

Nesting instincts

This century, urban nomads will live in smart houses that are flexible enough to adapt to any environment.

story Roy Eccleston

You are an urban professional in 2021. The project you are working on is completed. Your employment contract is therefore terminated. To survive the ultra-rationalist 21st century, you, your partner and your two children will have to relocate – across town, country or maybe the globe. But fear not, urban nomad, the house of the future comes with you.

Well, that's the sales spiel for the Slinky House, winner of Museum Victoria's competition last year for the house of the future. You know the Slinky – the wobbly coiled kids' toy that miraculously walks itself down stairs. A group of Melbourne architects has developed that idea and used it for something completely different – the skeleton of a tubular, multi-storey, portable house that folds flat like a Chinese lantern.

The idea, says architect David Beynon, is that you can take your house just about anywhere and set it up quickly, without having to rely on existing services. Maybe your Slinky will hang over a city laneway; maybe it will sit, tick-like, on an existing office building. Attached to the Slinky's external frame are oval floors

made from recycled plastic. The furniture is air or gel-filled, so the house can be collapsed for transit. Power comes from the sun, water is recycled or collected from rain, and waste is filtered and decomposes on site.

The AVJennings model of the new century? Maybe not. "It needs a lot of research and development first," concedes Beynon, whose firm, AlsoCAN, worked with a company called Multiplicity to produce the award-winning design. "I think there's a demand for something more flexible, with more modularity, and you're starting to see that with people moving into the inner city where development space is more finite."

That, at least, is one vision of the future of housing – and not a very reassuring one from the perspective of a century in which we valued job security and a house with foundations underneath. It's certainly a long way from the bricks and mortar still in vogue at Mawson Lakes, a real housing development under way 12km from the Adelaide CBD. The site was supposed to house the multi-function polis – remember the MFP? That was going to be a genuine 21st century city, full of the latest technology, pointing the way to a better future. It didn't

happen. What is going up beside a university campus and a cluster of technology industries on these former paddocks is a project home development that represents an innovative, market-oriented view of what houses in the new millennium will be like.

And there's not a Slinky in sight. In fact, driving around the roads where 3500 homes will be built in the next decade, the overwhelming impression is that many of the houses of the new century look remarkably like the houses that stood at the beginning of the last one. One of the most popular designs, in fact, is a stone-fronted Federation cottage. "We were very wary about going out there and creating George Jetsonville," says Chris Branford, town planner for the developer, Delfin Property Group. No risk of that. There's some use of technology here, but not enough to confuse those of us who still can't program the VCR.

Each house has a home management system that controls things like air-conditioning, irrigation, security and garage doors. It can monitor water and power use. "It can even turn your spa bath on so it's ready when you get home," says Branford. "You want the modern

technology to use," he says of buyers, "but you don't want to walk around in a *Star Trek* suit to do it."

The floor plans are also different to the way they would have been a decade or two ago. They appeal not just to standard families with kids, but also to older couples who have offloaded their children, and couples who have an older child or parent living in an attached self-contained unit.

Still, the Mawson Lakes home and Slinky House do have features in common. They both provide for some on-site recycling of water and waste; they both occupy far less land than detached homes of earlier this century; they both use advanced levels of inbuilt technology; and they both offer flexibility for households that are no longer typified by mum, dad and the kids.

AT THE BEGINNING OF THIS NEW CENTURY IT IS IMPOSSIBLE TO accurately predict the sorts of houses and cities we'll live in over the next 100 years, but these two vastly different approaches to living point to important trends.

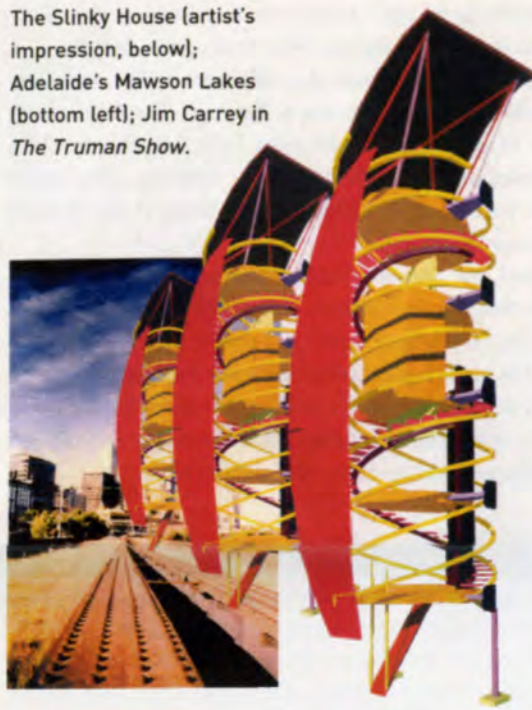
It is clear that the sustainable use of resources will be a major driver of change in the way we live and organise ourselves. The cost of water in Australia will escalate, making recycling and rainwater collection essential in some areas. International research indicates that one in every seven new buildings in the US and Europe by 2010 will have water collection and recycling tanks.

