



Mud, straw and soul

Pioneering 'green' architect Etienne Bruwer demonstrates his eco-friendly and cost-saving building methods in his own home in one of Cape Town's most elegant suburbs

Story and photographs by **Bettie Lambrecht**

Clockwise from top: The central living room allows space for practising hobbies. Guillaume, Bruwer's youngest son, amuses himself with a gadget he made at the Waldorf School

A side view of the wall-roof, made from corrugated iron and wood

Etienne Bruwer in the doorway of his studio, adjacent to his home

Close-up of a skylight

Architect Etienne Bruwer

Walking into the home of Cape Town's eco-friendly architect, Etienne Bruwer, is like stepping into the fairy-tale world of Hansel and Gretel. As you approach the front door, the first thing you notice is the sensuous curves of an unusually thick wall. There is no concession to dogmatic straight lines. Green paint flakes in attractive "blemishes", as if to confirm the scribble of time.

A bearded man with blue eyes and a loose-hanging collar-less top fills the door opening. He is flanked by two windows that peer from oddly un-straight frames set in deep eye sockets.

Bruwer waves me inside his home studio in Constantia. He is the pioneer of mud and straw buildings in South Africa and the home he designed and built for himself is where many of his experiments are tried out.

His alternative building methods focus on healthy living for both humans and the physical environment. His trademark is a combination of material things – stone, tree trunks from invasive aliens and re-recycled discards – along with social, emotional and spiritual components.





"Only when you really are in touch with the Earth can you strive for spirituality" is a typical Bruwer comment.

He has other buildings dotted around the Cape countryside, as well as in Clanwilliam, the Karoo and villages in the Kalahari and the Transkei. Different styles distinguish these structures – from elegant Noordhoek residences to simple dwellings in villages without running water in the Transkei. His buildings include a community centre for the Khomani San group, a retreat for canoeists, multi-purpose resource centres for community groups on the West Coast and the Hawston Abalone Village Community Lapa in the Overstrand.

At home

When he planned the home he shares with his wife, Yvonne, and three sons, Emil, Ruelle and Guillaume, his first concern was that it should be "a house that would breathe". This phrase, which recurs often in his conversation, sums up Bruwer's design philosophy.

It translated his family home into a large, double-volume, barn-like room, uninterrupted by interior walls. The upper storey is connected by a syncopating, stacked wooden staircase – also designed and built by the architect – that doubles up as bookshelves behind each step.

High above your head, 6m-long skylights embrace the entire interior space in a timber vaulted structure, constructed from rough planks and poles. The effect is rustic and strangely mystical simultaneously.

It is an interior that invites easy interaction among the inhabitants. However, the architect hasn't neglected providing places where "one needs to hide away and escape into one's own little corner". There are coveted nooks leading into a reading space high above the family business area below, the main bedroom is tucked away on the ground floor behind the central open living area, the kids' workspaces and open bathroom are on the top deck.

This house provides a peep into the man and the ideas that inform his designs. What struck me first, as I entered the house and adjacent studio, was the light. It appeared to glow straight from the walls, accentuating rough plaster textures and the sensuous flow of hand-shaped curves. A magic, ethereal light, but one that paradoxically sharpens an awareness of solid, earthy things.

What inspires Bruwer's unconventional designs? "What is the sound of a building?" he responds. "What is its gesture?" Does it squat on a streetcorner, hide between trees, stretch out in a wide open landscape? Gestures accompany his words. He crouches his shoulder, as if to indicate the shape of a building trying to protect itself from traffic noise. Then his arms are thrown out, his head falling backwards. "Or does it say, 'Aaaa'? Wide and open? Does it breathe? Out and in ..."



A section of the strawbale-sized walls (above)

A cob ball, made of straw and clay, lands in the hands of the builder (right) after having been passed down the line like a rugby ball

Hands on (below) as thumbs and fingers work the straw into the wall



He discovered the link between sound and gesture in the writings of Austrian philosopher Rudolph Steiner, who developed the art of eurythmy, or *sprachgestalt* (visible speech), at the turn of the previous century.

"Each building has its own blueprint, a notion of how it wants to be. The architect has to uncover its specific character or identity. That emerges with specific gestures and tonalities," Bruwer explains.

Esoteric as this might sound, there is nothing airy-fairy about his thorough understanding of basic principles such as the use of natural light, convection ventilation, weight-bearing structure, and water-saving features achievable with composting toilet systems. The latter sets these "natural" homes apart from most of the world's – those that are fitted with high water-use flush toilets.

Explaining his eco-friendly "humanure" toilet system, he chuckles: "People simply avoid dealing with their own shit." And in a whisper he recounts his wife's admonition that the compost toilet would be welcome, "as long as there's no smell".

'Green' designs

When it comes to light and air, "green" architecture differs from conventional approaches. It makes use of functional things like doors and windows, for instance.

"Windows don't all need to double up as sources of air," he says. "Some are there only to filter through or colour light. And more importantly, to create atmosphere."

Bruwer alternates wide horizontal skylights in his living room with multifaceted "eyes" constructed from off-cuts and transformed discards salvaged from various sources. A discreet slither of deep blue glass lights up a corner of his office where two curved walls join. It is a wedge of glass cut off a sloped window from elsewhere. Function and fun with a hint of the spiritual balance in this play between object and imagination.

Effective ventilation in a room, he continues, can be achieved through putting tiny holes on opposite ends of the room, some low down where cool air enters, others high up where warm air escapes. In addition to these discreet ventilation holes, thick outer walls – the width of a strawbale – help to regulate the temperature. "No electrical heating appliances means no expensive utility bills."

