

Architecture: The Fourth R

The Value Proposition

'The principle of long term value is a very sound guide, yet it's one we somehow regularly fail to apply in private and public building projects.'

These essays by Sunand Prasad were originally broadcast over five consecutive nights in October 2010, as part of the BBC Radio 3 series 'The Essay'.

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Moorfields Eye Hospital is recognised as one of the best in the world. When Penoyre & Prasad was commissioned to design its new Richard Desmond International Children's Eye Centre, the brief required that the architecture of the centre must be equally world class. But architecture must do more than reflect status, however well deserved. A building is supposed to function and perform well throughout its life for the people it accommodates, and it should grace the place it affects. Just over 2000 years ago, the earliest known architectural theorist in the western world, Vitruvius, put this succinctly: a building, he said, should have 'utilitas, firmitas, venustas' – usefulness, durability and beauty. These qualities, mixing the objective and subjective, are what makes architecture so damned complicated and the judgement of its worth so controversial.

But wait – surely we can recognise just these qualities in our opinions about any manufactured thing. When we look through Which? magazine, What Car? and HI-Fi Choice to choose consumer goods we read terms like functionality, build quality and style. Expert consumers that we are, working out the subtle balance of these complex values against the cost of purchasing them presents little difficulty. I want to start by examining how these familiar problems of choice might cast light on how to

measure the value of architecture: how to decide what to spend on a building.

Despite a low income by European standards, my father would only buy the best – the best camera, the best watch and the best bicycle; a Zeiss Contax, a Rolex and a Rudge. In India at the time, their cost was almost unimaginable – but over fifty years later, all these items are still in working order. Of course, budgets impose their own limitations. But the principle of long-term value is a very sound guide. It's one we somehow regularly fail to apply in private and public building projects.

We love to gripe about the cost of new buildings – and, of course, public overspend scandals make good copy. Take the Scottish Assembly building: its budget was initially no more than £40 million but when the costs finally stopped rising, stood at over £400 million. We are not surprised that cars of the same size can differ tenfold in price, but we seem to have little grip on the cost-quality balance in buildings. The inevitable enquiry did find serious mismanagement of spend, but not large-scale waste. Clearly the original budget was laughable. The finished building is larger and more energy efficient than original plans, and its architecture reflects a scale of ambition to match the creation of a new state. The episode has extraordinary

echoes of the cost, not to mention the style controversy, that surrounded the erection of the Palace of Westminster 150 years ago.

The costs of grand projects for the symbols of state do, from time to time, enter into legend. But they are of only passing relevance compared to the relatively modest, but in aggregate far larger spend of public money: that on schools, houses, clinics, police stations and job centres. And yet how much we should spend on this essential infrastructure of a modern nation is equally controversial.

A few years ago, the New Labour Government launched a huge programme, Building Schools for the Future, the intention of which was to replace or refurbish every secondary school in the UK – 3500 of them; around one school per weekday for the next thirteen years. “But”, said some, “a good teacher can perform wonders in a leaky shed – we should not waste money on buildings but invest in teachers and education.” The Coalition Government that took power in 2010 appears to subscribe to this philosophy. Having cancelled the BSF programme, it is seeking to find simply the cheapest way to accommodate schooling.

The Victorian school boards who built so many fine schools between 1870 and 1902

don't seem to have been troubled by such a false opposition between funding education and investing in buildings to provide it. They could have built barracks for a fraction of the money they spent on their magnificent solid brick school buildings. These schools remain more than serviceable today, with their 4 metre high ceilings, enormous windows flooding the interior with light, halls with fine roof trusses and solid timber floors, and the best plumbing and heating that were available. Back then, the school boards didn't have data to correlate levels of CO2 in a room with children's concentration; but they believed that plenty of light and air took care of that, not to mention the high window sills, which screened out external distractions. They had the same lofty ambitions for libraries. At the turn of the century, scores of municipal authorities built new public libraries the generous spaces and magnificent architecture of which still celebrate universal access to knowledge. They cost several times more per square metre than homes being built at the time – hardly surprising for public buildings designed for heavy use and civic value. But, significantly, people believed they were worth it.

What's different today? Well, one important change is that today we live in a culture of accountability. That's not a bad thing in

principle, but its practice can all too easily impoverish life and snuff out creativity. When accountability turns into a reliance on crude audit, things that are difficult to measure or things that take a long time to return value will lose out to things that are tangible and immediate. And few things are more tangible and immediate than capital cost. Architecture offers a great mix of tangible and intangible benefit and does so over a long time. So to demonstrate its true worth within a culture of measurables, we need to quantify the seemingly unquantifiable attributes of buildings; to assess their 'whole life value'. But how do we do that?

As I touched on earlier, we're all used to weighing up cost against long-term value when buying consumer goods for ourselves. There are relatively straightforward equations, the 'tangibles': a fridge that might cost half as much again as another but is likely to last twice as long, or will save energy and running costs. Other things are harder to evaluate: quiet running, convenience, features, and, of course, the appearance of the object of desire. At the end of so many years, your fridge will have virtually no value and its materials will be recycled.

Whole life valuation of buildings is a more complicated version of the same thing. I don't suppose the builders of the houses thrown up in

the late nineteenth- and early twentieth-century suburban expansions around Britain made any longevity estimates. But these crudely built dwellings are still serviceable after a hundred years or more. At the time of a building's construction it is difficult to see ahead to the end of its life. Most likely it never will reach the end of its useful life. It will be pulled down for other reasons, most probably because it's tied to a piece of land that someone thinks can be redeveloped to make money. During their long lives, buildings are amongst the few things we almost totally recycle by adapting them to new purposes. The life lived in them may well be wedded to the 'throwaway culture'; the equipment they contain may feature built-in obsolescence; but they themselves tend to exhibit built-in permanence. The performance we require of buildings – high structural integrity, security, weather resistance against changeable elements, comfort in variable external conditions, convenience of layout, adaptability, visual and acoustic privacy, a relationship with the outside – these are all so expensive to obtain that a long life is almost assured.

