
WHAT ROLE PLACE AND LOCALNESS IN THE DESIGN OF SUSTAINABLE BUILDINGS?

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INTRODUCTION

Is “the new modernism” in domestic architecture—sometimes called “internationalism”—a useful step on the road toward sustainable buildings? Mindless recreations of traditional forms from other times and places are no better, as many writers have noted, but any building’s natural and cultural context must play a fundamental role in the design, materials selection, and even the detailing, if sustainability is to be more readily achieved.

The role of place-based planning has been well researched and reported (Clarke 2006; Mant 1998, 2000; NSW Department of Urban Affairs and Planning 2001). Less well understood is the role of “localness” in building design. This informs the overall form of buildings, and their detailing, as well as their technical functionality. A local understanding stems from a sense of materials, climate, and indigenous or local culture, and informs the design process at every level. In this article, the position of internationalist domestic architecture (espoused in glossy architecture publications) is criticised, drawing also on previous research (a case study of the outcomes of a place-based planning instrument, by the author, and a joint paper on locality-based design written jointly with Trevor King). The internationalist design approach is shown not to provide culturally appropriate or technically sustainable buildings.

THE ORIGINAL MODERNIST APPROACH

Modernist architects of the 20th century broke new ground in their interpretation of “the house.” Much has been written about this, and several generations of students have been influenced by the plethora of significant buildings that came from the drawing boards of le Corbusier, van der Rohe, Gropius, and others. The subsequent movements of post-modernism, neo-modernism, and the still-evolving hyper-modernism or neo-internationalist style have effectively displaced all other schools in commercial and public buildings globally, yet (often inappropriate) traditional architecture continues to hold sway in the domestic field.

There has been a sustained effort from the modernist movement to change this, dating back to at least two generations. An early example, the *Rose Seidler House* by Harry Seidler, is surrounded by fifty years of suburban development in Sydney that not only failed to follow its modernist lead, but failed to respond to *place* in any case, by recreating imported styles unadapted to local understandings. The Seidler house can also be argued to fail to respond to place in sig-

nificant ways, although it is heresy to suggest this. Its floorplan and spatial orientation addresses the aspect of the site and the sun well enough, although overheating is a problem in summer, but its form and its texture spurn the extraordinary palette of shapes, colours, and textures laid at its feet in the wonderful virgin Sydney bushland. What do these things have to do with sustainability? More extreme examples help to demonstrate the connection.

There are exceptions to all general rules, however. Some Australian designers have applied a modernist approach to passive design with great success, such as Kennedy and Nolan at Kennedy Associates, and Sederov at Sunpower Design, yet these remain the exception to the rule. Also, the role of an internationalist approach in highly urbanized environments such as inner London justifies consideration, but even in cities like Sydney, with its remnants of bush close by, natural harbour foreshores, and beautiful sandstone at the surface of any construction, a unique sense of place must prevail, enabling the mild climate to provide most of the buildings’ energy, etc.

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THE “NEW MODERNIST,” OR INTERNATIONALIST APPROACH

Possibly the worst examples can be found in the now widely read exposition of internationalist domestic architecture, *New Directions in the Australian House* (Johnson and Bingham-Hall 2006). This and other photo-books like it are influential because of the simple technique of inspiring readers by means of exposure to visually stunning images. The text proposes that buildings whose form and materials are not connected to their immediate context redefine that context by their very presence. So we find a windowless striated concrete prism hovering above the ground in mid-suburbia, surrounded by hip roofed cottages and shrubby gardens. We see a glass sided folded metal shell with a flame-red interior, squatting like a just-landed alien craft in a small forest clearing. Elsewhere we find an irregular cacophony of haphazard forms and textures sitting

This monolithic house in tropical Darwin defies any attempt to relate to its context, it is a fortress of white concrete and tinted glass, with a few nominal exotic palms as lip service to the tropical climate. As a result, it is fully air-conditioned, unable at any time to enjoy a tropical breeze. There is no attempt to shade the windows, instead relying on the less effective technique of tinted glass. The occupants will forever be held hostage to mechanical cooling, and the planet will be held hostage to its energy use and CO₂ emissions. (photo: Dick Clarke)



like a heap of metal awaiting recycling, alleged by the text to be a house redefining its context. These and other examples are used to justify this redefinition of context, with a self-professed and proud refusal to reference the local raw materials, topography, climate, and culture. (It should be noted that of the twenty-five houses displayed in this particular publication, four are excellent examples of place-responsive design.)