The cost of electricity will impact on house designs, with increased use of solar power. One of the nation's biggest homebuilders, AVJennings, has revealed that on one 630-lot development in Adelaide it is partnering the University of South Australia to develop a system that cuts primary home energy consumption by 30 per cent.

Land will be scarcer, especially within striking distance of the big eastern seaboard cities. This will translate into smaller blocks for detached homes, a continuation of the shift to high-rise in the cities and the transformation of factories and warehouses into inner-urban "infill" residential. No-one is predicting an end to urban sprawl, but the rate should slow.

At the same time, some people will take advantage of the rapid developments in communications technology and live in semi-rural areas. Melbourne futurist Peter Ellyard, of Preferred Futures, says the key trends early next century will be globalisation, tribalisation and technological change. "More and more people are taking part in the global economy, so it means they'll have less

The Slinky House (artist's impression, below); Adelaide's Mawson Lakes (bottom left); Jim Carrey in *The Truman Show*.



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to do with what happens in their neighbourhoods or even their capital cities," he forecasts. "Take country towns. You could run a 21st century business there. Twenty years ago, to be a transnational you had to be a giant. But now if you're a one or two-person company selling a product that's advertised on the Internet to 50 or 100 countries, you could be in a country town."

The quality of our lives, he says, will be determined by what happens in the rest of the world, rather than inside our own country. People will want to be – have to be – good planetary citizens, which will mean not polluting. "In 2020 it will be as immoral to send off carbon dioxide into the atmosphere as it is now to change the climate inside an airliner by smoking."

Ellyard was one of the judges who voted for the Slinky House. But whether we accept new designs built around glass or plastic à la Slinky is likely to have less to do with the available technology and more to do with whether we embrace or shun the future.

Right now we're worried about it, says Professor Michael Lennon, head of the Australian Housing and

attractive to buyers. Key points emerged, says Branford. The old houses were closer to the street; living areas such as porches and balconies were located at the front; car parking was often at the rear; and steeper pitched roofs provided a greater street presence.

This back-to-the-future view goes beyond housing styles to impact on the design of whole communities. In the US there has been angry debate over the theories of New Urbanism, a philosophy that has also found its way into developments like Mawson Lakes.

ANYONE WHO HAS SEEN PETER WEIR'S *THE TRUMAN SHOW* would know what this theory is about – the film was shot at a place called Seaside in Florida, a town based on New Urbanist principles. The idea is to put soul back into the suburbs by reviving old notions of community. This is done by creating small "villages" within developments, offering smaller blocks and providing more pedestrian ways, shared public facilities and spaces.

In some ways, the notion is not far removed from the old walled city, where the outside world was kept out.

Urban Research Institute. We're insecure about our jobs and income. Family stability is undermined by high levels of divorce, and "every solid survey points to a spiritual hollowiness".

It's no surprise that George Jetson was a creation of the future-embracing 1960s. Today, kids watch cartoons like *The Jetsons*, whose job is to fight monsters destroying our environment. "Now we're in an era where people are much more pessimistic," says Beynon. "Back in the '50s and '60s, people thought things were just going to get better all the time, so people thought whatever was new and modern was best." By contrast, many people today long for something that predates some modern technologies, he believes, and this is borne out by demand for the old architectural styles that continue to run through modern project homes.

Delfin Property Group research aimed at identifying the styles of houses likely to be in demand at the beginning of the 21st century confirms this propensity to embrace the past. The researchers photographed hundreds of old Adelaide streetscapes to determine what it was about old homes that made them so

On the other hand, it appeals because it recognises that street-level social interaction has been one victim of modern life. "I don't talk to anyone who doesn't have an unease about the way they live," says Lennon, acknowledging the forces behind this sort of trend. "But when you try to recreate the urban village, the danger is you build Legoland. It's an artificial construct."

