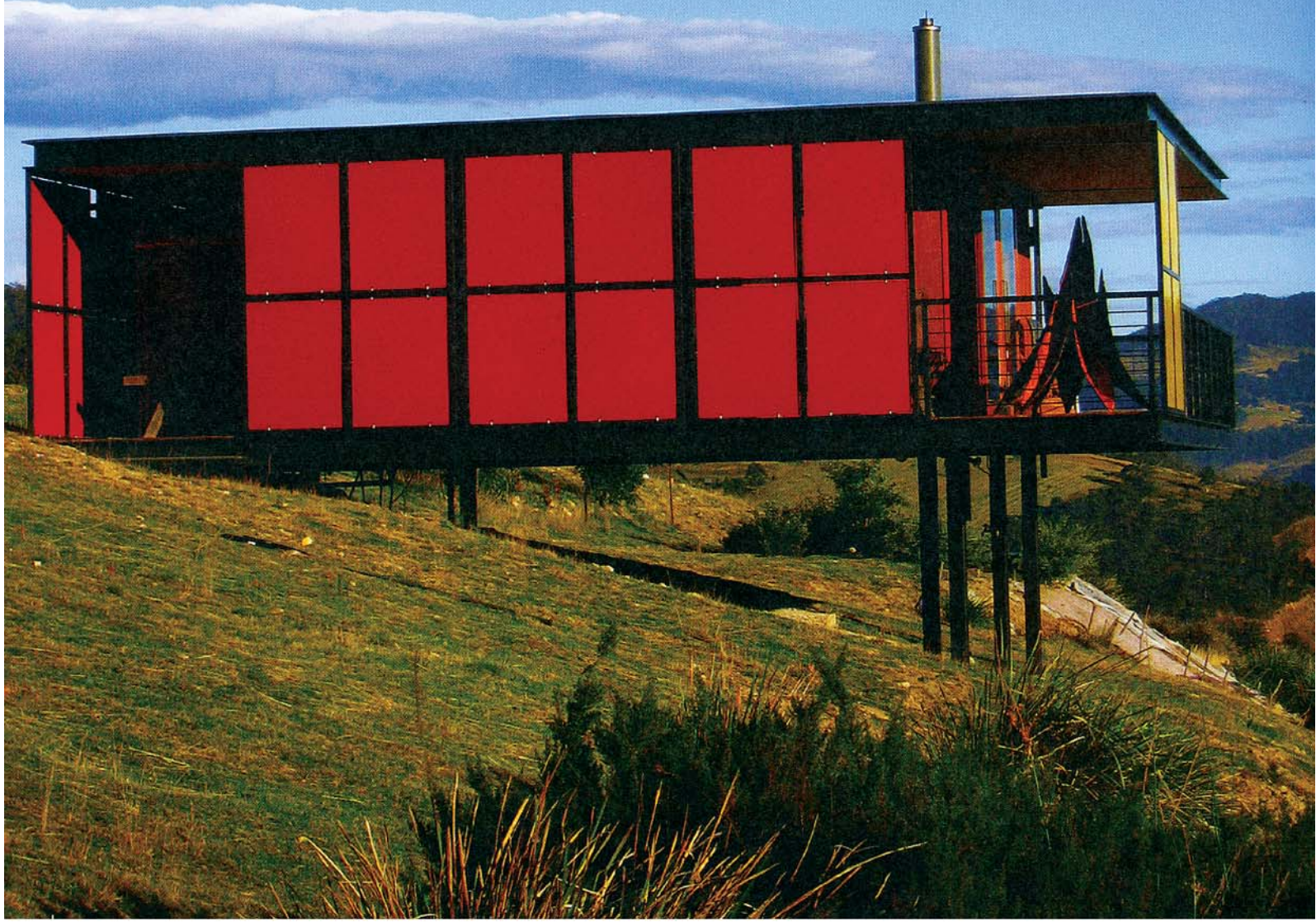


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Text: Susanne Kennedy | Photography: Susanne Kennedy

The brightly coloured box
jutting out from the slopes of
a hill in Tasmania's beautiful
Huron Valley is actually a test
model. Susanne Kennedy
meets its architect and owner.

Huron Valley Box





this page Vessels, architectural journals and carved creatures line the shelves.

About four years ago architect Misho Vasiljevich moved with his partner Linda van Niekerk from their Sydney apartment to a hilltop in Tasmania's south.

Throughout his career, as architect, interior designer and lecturer, Vasiljevich has explored and applied sustainable design principles and this move came from the resolve to apply them well in his own life.

