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K2LD, RTA Studio, Bild / **Healthabitat** New Indigenous
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Green Design's Twin Evils

Part 2: 'Once were crafts, then were tradies, now are subbies'

Last issue Tone Wheeler identified the 'twin evils' that lead to buildings barely resembling design and documentation, particularly 'value engineering'. Here, he dissects the 'second evil': the inexorable rise of bad workmanship

In the past four decades, 19th-century style 'craftsmen' – such as stonemasons, bricklayers, carpenters and joiners that could undertake very complex and detailed work – gradually became uneconomic as modern architecture demanded 'factory made' repetition. By the 1960s they were referred to as 'tradesmen' (and they were always men), but they too have been supplanted by 'subcontractors' working to a head contractor rather than a builder.

Here's an example, one architects know only too well: if you need to build elaborate brickwork, you will need to find a 'brickie' over the age of 50 as there are so few young people taking up the trade (it's much more physically demanding than IT!). And those that do take it on quickly find that they don't need to complete the demanding TAFE course just to lay veneer walls to houses. The diverse skills base of building in Australia is rapidly shrinking. Most workers on site have no trade training, only on-the-job experience in one limited aspect of the complex process.

Ironically, as buildings become more complex in design and need more coordination, the building process becomes more episodic and isolated, such that the final quality is almost entirely dependent on the expertise of the site manager (even the humble 'foreman' has been re-badged as a manager). No wonder they now have salaries well in excess of anyone else in the process, while also suffering under extreme stress. We might say of the last 50 years of construction: 'Once were crafts, then were tradies, now are subbies.'

Little by little, attention to detail has declined and quality suffered, so that we now see buildings as 'commodities' with limited lifespans rather than as buildings for the future. This loss of construction quality has a direct impact on long-term maintenance, cost of repairs, possibilities for reuse or recycling of poorly installed materials and equipment, and ultimately the lifespan of the building. And all factors impinge on the building's sustainability.

On the other hand, who would be a builder under current circumstances? The number of projects is shrinking and the competition in competitive tenders among builders gets fiercer. Across Australia we are currently only building half the number of dwellings each year that many industry observers think we need. Land releases have dried up, and every council uses NIMBY tactics to prevent rebuilding at increased densities. Highly efficient house builders, whose numbers increased in the boom times, now undercut each other in a

desperate fight for the reduced amount of work, forcing subcontractors to work for below-award wages or go bust. Builders tendering for larger buildings are under enormous pressure to cut costs by using foreign products (the mining industry is notorious in this regard). No wonder the raw material makers such as Alcoa and the window and door fabricators that use their products are under such stress.

But there's no government support or bailout for construction companies, as there has been for farmers, car manufacturers or uncompetitive manufacturers such as the 'Waratah' trains – only increased regulations. And if that's not enough, building is now the second most dangerous industry after farming, with more than 50 building workers killed on average each year in Australia. You are more likely to be killed going on a building site than being posted to Afghanistan and you are being paid only half the money to do so. It is amazing that anyone does it and no wonder that those competing for the right to do so are going broke.

The impact of these 'twin evils' on the building industry has been highlighted in the recent report into the delivery of the BER school construction program, widely known as the Orgill Report. Two observations stand out: in the larger states a surprising proportion of the monies, in some cases up to 40 per cent, was spent on administration and not construction. Those states had the poorest building quality. By contrast Western Australia, which followed the traditional route used by the Education Department of using architects to head up the process, had the lowest external costs, the best time management and the best built quality. But that didn't get the press airplay that the alleged 'rorts' did.

But what got even less public press was the report's damning evidence of what can only be called shoddy workmanship. A look at the photos of the howlers that the report team found (only a small sample, apparently) would demoralise any architect with knowledge of how building used to be done. Simply, the report is damning of both project management and workmanship.

This legacy of poor construction and cheap materials and equipment will leave a lifetime of costs for maintenance and replacement. What starts out as a well-designed, high-star-rating building may end up having its external fabric, interiors and services replaced within 10 to 20 years.

Simply, a virtual 'rebuild' of many of our current buildings is not a green future. **ar**