then will it be “London’s Living Room”.



(Above)  
**The New Headquarters for the Greater London Authority**  
Interior view of Assembly Chamber looking towards the River Thames

(Right)  
CAD photomontage view from Riverside Walk

(Right lower)  
Model view



# The Economy of Architecture

## Recognising Value: The Construction Industry Awards

The construction industry has a surprisingly large array of awards for design and construction projects. Whilst in most instances, it is a case of the industry sponsoring its projects and judging itself through its peers, a review of the range of award giving bodies, their criteria for judgement, and the winning schemes, provides a perspective on the value placed on good design.

The awarding bodies divide more or less into two groups: those setting out to champion a particular product group e.g. brick, concrete, steel, aluminium; and the professional interest groups e.g. BFIM, BCO, RTPI and of course, the RIBA.

The awards that appear to be the most rigorously based and at the same time have the most holistic approach are the British Construction Industry Awards.

Given the number of construction projects underway in the United Kingdom in any one year, it is interesting to note the relatively low "take-up" for award consideration; between 60 and 200 applications per award, with the sponsor most likely to be a building professional.

As part of the investigation into how the industry perceives itself, a tabulation of the "Wonders and Blunders" column published weekly in *'Building'* magazine for the period January 1995 to March 1999 was undertaken. This, at one level a light hearted column, each week asks a personality from the industry to name a building that fills them with wonder, and conversely, one that they regard as an architectural blunder.

A number of interesting observations can be made, particularly in the light of those buildings, which over the years have received awards and accolades. "Wonders" appear to be chosen by a significant proportion of contributors because of their longevity. Medieval to Victorian eras equal "good"; modern equals "bad", seems to be a prevailing view.

1960s and 1970s buildings come in for particular criticism, whether housing, offices or public buildings: Alexander Fleming House, now a listed building is a firm choice among the "Blunders" as is, strangely, the Buckinghamshire County Council office block in Aylesbury (1966). Inevitably the British Library features several times, as do superstores and out of town shopping centres. The M16 building in London, and the Sheffield City Hall extension are cited several times. Although the range is wide, there is a pronounced preference in "Blunders" for modernity, office and public buildings.



By contrast, wonders, once one accepts a swathe of medieval through to Victorian architecture, settle frequently for “signature” buildings. Norman Foster’s Stanstead Airport is a frequent nominee and Arnos Grove Underground Station appears more than once as does the Seiffert designed Centre Point office tower in London (also a repeated Blunder for some).

Generally speaking, the listing of Wonders show a tendency to be “one-offs” and cover the range of building types and periods, whereas the “Blunders” are often repeated and focussed in fewer sections. Read in conjunction with the “officially” designated award winning buildings, the “Wonders and Blunders” demonstrate at best, that valuing good design is a hugely subjective issue, and not necessarily a rational one.

#### **Listing of the Industry Awards** (Source: RIBA Library)

- AIA Awards for Urban Design (USA)
- Architectural Design Project Award
- Aluminium Industry Awards
- British Construction Industry Awards
- British Council for Shopping Centre
- British Council for Offices Awards
- British Institute of Facilities Management Awards
- Business and Industry Awards
- The Brick Development Association Brick Awards
- Civic Trust Awards
- Concrete Association Awards
- DOE Housing Awards
- Edinburgh Architectural Association-Design Awards
- European Structural Steel Awards
- European Intelligent Building Awards
- Architectural Association – Design Awards
- European Intelligent Building Award
- Financial Times Architecture Award
- Housing Design Award
- Historic Churches Preservation Trust Award
- International Interiors Award (USA)
- John Betjeman Memorial Award
- MIPIM Awards
- RTPI Award for Planning Achievement
- Structural Steel Design Award

#### **RIBA Awards**

- The Stirling Prize
- The Stephen Lawrence Prize
- Client of the Year
- Category Award Winner
- RIBA Awards
- Housing Design Awards

# Contributors

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This paper begins by examining how economic models have developed over time to define the boundaries of cost and value in building. How value is variously described in other fields is compared, and the technique of value management as a good design tool is analysed. Wider methods such as Building Rating which look beyond direct capital expenditure and begin to explore how social, political and environmental issues might be brought into the evaluation of good design are reviewed. The need for change emerges conclusively in the present decade's group of authoritative reports. The paper concludes with a summary of face to face interviews with contributors to the research including three views from mainland Europe, and ends with three case studies exploring how client perceptions of good design appear in practice.

**Eric Loe** BA FRICS

Eric Loe is a chartered quantity surveyor with over 38 years' experience of the construction industry in both the UK and overseas. For many years he was a main board director of Northcroft, where he held a number of portfolios concerned with new business development. These ranged from business expansion in South East Asia and Eastern Europe, to establishing value management as a further service discipline within the Group. He was for many years actively involved in the European Intelligent Building Group, eventually serving as Chairman, and has presented and written widely on issues of construction cost, benefit and value. He is a joint author of the recently published book *'Intelligent Buildings in South East Asia'*.