"I wanted to walk the talk," says Vasiljevich. "Too many talk about environmental sustainability and continue to live in conventional urban structures. It was just frustrating, living in a Sydney apartment, trying to achieve change through body corporate processes."

Before turning the first sod for their current home, the pair chose to live in a shed for a year. In this time they came to understand the prevailing winds, the sun's movements and the general idiosyncrasies of their Huon Valley site. "We needed to be here first to learn these things and to put our principles into play in the best possible way."

Van Niekerk and Vasiljevich's home is a square module, or "box" as they both refer to it, vibrantly clad in red and yellow galvanised iron. Views sweep down the river to Hartz Mountain on one side and to Mt Beauty on the other.

Another building sits on the crest of the hill and serves as a shared studio, where Vasiljevich runs his company, Misho and Associates, and van Niekerk designs and makes jewellery.

About 50 metres down the hill is the box where they sleep and relax. Both studio and box are light filled, uncluttered, spaces with the occupants' style conveyed through interesting found and made objects and select pieces of art. A garage, beside the studio, incorporates basic yet comfortable sleeping quarters where as hosts they sometimes stay, relinquishing their own rooms to guests, when entertaining.

"The box has been built as an experimental laboratory," says Vasiljevich, "a 1:1 scale working model. It has allowed me to experiment with ideas in a controlled environment."

It is his experience that architects' homes can be great opportunities to resolve design details and learn from mistakes they could not afford to make in their professional lives. And this sort of experimentation is vital for future innovation.

"What you see commercially in architecture is what has been developed and tested at a domestic level for 30 years around the world," he explains. "PV cells are the perfect example." →



Vasiljevich is critical of some of the ways sustainable technology is presented, arguing that most of what is being wheeled out as new today has actually been around for decades. He also questions the recent proliferation of green star ratings and how accurately they represent a building or appliance's true sustainable credentials.

"Piddly things like light bulbs and paints are factored in," said Vasiljevich, "but no points are taken off for aluminium, a material with a very low environmental rating – even worse than copper or synthetic rubber – it's a bit ridiculous."

Environmental ratings calculate the energy employed in the production of a material and the amount of carbon dioxide released into the environment when creating a raw material. Vasiljevich, however, is quick to point out that other factors need to be taken into consideration: the life span of a product; how much maintenance it requires; and its recyclability.

"So, sometimes aluminium (with its low environmental rating) might actually be the right environmental choice," says Vasiljevich. "For instance, in the case of an ephemeral office fit out, where everything should be totally recyclable, aluminium would be re-used. But when you see a large temporary façade done in aluminium, you have to question the usage."

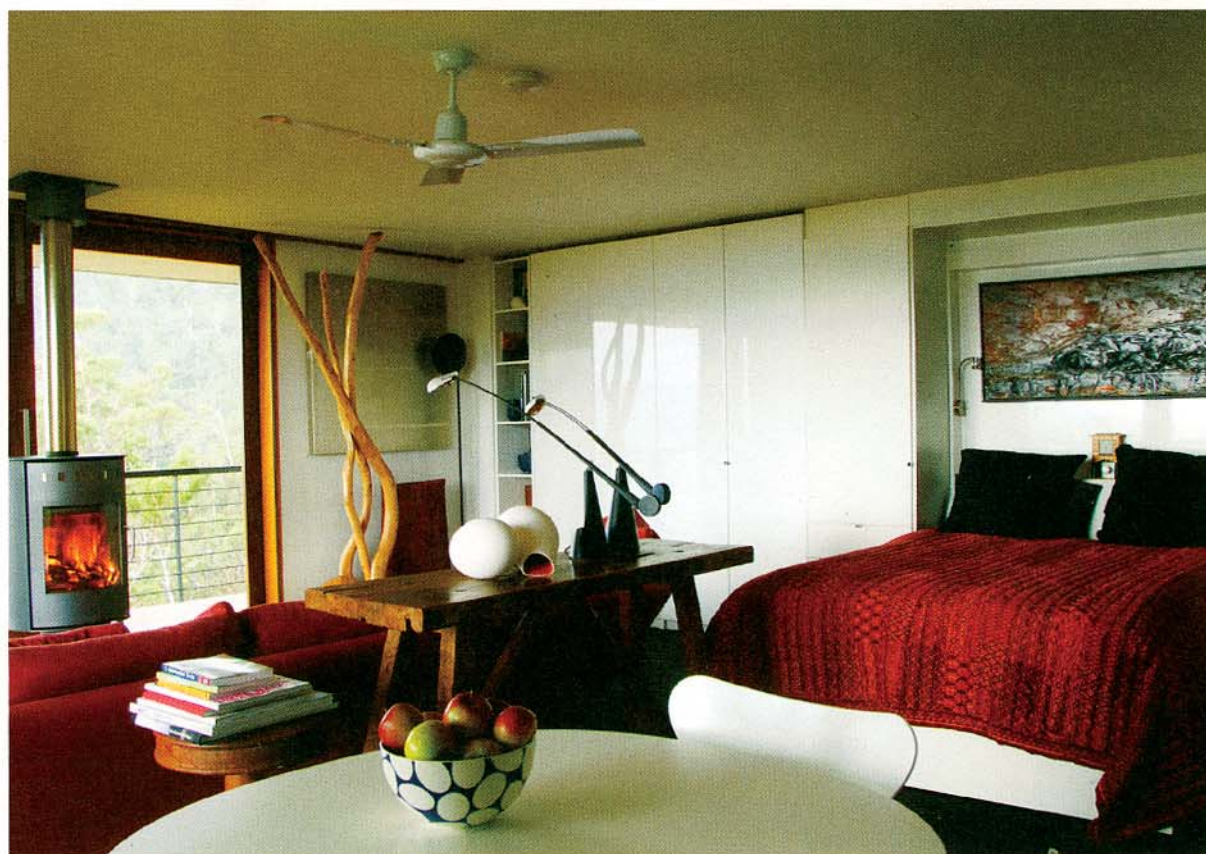
Galvanised steel embodies one third of the energy of aluminium and is structurally more efficient than timber, which is why it was chosen for the external façade skin. The other façade skin is steel, which heats up and cools down faster due to its thinness. This prevents the internal skin from taking the heat load, and keeps the internal space at a →