We have lived in buildings from the beginning of civilisation; in fact, that is one of the ways we define civilisation. Compared to artefacts of more recent invention we ask a lot of



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buildings. Imagine what a house would be like if it performed like a computer network. At times you would be unable to leave, or enter, or go upstairs, or use the toilet. We know a lot about buildings and expect a lot of them. In the 1960s, architects tried to make buildings more like modern goods; designed for one use and disposable when that use was over. It was thought that such a 'short life, tight fit' strategy would save money and work better. That might have worked, if mass production hadn't at that time also meant poor quality. When architect Gordon Graham coined the phrase 'long life, loose fit', he was not inventing a new architecture, simply drawing a lesson for the future from the best built environments through the ages.

And it works. Think of the buildings you know. So many of our buildings are no longer used for the purpose for which they were constructed. 'Form follows function' is commonly, if simplistically, cited as the modernist creed – but, just as likely, 'function seeks out form'. That is why dockside warehouses make such wonderful offices and restaurants, and why one of the best performance venues in London once housed an engine turntable. In 1999, my practice remodelled the Snape Maltings Concert Hall complex, to make it work better for the needs of today's performers and audiences. Of its

almost 100 years of life to that point, the main hall had been used for sixty-five years for firing germinated barley to make malt and for thirty years as a performance space, acoustically one of the best in the world.

So if use changes, how do we in these circumstances match the costs of investment in a construction project to the value that it will generate? We first need to ask what value really means. Some fascinating work done in recent years takes us a long way to answering this question, summarised, for example, in the Value Handbook published by CABE, the Commission for Architecture and the Built Environment. As you might expect, there are many kinds of value.

The exchange value of a building is the price it can be sold for. Measures for this include rent chargeable, the yield, and return on capital. There is also its book value. Interestingly, many companies in today's high-skill businesses, where attracting the right people is essential to success, are prepared to invest more than accountants in the quality of their premises, because they want a work environment designed to have a high use value – where the productivity of the organisation and the wellbeing of its people is directly improved by the architecture. It is reported that moving

into its new faculty at the University of Cambridge, designed by Edward Cullinan Architects, has enabled the Mathematics department significantly to increase its research performance. The value generated in this way is hard to quantify but could repay the investment in design and construction many times over. Such buildings often also have a high image value that expresses the specialness, real or imagined, of the organisation. The design of neighbourhoods and town centres can generate social value through encouraging interaction, providing meeting places, integrating landscape design and reducing crime and vandalism. Buildings can give higher environmental value through ecological, sensitive design; and they may have cultural value through acclaimed architecture, to the point where their use value may be eclipsed. That applies commonly to historic monuments but can also apply to modern buildings – some Beijing Olympic buildings are earning their keep now through admission charges paid by the millions of visitors who come simply to marvel at them.

If we can all understand the potential value of a building in this multifaceted way, it should help us to decide whether its costs are justified – and a great deal will depend on the quality of the design. If teachers can inspire students in a leaky shed, think what they could do if there

were no buckets to work around. And look at the work of the architectural psychologist, Roger Ulrich. In experiments twenty years ago, he found that hospital patients whose windows gave them a view of nature had shorter hospital stays, better moods, fewer complications and smaller take-up of pain medication. What Florence Nightingale had prescribed through intuition and common sense now had a refereed paper for support.

Designing the Richard Desmond Children's Eye Centre at Moorfields gave my practice a chance to put twenty years of such thinking into practice. Imagine from a child's perspective the journeys that hospital visits entail. There is a lot of tedious waiting and in-between time. Medical encounters are often stressful and the environment often magnifies that stress. So we took our cues from social environments like cafés and clubs. The street visually flows into the ground floor, welcoming the visitor to the reception area with its café and other facilities. To achieve this, the bulk of the eight-storey building, containing all the clinical parts with their complex interrelationships, is lifted clear above ground floor. A lightwell rising up through the building makes it easier to find your way, helped by the artwork integrated with the design. On the outside, a screen of aluminium louvres inspired by the idea of a flock of birds

frozen in mid flight shades the sun and gives the centre a distinguished façade. At night this surface comes alive, with LED lights programmed to change colour.

Many of these devices – answering the brief for a building of world class stature – cost nothing, and the rest not very much, perhaps overall 10% extra.

So the next time you read a newspaper article about the scandalous overspend on a new building, think of its real cost as an iceberg. That initial investment is the part of the iceberg that we see: the costs of land, design, construction and finance. Its submerged portion represents the total cost of delivering the service from it: the maintenance, the energy use, the costs of furnishings, equipment and staff salaries. Typically, if £1 represents the building cost including fees, the maintenance will be £1.50 and the rest of the underwater portion £65. We know that high quality design and construction can not only make maintenance easier and reduce energy use, but can also help reduce staff turnover, speed patient recovery and enhance productivity. If the ‘underwater’ costs were reduced by a couple of percentage points, the building would, in the long run, turn out to have been free. We get out more than we put in. That is the value of architecture.

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Sunand was President of the RIBA (Royal Institute of British Architects) from 2007 to 2009, where he was responsible for a number of projects designed to focus the energies of the profession upon the need to address climate change.

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