First Words

ARJA SALAFRANCA

I'll never forget being taught to make a Spanish omelette by my Spanish grandmother. She was nearly 80, I was 20. I hadn't seen her since we had left Spain when I was three years old. She spoke no English, and I spoke a very broken Spanish picked up during my few weeks there.

But, on a sunny December morning, she beckoned me into the kitchen, arranged potatoes, oil, a frying pan and onions on the table and taught me how to make a Spanish omelette. You cut the potatoes into thick matchstick pieces, you fry them in olive oil, and then you add the egg to the mixture, sliding it into the pan. The difficult part comes when you have to slide the omelette out of the pan onto a plate so that you can slide it back to cook the other side. Somehow my grandmother expressed all these nuances and details to me without the benefit of a common language.

It was a lesson I never forgot. I still cook Spanish omelettes the way she taught me, albeit infrequently, and every time I do I remember her, this tall woman with the thin white hair and strong, almost unlined, olive-skinned face teaching me in Spanish how to make what is just about a national dish. It was her way of imparting something to me of the country I had been born into, and of the culture I had missed while growing up in South Africa.

Food is a powerful messenger of connotations and associations. Similarly I was unable to eat butterfish for years after having a fight with my mother while eating it for supper one night.

I would try to eat but the memory of that argument somehow rose up and made me nauseous in turn. I just couldn't eat the fish I had once loved. An important message: don't eat when you're angry, the emotion colours your perception for a long time afterwards.

Similarly I am reminded of my South African Jewish grandfather every time I eat *kneidlach*. This isn't often, I don't make it, or follow the religion, although every now and then I get a craving for the salty soup, and the doughy, yet feathery-light texture of these dumplings. My grandfather loved them, and my mother made them for him when he came to visit on Sundays. I remember his obvious enjoyment, the light-hearted pleasure he took from this simple food.

Bimbo burgers may be reviled by many, but my connotations of these hamburgers are more pleasant. I remember being 14, and stopping off on the way home from school with friends for these treats. The sauce was pink: a mixture of mayonnaise and tomato sauce, tangy, bright, and one we soon learned to make ourselves at home.

I remember a TV blaring in the corner, music pumping from the speakers, the harsh sunlight of the pavement, and the thrill of it: eating out on our own – adulthood was coming, independence, earning our own money... The burgers were a passport to another world.

Green houses

Some architects are returning to pre-industrial building methods and materials; others are looking at more extreme answers to rising energy costs and global warming, writes **Mary Corrigall**

One of Andy Horn's straw bale abodes takes shape Right: The finished product; a quaint medievalesque home that is not only aesthetically pleasing but is environmentally friendly too

A pitched roof, square windows and brick walls immediately come to mind when one thinks of a typical house. However, that is all set to change with peculiar-shaped homes made of materials that hark back to the pre-industrial age gradually becoming the new way forward for architecture.

The changing design of homes is not, in this case, part of an international aesthetic trend; instead these quaint homes fashioned out of straw, sandbags, clay and recycled materials seek to embrace environmentally sound principles.

Dubbed "green architecture", buildings that conform to this new wave of design and construction not only appear at ease with nature but are constructed to conserve energy.

"It was found that 50 percent of the world's energy is used in the construction and operation of buildings. Sixty percent of that energy is used in response to climate changes; heating up or cooling down a room," says Ken Stucky, the director of Environment Responsive Architecture, a firm of "green" architects based in Johannesburg.

According to Stucky, there are two branches of green architecture – cooked and raw. Cooked architecture seeks to harness technology so as to reduce energy expenditure. Sophisticated computerised mechanisms ensure that when a window is opened, the air conditioner is automatically switched off, and when there is enough natural light in a room, the lights go off.

In contrast to cooked architectural practices, raw architecture is anti-technology and makes use of natural construction materials such as straw bales or structures that control the effects of temperature changes. Raw architecture takes its cue from buildings that were common over a century ago.

"Buildings built before the Industrial Revolution were very much in balance with nature and solved problems in a very natural way; buildings were smaller and, consequently, used less energy. Construction materials were indigenous to the area in which they were used. Today, instead of solving environmental problems, architecture creates them," observed Frank Harmon in *Towards a Green Architecture*.