top A compact and streamlined kitchen in the couple's studio.

All appliances have the highest environmental ratings. **bottom** The master bed packs out of sight against a wall in the "box".

opposite page

A quiet space concealed behind bold galvanised steel walls.







left The slats and poles that frame the studio building create a play of light and shadow.
right Vasiljevich at work in the studio.



comfortable temperature. Recycled timber, plywood panels, steel and glass were the other main materials employed.

Solar energy, both passive and photovoltaic, is another key sustainable feature: the latter, currently in the form of a 2.4 kW grid connection, will be upgraded to 5.0 kW in the coming years. Insulation, in the walls, ceilings, eaves and floor structure, is over R5. "Our overhangs block out 100 per cent of the summer sun between the hours of 8.00 am and 5.30 pm during summer," explains Vasiljevich, "and let in 100 per cent of the winter sun."

"There's nothing mysterious about passive solar energy," remarks Vasiljevich. "It is simply a science based on the angles and arcs of the sun, and it is laid out in every architect's standard manual. So there is no excuse when these sustainable features are not incorporated into a house design."

The pair treats all their black and grey water, which, once processed, is used on their native trees; they collect rainwater in

a series of tanks that total a 70,000 litre tank, with 20,000 for bush-fire purposes. Their well-established composting system is assisted by a worm farm and they separate all rubbish and deliver it to the nearby tip themselves. The sustainable merits of every feature, fitting and appliance have been extensively researched and considered and subsequently their lives have a negligible drain on the system.

The couple has planted their very own carbon credit plantation, 288 white gum trees, largely in the foothills of the property to neutralise their combined footprint and particularly Vasiljevich's interstate travel. And on a playful note, Vasiljevich also planted red callistemon in a circle around the top studio box, to make it easily visible on Google Earth when they are in bloom.

Another aspect of van Niekerk and Vasiljevich's personal philosophy is their commitment to giving back to their various communities. They have supported the NSW Gallery, and Object Gallery in Sydney, and they are now patrons of Design Island, an



annual program supporting emerging Tasmanian designers. In the same spirit, they hope to build an artists' retreat at the top of their land in the coming years.

The seeds for Vasiljevich's environmental sensibility and his fascination with buildings were planted early on: his first years were spent in country New Zealand and gave him an appreciation for simple living and the natural world; a move to the Melbourne suburbs brought exposure to the construction industry through his father's work and the development taking place all around him.

These values were later strengthened by the environmental ethos of the 1970s and study under architect Glenn Murcutt, the iconic advocate of moral architecture married with the creation of intimate spaces.

