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# First take some mining junk...

By Annie Mayo



When David Galloway and Debbie Chambers began to build their home in 1990, the sight drew tourists.

“One tourist bus even came down the driveway. The driver had brought his customers to look and hadn’t realised that we were actually here working until it was too late for him to turn around,” David laughed. It was the six metre, rusting, metal tower that had drawn them.

David and Debbie had been interested in the issue of sustainability well before it became a popular concept. “We wanted to live in the environment in a way that wasn’t damaging to it,” said David. “Part of that idea was to take on-board the concept of re-cycling when building, without producing the hippy-gothic look. We wanted an interface between hi-tech and low-tech where hi-tech can be an aid to sustainability.” Using the tower was part of that concept.

The tower began life as a section of a 30 metre steel kiln. It was acquired for \$300 from the mineral sands mining company David was then working for as an environmental manager. “Mining companies tend to have heaps of junk available at their sites. Originally we’d been taken with the idea of integrating two metal mining hoppers into the house design.” When turned upside down, these huge circular pieces of equipment would have made two large rooms.

“Unfortunately, when the time came to make the final decision we decided they were rather too corroded to use,” Debbie explained. And so they settled for the tower and adapted their plans so

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*The corrugated iron roof over the main entry with its cylindrical vaulted forms is hard to ignore.*

that circular rooms could be introduced into the design by some other method.

The tower sits just off centre of the concrete house pad and provides a circular pantry at its base and a walk through area to the mezzanine bedroom above. Because the tower weighs 2.5 tonnes and had to be manoeuvred in by crane, it needed to be set up before the walls could commence. It also required a deep reinforced section in the concrete pad to support it. "We got a bit carried away digging the foundations for the tower and they're twice the size they needed to be," said David. "But it does have the advantage of being very easy to work with. To make door ways we used an oxy cutter and to add bits we used a welder."

Speed of construction was an important factor, so half of the house was built using rammed earth. "We like rammed earth and would have used it throughout the house, but wanted at least one main wall to be circular," said Debbie. "Constructing curved form work would have been too time consuming, so we decided to use mud brick instead for that section. Using wooden wedges inside the brick mould we could easily manufacture bricks shaped to suit a curved wall."

To make the mud bricks, Debbie and Dave borrowed a mould from a neighbour. "We made them singly because that's how we'd seen it done. We were a bit slow to realise that it could be done more efficiently!" Debbie laughed. They were also meticulous about laying the bricks, keeping levels absolutely correct and mortar joints neatly trowelled. Together with the shaped bricks, the result is an excellent curved wall at the lounge end of the house. The mud brick walls are not actually loadbearing as the roof sits on poles.

The roof is constructed using trusses from a Fremantle Port Authority warehouse. "We both love the interface of the old with the new and have never wanted to either clean up the trusses or paint over the rust of the tower," explained Dave. "We're particularly fond of the mix of finishes provided where the stainless steel of the Italian stove sits next to the deep brown rust of the tower."

The tower also serves as a wall for the circular staircase which leads to the mezzanine floor. The staircase was built by Dave and Debbie from metal and timber. To minimise the structural