On a farm near Elands Bay in the Cape sits a house that looks as if it has been magically transported from a medieval European village. Designed by Andy Horn of Eco Design, stone-walled remains of an old ruin are used to form the plinth for the super-insulating straw-bale and mud-brick walls. To avoid the use of tropical hardwoods, which contribute to the destruction of the world's rainforests, second-hand windows and doors are set into this appealing structure. To conserve water, a dry composting toilet recycles the sewage, which can be later used as garden compost.

Another example of architecture that personifies Horn's approach to design is House Salters, located in the rural town of Teslaarsdal. This eclectic abode is constructed from stone, timber, straw and clay. As all the materials are sourced locally the house appears to rise quite naturally from its environment. Not only do these natural materials keep the home cool in summer and warm in winter, reducing energy costs, but waste heat

It's the prefabulous prefab

BY ANDREA VINASSA

The essence of a home, to South Africans, is that it's built of bricks and mortar. But a dynamic architectural design company that blends inspiration and experience from Africa, New York, France and Japan wants to help South Africans shake off some of their social programming and embrace new notions of what constitutes a home.

Architect Eric Bigot of Fablife launched his Zenkaya, a prefabricated home that arrives fully constructed on the back of a truck, at the recent Decorex Jhb. Since then, his phone has been ringing off the hook with progressive South Africans who embrace the idea of an instant building – no hassles with contractors and project managers, or piles of building materials littering pavements.

In other parts of the world, especially in Australia and the United States, ready-made or "kit" homes have been popularised by design magazines such as *Dwell* and *Wallpaper*. As a result, some of the most exciting new architecture in years has emerged, with lovers of design buying into the prefab revolution.

Bigot says South Africans have grown accustomed to a range of alien architectural styles, none of which are appropriate to our climate or landscape. Though European in sensibility, he says, Zenkaya emphasises the beauty of the African outdoors by making a minimal imprint on the landscape and by using designs that magnify the on-the-stoep lifestyle South Africans love.

Sponsored by Decorex Jhb as part of a drive to bring innovative design to the marketplace, Zenkaya has been called "Miesian", which Bigot says is the greatest compliment an architect can get. Indeed, Zenkaya does call to mind the work of architect Ludwig Mies van der Rohe, who coined the famous phrase "less is more". The homes are sophisticated and well proportioned, and feature large openings, clean lines and disciplined geometry.

A Zenkaya is a safe and solid yet light loft-style unit with double-glazed sliding doors, a deck, a designer kitchen and bathroom, and other luxury amenities.

Constructed around a steel frame, the rest is made of highly insulated polystyrene, high-tech wood composites and other quality man-made products.

Bigot makes a point of using only the best materials as a Zenkaya is not designed as a low-cost house or a cheap outbuilding. Units are delivered inclusive of all finishes, ready for you to plug into electricity, water and sewerage. "This ready-made living structure can also make an ideal office, a studio, a holiday home or an extra room. The main reason people called me after Decorex Jhb was that they were interested in the quick de-