Trevor King, designer and heritage consultant, describes the down-side of the internationalist school as *“the concentrated aesthetic that places primacy upon the lived experience of dwelling within a finely detailed internal environment above concerns about adapting to the sense of place where the building is to be sited. Some of these internal environments, however, would be difficult, even unpleasant, to live in. The essential human tendency to decorate, to collect, to be reminded daily by touchstones of past events and experiences is, as is so often the case in such works, disallowed by the often severe aesthetic: the building is a work of art and must not be added to. It is not for living in.”* (King 2007)

The “new modernism” fails to provide an appropriate response to climate: passive design is ignored, resulting in the use of artificial energy to maintain

Place-based design responses are seen in this residential apartment building in Darwin: deep overhangs to give shade and protection from the tropical sun, big openings to allow cool breezes to pass right through the building. The colours reflect the red soil of the Arafura region, and the zinc-coated metal is consistent with the vernacular elements of the cultural heritage, through the need to reflect radiant heat. (photo: Dick Clarke)



A classic Aussie pub, the Commercial Hotel in Dubbo, NSW, contains many good responses to place, even though it was built in Australia's British Colonial era. The need to hide from the inexorable heat of summer gave rise to the deep verandahs, where a cold beer could be savoured over a lazy lunch by travelers and stockmen, before tackling the road once more. (photo: Dick Clarke)



warmth and cool, in climate zones that are amongst the easiest in the world to achieve this basic building function with zero-energy input. This failing is self-evidently unacceptable. They shun the textures and colours suggested by local materials, preferring materials that display no connection with any locality or context. They most definitely ignore any cultural cues as to what the form and detailing of the building should be. Human occupation of a site brings with it valuable experience, which traditionally has produced low-impact buildings, resulting in appropriate architectural forms and detailing. While new ideas and experimentation should be encouraged, the science of design can tell us which traditional design elements not to cast away.

The internationalist approach generally ignores this accumulated knowledge, with the result that the buildings sit uncomfortably on the landscape, and generally have no humanness about them. The sustainability impacts of this characteristic are harder to quantify, but include a high embodied energy impact, brought about by the likelihood of these being short-lived buildings, through being disliked for the very alienness of which they are so proud.

A better approach is to pursue an understanding of the deep history of a locality, and allowing the design to be informed by that understanding, which assists in the creation of a synergy between 'localness' and technical sustainability (reduced

ecological depletions and emissions). King correctly observes that this approach produces "*architectural interventions that are often severe or chaotic, occasionally brutal, and mostly a law unto themselves. The deliberate and celebrated insertion of the 'monumental' into places that share the common fate of being forced to receive them, is presented here as a conscious attempt to highlight their contexts through contrast and relief. This argument is unconvincing in the flesh.*" (King 2007)

A NEW APPROACH—"LOCALNESS": FINDING TECHNICAL SUSTAINABILITY WITHIN A SENSE OF PLACE

There is a synthesis to be found between technical sustainability (energy, materials, water, etc.) and place-based locally-centred design. Heritage values (when correctly identified) most often reflect these exact things, largely because the buildings that have survived from the past are those which worked well, and thus were not destroyed by the relentless forces of human development (would that this were always true!). Cultural or human heritage in buildings has most commonly been viewed through the context of history, finding expression in the built works of

Possibly the worst example of the internationalist style, this building is so po-faced it gives neither clue to its whereabouts, nor a glint of welcome to visitors. It is in fact a house in sub-tropical Brisbane, Qld. Its response to its context is abysmal, as are its sustainability impacts: no natural ventilation or shading, poor insulation, incorrect placement of thermal mass; complete reliance upon mechanical cooling, massive greenhouse emissions. (photo: Dick Clarke)



This Brisbane house represents the most common breed of inappropriate design responses in Australia, the inane regurgitation of past styles from distant (and very different) places. This makes many of the same mistakes of the internationalist school, just in different ways. (photo: Dick Clarke)



past generations. This viewpoint has put it firmly in the humanities camp, and at odds with those who pursue ideas about architecture that reflect contemporary cultural values, new technologies, and a blossoming ecological awareness. Sustainability has, until now, been considered to deal with issues of energy and resource consumption, and minimisation of human impacts on and off site. This is often seen to have little or nothing to do with a sympathetic understanding of the heritage issues affecting a particular site or locality. How does a synthesis of these hitherto disparate disciplines work?

This understanding of *heritage* provides the designer with the conceptual tools necessary to make a journey through past geological eras well beyond human history, tracing different pathways back through the layers of influence, through deep time, into a site's natural history. A clear distinction will then be made between natural heritage and cultural heritage, and information will be found in the rocks and soil that help to determine the geographical character of the site. The climate that affects each site individually combines with these deeper layers, and determines what floral communities are (or were) found there. This is the living layer of natural history that still sits across all previous layers, and it has a profound effect on land use in the subsequent, and relatively brief, human history. In the Australian

This old shop in Oxford, UK, displays a wonderful sense of comfort within its place. The colours and materials are reflective of the region's longstanding cultural heritage, and its form and detailing are eminently suited to the climate, given the technologies available to its builders. However, taking this building typology out of its context is fraught with danger, and almost inevitably leads to a bad result. (photo: Dick Clarke)



context, this localness has a particular poignancy because its disturbance is relatively recent and rarely total, yet is most often ignored. In this old land of recent development there remains a unique opportunity to connect with the land in this way.