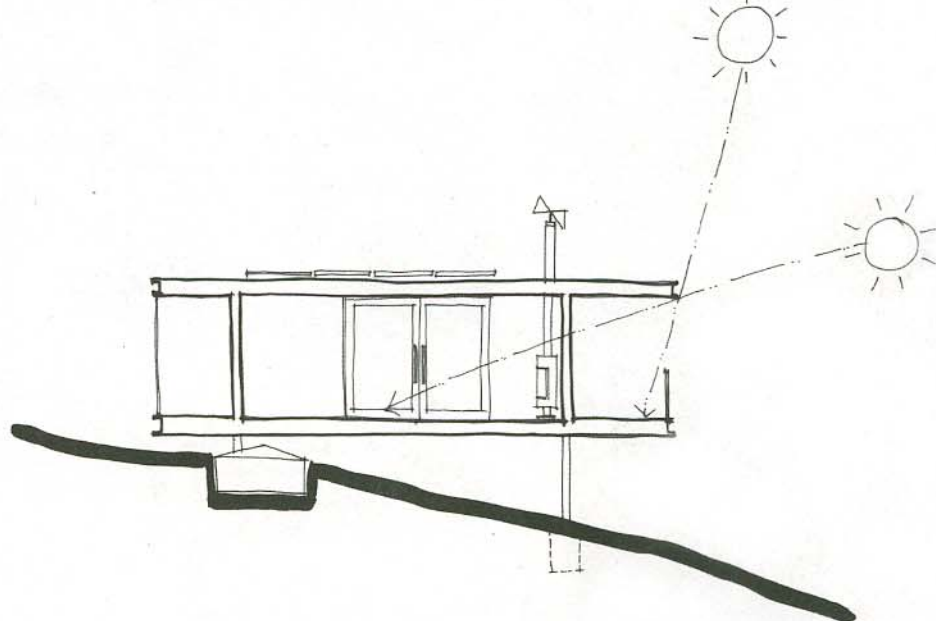
Vasiljevich has seen significant change in thought around sustainable design since he began practising architecture but still believes Australia, which has been traditionally slow to embrace

such change, has a long way to go. He attributes this partly to the fact that we are yet to have a pioneering statesman, such as Arnold Schwarzenegger in California, who is committed to driving environmental innovation and change into the mainstream.

However, Vasiljevich remembers when planning in Sydney was all about Floor Site Ratio (FSR), when water tank space had to be included in this calculation and there was a lot of ignorance and resistance to the idea of people storing thousands of litres of water beneath their houses. "There is a lot more awareness today but we still aren't at the point where water tanks are mandatory, as they should be. And Tasmanians don't yet understand water meters – which should also be mandatory in every state.

"There will always be a reaction from the corporate world to adaptive technologies. This is usually the reason they can't get them off the ground, particularly in Australia. It can happen even when a technology – such as solar energy – is free!"





Specs

Architect

Misho Vasiljevich
www.misho.com.au

Climate Control

Passive solar, combustible fireplace for heating, ceiling fans, cross ventilation (no air-conditioning).

Renewable Energy

Solar photovoltaic cells (2.4 kW grid connection). Battery backup and storage planned to be in place by 2010. Plan to expand to 5.0 kW maximum allowed with current grid network operator.

Water

- Rain harvesting storage for 70,000 litres; 20,000 litres for bushfire purpose.
- Greywater and black water on-site treatment: Envirocycle system that produces water to a localised area of native plants (provenance plants) that aid in regeneration of habitat for the birds and marsupials.
- 3/4L water smart toilet, frontloading washing machine, and green cleaners and detergents used.

Heating + Cooling

Insulation is over R5. All wall, ceiling, eaves and floor structure have been packed with insulation.

- Two areas of 288 white gum trees planted as carbon credits for both van Niekerk and Vasiljevich's own personal footprints. This will be expanded over time.
- Energy efficient ceiling fan with winter and summer switching to reverse the airflow. The obvious feature of the house is its architectural design to maximise natural cooling, heating, and lighting. The built structure incorporates:
 - Large eaves
 - Two skins to the building shell to help with thermal control against heat and cold.

Lighting

Internal lighting uses a combination of energy efficient fluorescents to be gradually replaced by 50W halogens with compact fluoro and 3-7W LED down lights. We are trialling two multi-LED globes (18 LEDs using 7 watts), one globe on an on/ off switch, and the second globe on a dimmer switch.

Recycling

98% of rubbish is recycled. All plastic and glass is taken to a local recycling centre. All paper is recycled on site for use in replanting and composting. Two worm farms recycle and transform the food scraps.