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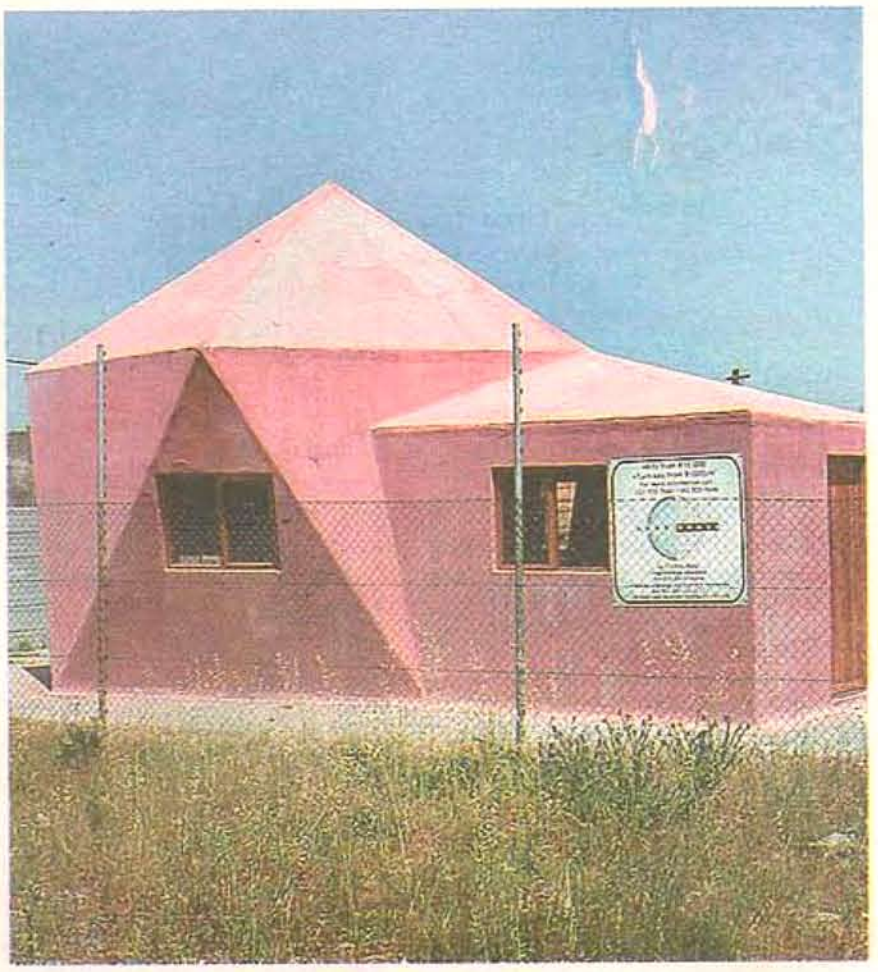
Raw architecture is anti-technology and makes use of natural construction materials such as straw bales or structures that control the effects of temperature changes. It takes its cue from buildings that were common over a century ago



A South African version of Buckminister Fuller's geodesic-dome home manufactured by N'Kozi Homes

from the fireplace and chimney is circulated to the geyser.

Horn is a resolute follower of the green architectural movement. He has even written a manifesto that outlines his philosophy towards building.

"In view of present global crises – population expansion, natural-resource depletion and ecological disasters – there is an urgent need to align development and the practice of architecture with the concept of sustainability.

"This is more so than ever in South Africa, where there is an unprecedented call for a levelling within society with the provision of housing and development infrastructure," Horn writes.

Horn's green architectural practice isn't just inspired by the desire to conserve the environment; it also seeks to make homes healthier for its inhabitants.

"Conventional buildings are very toxic," suggests Peta Harrowsmith, a housing consultant at Horn's firm.

"Just about everything from your concrete to carpets is harmful to both you and the natural environment. Chipboard cabinets, upholstery and carpets are all made with poisonous formaldehyde; varnishes and glues contain a range of nasty chemicals, including n-hexane, which causes nerve damage if humans are exposed to it for extended periods. Most plumbing pipes made from PVC are highly carcinogenic."

While Horn remains committed to creating abodes that are healthy for humans and respectful of the environment, his buildings also dispel the myth that eco-homes are not aesthetically pleasing.

According to Stucky, when environmentally friendly housing was first conceived of in the 1970s, the design was not only rigid but not particularly pleasing to the eye. This early form of eco-design was called "passage solar design".

"It was an elementary form of green architecture that, in essence, sought to put windows in the right place by predicting where sunlight would strike a building," Stucky says.

"Today green architecture is a sophisticated form of architecture."

While an earth-sheltered home may conjure up images of a claustrophobic bunker under the ground to protect one from nuclear fallout, it can be an attractive, unique-looking home that resolves many of the environmental issues pertinent to green architecture.

Although most of the home is submerged beneath the soil, the front of the home faces out, capturing all the incoming daylight. These homes are best situated on a well-drained hillside. Overhead skylights fill the recessed areas of the home with light and sometimes tubes are channelled through the earth to bring extra air and light into the rooms below the surface.