In sum, these histories contribute to a richer appreciation of “place” and towards an enhanced understanding of a site's heritage attributes, allowing the designer to respond “locally.” The natural layers had no choice about what happened—it was a combination of chance (geological formation) and natural selection (which plants could survive in what climatic conditions, etc.), whereas the human history had some opportunity and ability to respond by

intervention, or to override the natural conditions. Cultural heritage records the responses made by earlier occupiers of a site or its surroundings, and these may be considered as either appropriate or inappropriate. But in a world where sustainability is no longer an optional extra, inappropriate “non-local” responses can no longer be rewarded at the hands of humans, any more than they would have been at the hands of nature.

Well-considered human intervention, in the form of sustainable buildings, can take many different architectural forms—it is not a slave to any mindless recreation of traditional forms, nor to any imposed geometry or facadism from London or New York. It will have a form that responds to its climate zone and immediate topography; fenestrations that reflect the aspect of the site, the rising and setting of the sun, the pleasant and unpleasant winds. It will be coloured to respond by emulation, playful exaggeration, or careful contrast to the colours of the land plants in its locale. It will be detailed to reflect the forms found in the leaf litter, the branches, the rock strata, and the patterns of light seen between them. If the site is naturally dry, it will collect and conserve water like a Thorny Devil—a desert-dwelling lizard that can drink the morning dew via its feet. It will control the natural forces of heat on the site by means of shading, insulation, ventilation, and thermal mass to eliminate heating and cooling energy. It will draw on materials produced close by, which not only reflect the local character, but contain less embodied energy. This author’s previous research shows that buildings designed in a sympathetic response to well presented place-based planning guidelines show reduced ecological impact, compared to those produced under less proactive guidelines (Clarke 2006, ch.4, pp.150–156).

THE BUILT ENVIRONMENT IS THE INTERFACE BETWEEN THE NATURAL AND THE CULTURAL WORLDS.

“Truly sustainable design is that which delves deeply into the complete heritage of a site. Natural morphology provides clues that demonstrate how the necessity of survival has provided the features of a living response to the basic elements of earth, wind, fire, and water. This should be influential in determining our design response.” (Clarke and King 2006)

The climate zone is often used in discussions of climate responsive design, but good design responses look at a much finer texture: the district’s geography and the site’s immediate topography. The materials palette should start with a consideration of the natural raw materials (whether ultimately used in construction or not), the original floral communities, and the natural colour relationships. The human history has important design cues as previously noted. Held

This simple mud brick building by Ray Trappel in Sydney’s Blue Mountains hinterland displays a true understanding of “a sense of place.” The material is drawn from the site, and so embodies the deep time history of the geology. The colours and textures are therefore completely at home, and the design and detailing are well adapted to the micro-climate of the site: the winter sun is freely admitted, while summer sun is still tightly controlled. Thermal mass and good insulation are combined to yield a truly zero-energy passively heated and cooled building. (photo: Ray Trappel)



Local flora and fauna can provide decoration cues which add life and fun to a building. The technical sustainability effects of such things is difficult to quantify, but it can be argued that to decorate is human, and the more human we make our buildings, the more we will collectively love them, and thus the longer they will last, thus reducing resource and energy consumption. (photo: Ray Trappel)



in balance during the design process, these enable us to read the existing pattern language, and to develop local typologies that may be used to serve our ends with less impact on the supporting ecosystems. This harmonises with the more mundane but increasingly critical technical aspects of material sustainability, such as passive design for zero energy heating and cooling, and water harvesting and waste-water treatment integrated into indigenous landscaping.

“Being Australian in the sense of belonging to the land has always depended on an acquired skill. It is neither a right nor a given; it has always had to be learnt, once handed down by the tribal elders to the young, and then earned by them. . . . It has always been a title to be earned, and so it remains” (Seddon 2005). George Seddon identified the key to achieving sustainability in Australia: listening to, and learning from, the land. Aboriginal people learned their very survival from “country.” It is poignant that in 2008, when Australia’s political tide is beginning to turn again to face the reality of past injustices to our indigenous hosts, that the lessons they tried unsuccessfully to teach so many European explorers and settlers might now finally be learnt by the building designers in this, the old country. Thus the sustainable future for the Australian house may well not be the *new*—the glossy internationalist approach—but a new application of the very old.

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