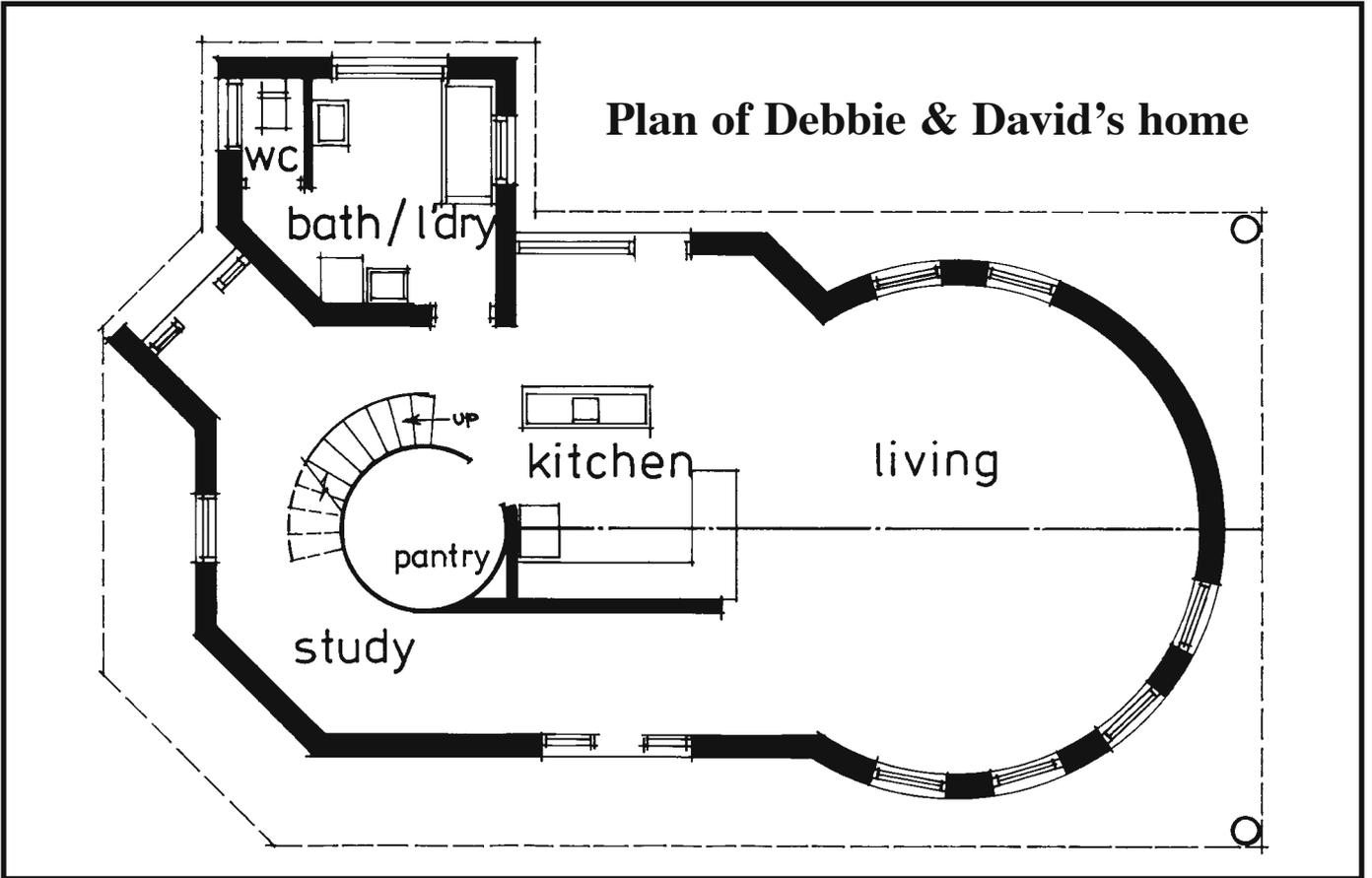
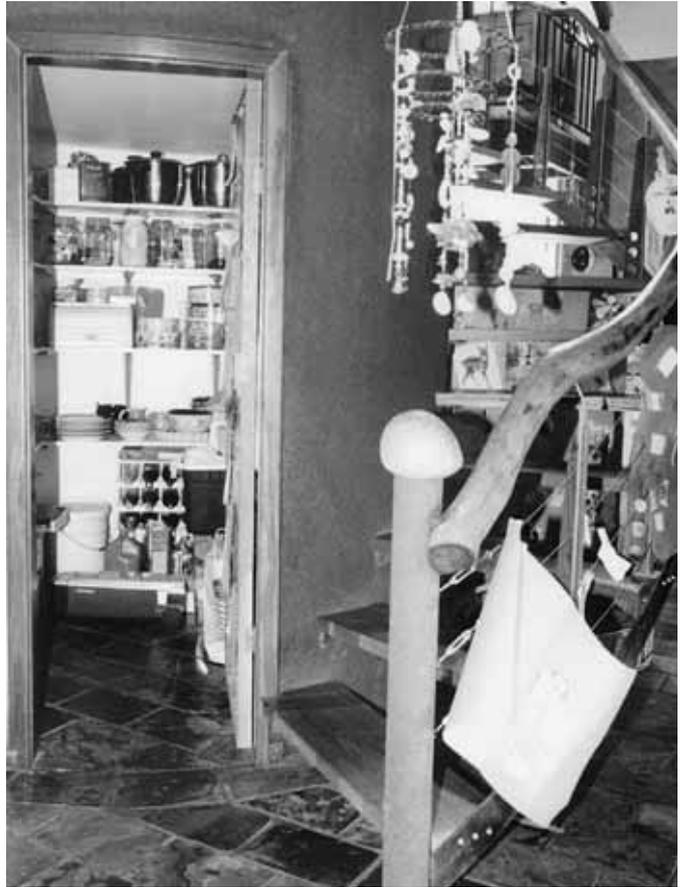