The insulation provided by all the surrounding earth helps regulate the temperature, making this home cool in summer and warm in winter. Although earth-sheltered homes are typically made of concrete and can be an expensive build, in the long run the energy costs will be low, with savings of up to 80 percent on heating and cooling.

An earth-sheltered home is practically indestructible; not only is it dust-, hail-, burglar- and tornado-proof, but will last well over 100 years.

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livery and lack of production hassle; the only hassle here is in figuring out how to get it through your front gate," he says.

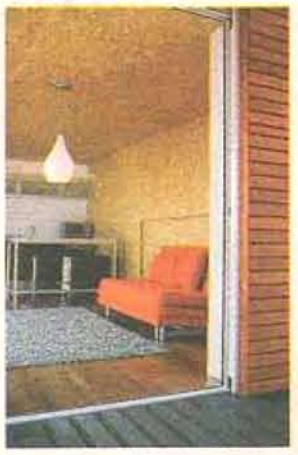
Zenkaya is still in the prototype phase, while Bigot secures investors and production facilities, but his aim is to introduce South Africans to luxury prefab homes and remove stigmas associated with prefabricated structures: "This is nothing like the cheap, nasty prefab structures South Africans associate with creating extra space. It's more like the Gucci or Prada of homes, with its most attractive feature being its less-is-more simplicity. It also conforms to the highest design standards and, importantly, is more ecofriendly than other structures – much of the material can be recycled and, because there are no foundations, the home hardly touches the ground."

The simplest living unit is the Zenkaya Studio at 3,6x6m, which costs R280 000. To date only the Studio unit has been priced as costs will depend on the numbers of Zenkayas produced, and the additional features chosen by owners. The next sizes up are the Zenkaya Loft at 3,6x9m, and the Zenkaya 1-Bedroom at 3,6x12m. The largest unit in the range, the Zenkaya 2-Bedroom, measuring 3,6x3m, has the aesthetic addition of an extended wooden-decked stoep.

Bigot says Zenkaya homes can be customised to suit the needs of single occupants or small families: "Unlike many large South African homes, Zenkayas can bring a family together. Instead of focusing on a large living space with many soulless rooms and passages, we've focused on quality and used luxurious finishes.

"Some people are ready to live well without too many materialistic trappings."

Eric Bigot 082-833-3324



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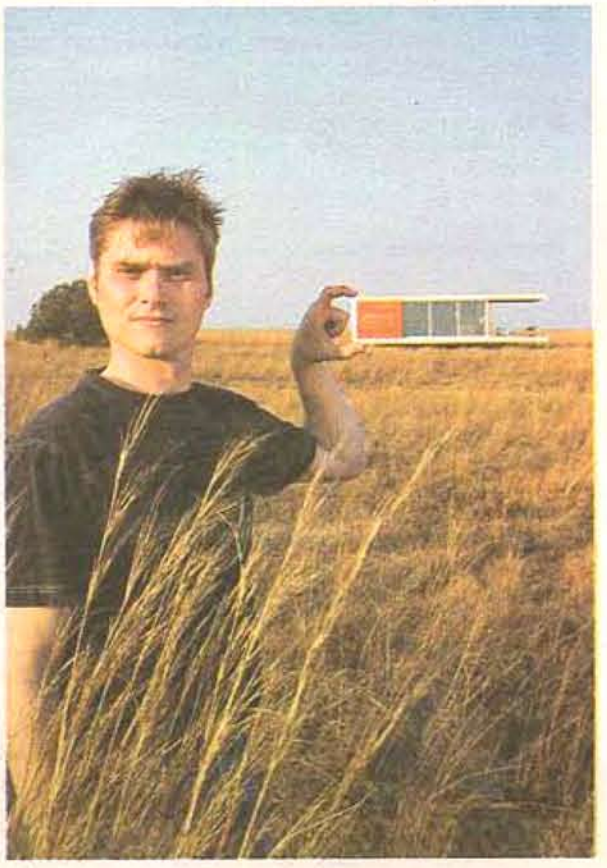

Mies van der Rohe, Gucci and Prada are are not names normally associated with the chilhood prefabs of our past. Eric Bigot hopes to change that with his Zenkaya

PHOTOGRAPHS: DOOK

'Building homes like this offers the opportunity to alleviate poverty and provide housing'

A geodesic dome home designed by N'Kozi Homes

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Conventional homes have a lifespan of 50 years, which has all kinds of adverse environmental ramifications.