The forms and shapes of rooms are of equal importance. Explaining the varying shapes throughout his house, he gestures the meaning or function of, for instance, the V-shape and the rounded oval. "They suggest different ways of communication between inside and outside. The V-shape talks directly with its external surroundings. The circle frames the view outside."

Surely shunning standardised formats requires a special insight and understanding of one's chosen alternative building material? Bruwer reads my thoughts. Architecture is physical,

albeit accessed through the soul. "You should feel it in your kidneys – how thick a wall should be to carry such or such a weight, a pole to support that length," he says.

That's why he bundles his students into piles of mud when they come to learn about the binding power of straw and the strength of blue-gum poles that appear to "grow" out of mud – lessons about the nature and properties of materials learnt through touch.

In the backyard of his Constantia home, Etienne and knowledgeable co-workers like Amos Mantshinga perfect, through trial and error, recipes for clay-soil mixes to withstand extremes of weather – damp, wet winter seasons and harsh drying out in the often scorching Cape summers.

Before he mixes the mortar of sand, lime straw and water, simple field tests ascertain the right consistency of clay in the soil from the building site. A number of test balls of clay are rolled between the palms, then dried for the "scientist" to perform "the crack pressure test." Bruwer removes a sandal and pushes his bare heel into the ball of mud. "We perform every client's clay test here. They bring bags off their sites. I advise and teach them on site."

The right mix consists of approximately a fifth clay and the rest soil. In practical down-to-earth Bruwer-terms, that means one wheelbarrow of soil to a six-litre bucket of clay. Two litres of lime (measured in plastic ice cream containers) assure correct plasticity and binding.

Clay replaces cement as the binding agent and lime and straw add strength. They also enhance other properties – detoxication and adhesion for plaster, for instance. Acting in concert when built in together, these materials in earthen (mud-based) walls and floors present a much healthier blend of ingredients and properties than cement-based equivalents.

In their dry state, earth walls retain up to 10% less water than "dry" cement-based walls. "Many chest ailments may be traced back to damp environments – largely the result of damp in the cement walls of offices and homes," he says.

Mud dance

Bruwer proceeds to demonstrate his dictum, that architecture should be "physical, social, emotional and spiritual as much as it is cerebral". He steps into the mud laid out on a thick plastic tarpaulin. Legs, hips and feet rotate in a slow rhythmic movement, kneading the clay to a consistency ready for the sculptor's touch. It curls and splurts between his toes as he coaxes the mixture into a dough for some gigantic bread pan.

Once the mix is declared "right", the "social" aspect of the procedure follows. Family, friends and helpers line up to pass the "cob" (mud and straw rolled into bread-sized balls by hand) to one another. The builder at the end of the line thumbs it into the wall.



"Remember the rhythm. Arms relaxed, straight. Keep the back straight. Move from the hip up. Don't strain the fingers or shoulders."

Watching the architect perform his mud-dance is mesmerising. It is not long before others join in. After partaking in this "free reflexology treatment", the dancers' sense of "having unwound" brings a smile to the designer. He equates this ancient participative building process to "stress release-therapy".

How did he arrive at his view of this art form as the "completion of nature", with its specific therapeutic, social and spiritual functions? Bruwer recalls his early days as a student in architecture at the University of Cape Town (UCT). "When you're young, you make buildings that are different for the sake of being different, to surpass. And yet, in retrospect, I found that my early buildings merely looked different. Essentially they remained hard, like crystals."

The living quality he was striving for eluded him for a long time, he confesses, until he could reconcile organic principles with ecological building methods. Steiner was the catalyst. "He not only had the deepest insights, but he could also think through his heart. Reading about his insights and principles, I knew I had stumbled upon key directives and indications for the organic buildings of the future."

The 'living roof' (left), with Guillaume, Bruwer's youngest son, walking where one would expect to pick ripe strawberries

Etienne Bruwer demonstrates the mud-dance (right), during which he kneads clay, soil, lime and water to the right building consistency

That was the turning point. The final thesis for Bruwer's degree had already explored Steiner's ideas and influences. He then went on to enrol for postgraduate studies at Wits University and continued getting inspiration from Steiner and Goethe's poetry.

As the movement for organic/natural architecture gained international momentum during the 1980s and 1990s, he became the forerunner in the southern hemisphere. His influence expanded when he became a lecturer at UCT.

Since then many others have used these techniques and principles to build for themselves. Among them are, notably, many women clients and associates. Women warmed to the prospect of getting physically involved in building their dream abodes.

In workshops with architects, students and community development groups, through his writings in local and international "green" built-environment publications, through lectures in South Africa and abroad and television appearances on DSTV and CNN, Bruwer keeps infecting others with his passion for organic buildings and natural materials.

To summarise the many facets of these building methods, one finds oneself entangled in contradictions. On the one hand, eco-architecture, it seems, is as basic as stone. On the other, it is as spiritual as Notre Dame's stained glass windows. It is flexible as a yogi, yet strong as the poplar tree-trunks that used to support an entire gold-mining industry. As light as straw, but tough enough to have survived centuries of both wet and dry climates all over the world – "common practice on all continents in pre-industrial times." It hails from Wales, where cob building started in the Western world, and from the adobe cities of Mexico's deserts.

To sceptics, earth building remains as unpredictable as the weather. To proselytes, as irresistible as the fragrance of freshly baked bread. ■