*Above: The adjoining home office building uses an attractive informal mud brick laying technique.  
Right: Looking into the kitchen.*

strength required in the staircase, it is suspended from the roof trusses using stainless steel cables. "This allowed us to leave the underside of the staircase open giving it a light, open feel," Dave said. The bannister rail is constructed from one long, curved tree branch, found after much searching.

The mud bricks have also been used to great effect in the bathroom. "We were keen to have a Roman style bath built from mud bricks and blew all of our tile budget on lining it with imported Italian tiles," said Debbie. "We're





very happy with it, but we'd recommend using insulation to anyone considering the idea as it loses heat quite quickly."

Once the current part of the house was complete, the next project was the office for their Sustainable Development Consultancy business. The office began life inside the main house at the rear of the tower, but when their daughter Indyana was born, it was quickly transformed into her bedroom. Although built using the same materials as the house, the style of the office is quite different.

"Our feelings about style had evolved since building the main house and we were keen to try something else," said Dave. To begin with, their mud brick production rate improved to manufacturing five at a time. Just the right number from a full cement mixer.

"Our construction method also become a little more organic," said Dave. "We were a lot more adventurous with laying the bricks, trying different ideas such as the arches on the main wall and over the door. And rather than fiddling with a trowel, we just slapped the mortar on with our hands and used a brush to tidy up the mortar joints." The main part of the office building is constructed from steel scaffolding clad with corrugated steel. "It's very much a 'shed' construction style with extra 'bits' for added interest." One interesting 'bit' is the double door. Made by Dave, the doors are constructed from timber and old louver windows set within a metal frame.

Plans are now afoot for the next stage of the building process. "As it currently stands the house is totally impractical because it was never intended to be the finished product," said Dave. "Work and life got in the way of building the bedroom wing and it's taken nearly ten years to begin to think seriously about starting it."

Part of the whole design process has been to ensure that the end result is a multi-functional building.

"We didn't want to end up with a house that had in-built constraints regarding its use," said Dave. "Rather we wanted a building that could – for example – work as a guest house, or a small conference centre, or even house two families if required.

"In the long term we may even consider building a small cottage at the rear



*This page, above: David Galloway and Debbie Chambers.*

*Top, right: The home office building.*

*Right: The approach to the office.*

*Below right: Handcrafted doors of steel, wood and glass.*

*Opposite page, left: The roman style, italian tiled, mud brick bath.*

*Opposite page, right: the stair winding around the cylindrical pantry.*



of the block and offering bed and breakfast in the main house."

Both agree that having a ten year time span between thinking of building another part to the house and actually commencing it has some advantages. "It gives time for your own ideas to develop and mature," said David. "It's probably not as convenient as immediately building the complete house from a set of rigid, pre-determined plans, but it makes for more interesting results." In that regard Both Debbie and Dave are taken with the philosophy of the architect Leplastrier who states that,

"The design needs to be given the chance to find itself, because the approach results in a home not a house. A house that is expressive to *the who* the inhabitants are."

As they have 'found' their design, both Debbie and Dave agree that the house lacks some function. But they wouldn't change much. "Having to think about things because they're not quite perfect brings consciousness to life," says David.