If one prefers to live above the earth but still be surrounded by earth, there are cob houses. Unlike straw-bale construction, cob does not use bricks or blocks. Instead it consists of a mixture of lumps of soil, sand and straw. This fluid cob mixture can be sculpted into any shape, such as arches and sloping walls – the imagination is the only limit confining the design of a cob home.

To protect the structure from strong winds, a plaster of lime and sand can be applied to the exterior. The natural materials that make up a cob home regulate the temperature, making these abodes perfect for extremely hot or cold climates.

Because a cob house consists of natural materials, it doesn't create any future pollution or disposal problems when the home is torn down. And while this style of home sounds a bit flimsy, it is said to be able to withstand earthquakes and fires.

Apparently, anyone can learn how to build their own cob home – that's if you don't mind getting your hands dirty.

Like the cob home, the geodesic-dome home is also easily assembled. A crew of five people with minimal training can assemble a basic dome home with a passive solar hot-water system and waterless toilet within a matter of days, says Joseph Feigelson, director of N'Kozi Homes, a Cape Town-based supplier of geodesic-dome homes.

It was the American inventor Buckminister Fuller who originally conceived of the geodesic-dome home in the early 20th century. Fuller discovered that if a series of equally proportioned triangles were conjoined, one could construct a solid structure that would become stronger the larger it became. While his dome homes were not readily welcomed by the public in the 1940s, his invention has been snapped up in the past couple of decades.

Feigelson believes that the geodesic dome home has great possibilities in South Africa, where there is a dire shortage of homes and jobs.

"Building these kinds of homes offers us a unique opportunity to alleviate poverty and provide housing."

Feigelson believes that with water shortages and rising temperatures caused by global warming, it makes sense to build homes that not only conserve energy but water, too. The waterless toilet – a South African invention – an optional extra with your geodesic-dome home, works by separating solids from liquids. The liquids evaporate and the solids drop into a holding bay which can be emptied at a later stage.

"It doesn't make sense for us to go into the 21st century building developments using fresh water to carry our sewage away – we can't afford to do that any longer," Feigelson says.

The geodesic-dome home can be built from steel or wood and uses less of the materials usually needed to build a conventional home.

A geodesic home kit from N'Kozi Homes starts at R10 000 – that is for the shell. A fully completed interior with solar applications costs R2 000 per square metre.

Once completed, a geodesic-dome home resembles a cross between a futuristic spaceship and a traditional African dwelling.

According to Stucky, green architecture has yet to become popular in South Africa. He attributes this to the low cost of energy in the country and a developmental problem in the building industry.

"Developers have no incentive to build environmentally friendly buildings. In First World countries one can't get planning approval without a virtual energy audit [assesses energy consumption of the structure]," comments Stucky, suggesting that the South African building industry might have to comply to similar regulations soon.

Harrowsmith has detected a shift in South Africans' attitudes to the environment. "I think that the drought and the water shortages are fuelling the fire of green architecture's popularity.

"People who have never cared before are suddenly asking questions, such as: 'Why can't I just turn my sprinkler on anymore?' and 'Why isn't it raining?'

When they find the answers to their questions, then they will start asking: 'What can I do about it?' "

Looking for a green building solution?

- **Environment Responsive Architecture specialises in alternative homes and buildings, earth-sheltered homes and geothermal energy systems. Call 011-482-1994**
- **N'Kozi Homes for all your geodesic-dome home requirements. Visit www.nkozihomes.co.za or call 021-552-7660**
- **Eco Design Architects & Consultants specialise in green architecture. Call 021-462-1614, or e-mail ecodesign@mweb.co.za**