"It would be fair to say a lot of what is in this project is picking up some of the Seaside New Urbanist themes," says Branford, who adds that it gives what a good slice of the market wants – a sense of place and a sense of security. AVJennings chief Louis Milkovits agrees with the urban village concept, and forecasts that more people will live in these smallish clusters developed on reused inner-suburban land.

Fear of change doesn't affect everyone, though. The young have grown up with it and adjusted expectations accordingly. Others are wealthy, retired, or comfortable with the converging world of telecommunications and computer technologies. And more and more Australian households don't include kids – a prime reason for choosing suburbia in the past.

In fact, demographic changes will have a major impact on housing in the first part of the century. The Australian Bureau of Statistics estimates that by 2021, the number of households could number about 10 million – a 46 per cent rise. Yet the population will increase by just 24 per cent in that time, which means we'll have fewer people (on average) in each house.

The number of single people living alone will jump to as many as one in seven households. Meanwhile, couples without kids will replace couples with kids as the most common family group, due to a combination of lower fertility in the young and older "empty nesters" seeing their children leave home.

Clearly, powerful social change is afoot. Perhaps with fewer people to live in them we'll have smaller homes in future, although figures to date say that the opposite is the case. Yes, block sizes have shrunk and the size of the average household has shrunk, but new houses in the five years to 1999 increased in size by 17 per cent on average, often with a second storey.

"The death of the nuclear family as we know it is well advanced," says Ellyard, the futurist. "But the housing stock reflects the social mores and structures of 25 years ago, with two parents and two kids. We're not building houses for single-parent families who might like to work in a collaborative arrangement. Imagine a house with four flats for single parents and a couple of kids and a shared space where people might get together for babysitting. You look at Generation Xers now. They're living in groups into their 30s and they're happy with that. My view is, the people who start building these are going to get killed in the rush."

Maybe, but that doesn't mean we should kill off that suburban icon, the three-bedroom detached house. There's no way it will die, says town planner Lennon. "The reason is, families aren't stupid. A backyard is more than a piece of space, it's a place you grow children."

Patrick Troy, a professor of urban planning at the Australian National University, is also certain the detached home is here to stay for the foreseeable future "because that's what people want". Troy believes the suburban house has built the nation an

envious standard of living, and will survive because of its flexibility. You can add to it as your family's needs expand, he enthuses. When the kids leave home, you keep one bedroom for guests and turn the other into a workroom. The garden? That becomes a major part of your recreation, because "people can't spend all their time cruising coffee shops".

The suburban home is far more environmentally sound than high-rise developments, he insists. The roof area allows water catchment and solar power, and the garden can be used to recycle waste. Troy says none of these outcomes can be achieved in apartments, which not only need large amounts of power but also leave too little open ground for drainage because of their density. The upshot is stormwater run-off, a major pollutant of Sydney Harbour and Melbourne's Port Phillip Bay.

Not everyone agrees that the boom in multi-storey apartments in Australia's capital cities is as injurious as Troy argues. The three-bedroom house on its own block has fuelled urban sprawl, car pollution, and the need for more and more infrastructure. Graham Jahn, NSW president of the Royal Australian Institute of Architects, believes city centres will continue to attract people for lifestyle and economic reasons. "I think there'll be more market differentiation, headed by Sydney, the Gold Coast and maybe Melbourne, between a more acceptable high-rise style of living compared with the single building on the ground," he says. "A greater proportion of the population will be housed in urban areas, particularly apartments, within the next 50 years – that's completely certain."

Old and existing homes will continue to be renovated. But new building materials will be synthetic, because extracting them from the ground will become too costly. This raises the issue of new technology in house design and construction. The Internet has changed the way we relate to the rest of the world, in everything from banking to shopping, buying and selling shares, and getting our news. The move to digital television is destined to accelerate this change.

One thing we can expect is a house that reacts to changing conditions, and more interactively with us. In his recent book *Visions*, US physics professor Michio Kaku writes of a life in 2020 in which you are woken each morning by the smiling image of your computer-housekeeper, who has already printed your personalised newspaper by scanning the Internet. When you walk into the kitchen, your appliances switch themselves on for coffee and toast, and the fridge tells you: "You're out of milk. And the yoghurt is sour."

