

## THE SUSTAINABILITY OF BEAUTY

What is it in our society, in ourselves, that motivates us to alter and extend, to pull down and re-build, to renovate and continually 'improve' our buildings? It has become the mindset of the construction industry and its associated professionals to design buildings with a useful life of only 25 to 50 years, expecting to then pull them down and do it all over again. This is probably the most unsustainable practice of our profession.

From a sustainability viewpoint, shouldn't we be designing buildings today that could last hundreds of years? In fact, if we could be sure that a building would survive and be useful for this length of time, we could almost be profligate in our use of materials, relying on the lifespan of the building to gradually amortise the investment of resources, and rendering the building truly sustainable. Modern masonry, steel, concrete and timber are capable of lasting this long and our design approach should be to exploit fully these qualities in our quest for sustainability.

An example here is the New York apartment. These 'brown-stone' walk-ups have been standing since the 1700's. Family after family have dwelt in them: held parties, raised children, cared for the sick and elderly, lived their lives - all without substantial alteration and additions. And where they have been modified, the flexibility of their internal volumes has allowed simple adaptive re-use.

Is there a quality of space in which a human being feels genuinely and wholly comfortable? Is there something in the human psyche that responds to room proportions in a way that outlasts trends and fashion, family status and societal privilege? Perhaps it is the 12 foot-high ceilings of these brown-stones, which allow light and air to flood in, or the size and layout of the rooms (which are actually very small). There is something there that seems to satisfy in such a way that the restless renovating gene can take a break for once.

Back in Australia, do the 2.4 m-high ceilings of our modern buildings have the very opposite effect? Do they disturb or upset something in us subconsciously, so that we feel compelled to seek more and more horizontal space? The extra bedroom, the study, the kid's computer area, the media room, and so on.

Because New York apartments have achieved such longevity they have also achieved a very high degree of sustainability. Irrespective of their environmental impact during construction (although as mainly stone, brick and timber was used, this would be low), their embodied energy, waste and other measurable impacts of construction have been diluted by the passing generations of their occupants.

This is in stark contrast to today's city shopping malls, which use environmentally expensive finishes which are typically changed every seven years. This is driven by trends, fashion and consumerism, none of which thrive on human contentment.

To achieve the longevity of a building, and thereby minimise its environmental impact, two fundamental issues then become important:

- Robustness
- Beauty

## **Robustness**

Sustainability is bequeathed by longevity and longevity results from robustness. Robustness is the combination of structural strength, flexibility of layout and construction redundancies. Numerous redundancies can, like the neurons in the brain make our buildings more intelligent and able to resist forces and loads that we cannot fully predict. The World Trade Centres were marvels of *economic* structural design, but they were not robust enough to resist an unforeseen event.

In Australia, we believe that because we have kept records for wind, rain and weather patterns for 150 years we can accurately predict these loads on a building, bridge or dam for the next 500 years. Examples of this somewhat arrogant approach are Cyclone Tracy that wiped out Darwin, and the Newcastle earthquake that caused the outer skin of many older buildings to peel off and collapse. Both events caused building codes to be re-written. What effect will global warming and its changing weather pattern have on our buildings in the future and the loads they will have to endure?

The constant pressure of the bottom line \$ mentality of our society has resulted in an increasing supply of building stock that is not robust, that is designed for a finite (and short) life, and is therefore not sustainable in the longer term.

Robustness and redundancy do not necessarily mean a greater construction cost, but it does mean a greater attention to detailing, especially of connections – perhaps using 6 bolts when 5 will satisfy code requirements – and a greater effort in considering how a minor cost increase can give a major strength increase. Further, we should design to minimise maintenance and reliance on future owners to be responsible custodians.

Robustness and redundancy stem from an overall commitment to design buildings *that can last* and are inherently sustainable.

## **Beauty**

Beauty transcends the commonplace. Beauty takes us to a different level. Beauty does not need improvement (nor does Nature). Works of art are not altered or added to in order to improve them. We would never dream of touching up a Monet or a Picasso; we would not add a few symmetrical dots to our Aboriginal desert painting. This is because we respect the integrity of the artist and their designs. We accept that there is something contained in an artwork that is not fully understood; a mystery. However this is not usually the case with works of architecture. With domestic architecture especially, we almost feel compelled to stamp our own desires and designs onto our dwelling spaces. And when we move on (at an average of every 7 years) the next owner usually feels obliged to repeat the process.

Is there an architecture that can impart the same sense of beauty, and the same respect, as a work of art? That, on entering a building, we have the same sense of belonging that we sometimes experience on a bush walk, or on a beach? The same sense of wonder as when enthralled by a magnificent autumn view? Is there an architecture that can satisfy and please the spirit to the extent that the desire to improve does not arise? Is there an Architecture of Beauty? An architecture, not of style, nor fashion, not today's black, but something deeper?

It is said: *beauty is in the eye of the beholder*, but perhaps a better way of expressing this would be to say that *beauty is **recognised** by the beholder*. Beauty is something that Buckminster Fuller, the great inventor, engineer and scientist, sought. He said:

When I am working on a problem I never think about beauty. I only think about how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong.

Fuller looked for beauty in his solutions. Beauty was his touchstone, the indication of arrival at the destination of a right solution. Beauty can be the greatest influencing factor to the lifespan of a building.

Some of Harry Seidler's houses are examples of this type of sustainability. There is a solidity, a robustness, and also a sort of timeless beauty that denies the need for alteration or improvement. His houses do not sit lightly on the ground; they make their mark, they're solid. They're here to stay. Their solidity and robustness, coupled with their beauty, helps ensure their longevity.

In complete contrast of style, Glen Murcutt's classic rural retreats *do* sit very lightly on the earth. Their materials are more lightweight and ephemeral, and their enduring qualities depend more on this delicate beauty than on robustness.

However, beyond both robustness and beauty, these hero-architects also have their fame to protect their buildings against future tampering. What then of the typical architect at the coal face, striving for work/life balance and juggling the competing demands of finance, design, documentation and construction on each project? Is there an Architecture of Beauty that is achievable everyday? One that does not just deliver dreams (and often those dreams are created by the architects themselves) but produces a functional enclosure of space that will endure because it satisfies something fundamental within our human spirit; something that will cease the restless need for change. If sustainability is bequeathed by longevity, it is also intrinsically linked with beauty.

Sustainability issues are quite rightly taking a much more important place in the design and construction of our built environment. Currently this is mainly handled by various tools, scorecards and star-ratings administered by a new breed of ESD consultant and more or less supported by legislation. But will these measures ensure sustainability or just be a monument to processes? Real sustainability is more likely to derive from those buildings and structures which have the potential for great longevity, and are supported by an architecture that imparts an intrinsic beauty that forestalls the desire for demolition.