Richard Hart, a San Francisco-based journalist and television presenter whose programs focus on the future, says US research points to homes in which the technology will disappear from central entertainment-information areas and reappear inside everyday appliances like refrigerators, toasters and bathroom mirrors.

Casting ahead to 2030, Hart says homes will continue to be built out of the same materials. Change will come in the way the home environment behaves. Intel, the computer chip maker, speculates that the refrigerator will be the first appliance computerised to provide information, messages, news and the like. Why? For the same reason the fridge door is festooned with magnets and messages today – it's a focal point of

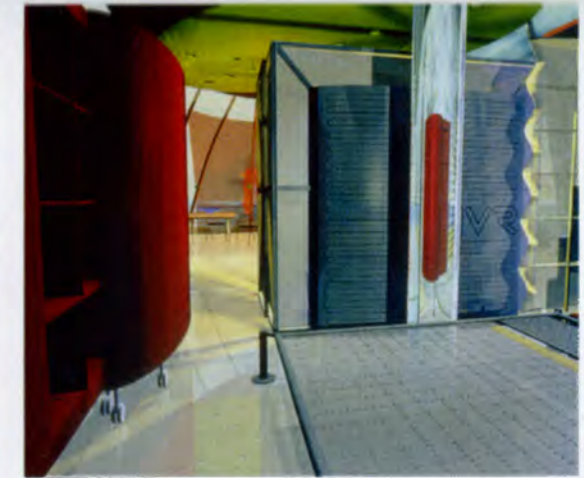
every house. A liquid crystal display will appear within the bathroom mirror, so anyone shaving or applying make-up can read the latest news headlines and sports results. Others see your bathroom giving you a medical check, automatically sensing temperature, blood pressure, insulin levels and other vital measurements.

Intel's idea is to develop a "connected" house in which technologies are linked without the need for new wiring, instead using phone lines, infrared and radio frequencies. It aims for Internet connections dozens of times faster, allowing instantly downloaded movies and high-fidelity music. It wants users to be able to work the technology with voice, handwriting or by gesture.

In the home of the future, appliances will talk to each other, says Hart. When the curtains detect heat



The future as seen in the '60s cartoon *The Jetsons* (left); Hyperhouse glass wall, and bedroom.



The Hyperhouse will be walled with treated glass. "Imagine a soft, modulated ripple that runs through the glass so the room feels like it's under water."

from the morning sun in winter, they will shut off the heater; when the garage door opens, it will analyse brightness levels and turn on a light, if needed.

In the house Michael Trudgeon has in mind, curtains will be a thing of the past. The Melbourne industrial designer with architectural training says his Hyperhouse will be walled with specially treated glass. Like the Slinky House's creators, Trudgeon foresees a future in which people move around much more, change jobs and relationships more often, and are more at home living in higher density cities. The increasing use of the Internet for communications, coupled with globalisation, will mean "all places have equal potential".

Trudgeon's idea of a future house is one which is an "organism" that can respond to changes. Given that it is now easy to erect a house frame from extruded metal, he has concentrated on the "skin" – and believes that glass is the answer. With the potential for different chemical coatings and built-in electronic circuits, glass can be turned from clear to virtually black by running electric currents through it. It could also be used to harness solar heat for electricity, or act as a TV or computer screen.

"It permits different ways of customising your home," Trudgeon says. "Imagine you had a soft, modulated ripple that runs through the glass so the whole room

feels like it's under water; or the light might look dappled, as if it's coming through leaves." Coupled with a mobile bathroom and kitchen he's designing, "you've got a space you can reconfigure – its walls, its skin, the floorplan – within seconds". As for location, it could be the beach, on the roof of an existing building, or a large glass tower divided into many units.

If this seems a little radical, Trudgeon says it's because we've been let down by a fragmented building industry that has failed to focus on serious research and development. If car manufacturers had taken the same attitude, he says, we'd still be driving around in gas-guzzlers.

One thing that's unlikely to change is the home's place as a buffer between ourselves and the world, argues Melbourne University associate professor of architecture Kim Dovey. Architects are often frustrated by people's tendency to be conservative in their choice of house design, he says, even when they favour more radical plans for public buildings. "I think there are some unchanging things about home," he says. "It tends to be a stabiliser for people's identities. A house sets aside our private space, it establishes our identity in relation to others, it controls weather, light, temperature, safety."

All of which might well apply to the Slinky and Hyper houses. Fear not, 21st century nomad. ☺