

Hindsight: Ken Yeang on blazing a trail for ecological design



Ken Yeang talks about his five-decade-long career, creating his own experimental passive house in 1985 and how was only in the early 2000s that clients started asking for green buildings

Interview: Pamela Buxton

Ken Yeang, 74, has been a pioneer ecological design since 1971. He founded Hamzah & Yeang in 1977 with Tengku Robert Hamzah, who he studied with at the Architectural Association.

Knowing what you know now, did you make the right decision to be an architect?

Most definitely. As an architect now for nearly 50 years, I have enjoyed most moments despite the ups and downs – it can be a life of feast and famine. But if I was reincarnated, I don't think I'd want to come back and go through all the palaver again. If I knew as much as I do now about green design, I would have wasted less time on trivial aspects and would have done everything much better and greener.

What sparked your interest in architecture?

In my teens at Cheltenham College I had a keen interest in art and spent a great deal of time painting. Architecture seemed an obvious subject to study at university.



Roof-Roof House, designed by TR Hamzah & Yeang. The passive-mode, low-energy house was completed in 1985 in Kuala Lumpur

I was also greatly influenced by my uncles, who at that time, in the 1960s, were developers in London. Two of them had studied architecture at Regent Street Polytechnic.

How important was your time in the UK to your development as an architect?

After Cheltenham College, I trained at the Architectural Association and did a doctorate at Cambridge. I was only 17 when I went to the AA and was the youngest in my year. I really enjoyed it and found that I could do it reasonably well. Those who influenced me greatly at that time were my first-year master, Elia Zenghelis, who was a modernist through and through, and my fifth year master, Peter Cook. I was also influenced a great deal by Charles Jencks, who became a close friend.

When I worked one summer at Louis de Soisson Partnership on the Brighton Marina, my immediate boss was Eva Jiricna. Overseeing us was Nathan Silver. I did some illustrations for his book on Adhocism, which he wrote with Charles Jencks.

During my time there the English sense of humour became second nature to me. At that time it was Kenneth Horne, Steptoe & Son, the Carry On series and others, though its hilarious subtleties were difficult to explain to others elsewhere such as the USA or the Far East.



Extension to the Great Ormond Street Hospital in London by Llewelyn Davies Yeang, completed in 2012

When did you realise you were drawn towards ecological design?

If you went to the AA Members' room and stayed long enough you'd meet everyone in the architectural world. One night I was introduced to John Frazer, who was doing research on the 'autonomous house' project, an idea first mooted by Buckminster Fuller. He asked me if I'd work on the project there and then, and I agreed.

However, six months into the project I realised that what we were doing was essentially engineering without adequate engineering support from industry. I felt that the bigger picture of ecological design needed to be first addressed. So I obtained leave to be a research student; to do a doctorate on ecological design and planning, and attended lectures on ecology at the Department of Environmental Biology. Ecological design and the sub-set of bioclimatic design became my life's agenda. The research habits also stuck, and our practice today is very much research-driven. By the early 2000s, I started having clients asking for green buildings. It took 30 years. Architecture is an old man's game. Our current work is on developing various experimental built systems in ecological architecture and infrastructures

You've been in practice for nearly 50 years. Has it been a good time to be an architect?

The business of architecture is totally susceptible to the ups and downs of the economic cycles, with the troughs occurring every nine years or so. It can be a struggle during times of recession.

Like any business, in accordance with the Pareto Principle of the 19th-century economist Vilfredo Pareto, the top 20 per cent get the



Suasana in Putrajaya, Malaysia, designed by TR Hamzah & Yeang

bulk of the business and live reasonably well with the other 80 per cent scrabbling over the remainder. But only the top 2 per cent get the cream and can become reasonably wealthy, often through progressive acquisition of properties during the boom times. I do okay, but now I want to move up to that 2 per cent.

What was your breakthrough project?

My first was an experimental passive-mode, low-energy house in Kuala Lumpur that espouses bioclimatic principles, and which has a number of climate-responsive experiments in it. It completed in 1985 and became a benchmark for a lot of our other bioclimatic projects. It's actually my own house where I still live – I call it the Roof-Roof House.

I subsequently advanced the bioclimatic principles to the high-rise built form in the Menara Mesiniaga tower, completed in 1991 near Kuala Lumpur. The principles of mixed-mode low-energy design were later applied to a building in the temperate climatic zone, the Great Ormond Street Children's Hospital Extension in London, where we incorporated an energy-saving glass flue-wall device in the facade.

What project are you most proud of?

We regard 'our latest as our greatest'. One of our recently completed buildings is the Suasana in Putrajaya, Malaysia, which has a faceted façade like a jewel. We used fritted glass panels as part of a double skin instead of sunshades, and the building consumes 30 per cent less energy than a comparative similar building. We also created constructed habitats within the built form to enrich the local biodiversity.

Right now I'm at the design stage on a huge mixed-use complex near India. We're planning a broad swathe of green eco-infrastructure.



Menara Mesiniaga bioclimatic tower, designed by TR Hamzah & Yeang and completed in 1991 near Kuala Lumpur

ture that traverses across the mid-level of the entire building podium in a nexus with the ecology of the site.

What has given you the most satisfaction in your work as an architect?

Besides being hyper green, I regard the purpose of architecture as to give happiness and pleasure to the lives of the people who use or visit our buildings. Achieving this in some of our projects and having it affirmed to us afterwards by the users is probably the most gratifying aspect of my work. It simply justifies the raison d'être of why I am an architect in the first instance.

What has been the biggest obstacle to overcome?

When we first started in the mid-1970s, it was extremely difficult to get clients to accept a green architecture. The only way was to design buildings that were climate-responsive (bioclimatic) as passive-mode, low-energy structures that could be armatures for later addition of ecological features. We also designed mixed-mode buildings with partial MEP systems as low-energy buildings. By the time clients started asking for green buildings,

in around the late 90s, we had better engineering support from industry. Our early believers and supporters included Battle & McCarthy, and friends such as Paul Hyett, Paul Finch and Dr James Fisher.

Have your priorities in practice changed over the years?

No. Ecological design has been consistently our primary focus and design agenda. We believe there are four sets of ecological infrastructures that need to be bio-integrated into a designed system: nature (the ecosystems and the biogeochemical cycles); human society (its socio-economic-political-institutional systems); the built environment (artefacts and technologies) and hydrology (water management and regimes). We need to synergistically bring all these systems together into a whole.

Is it easier, or harder, to get high-quality projects built now than when you started out?

It has become more complex and onerous, as there are numerous other aspects such as achieving near net zero energy and carbon, near net zero wastes, and maximising positive ecological impacts, etc. As Kermit the frog sang, 'it's not easy being green'.

What do you think has been the secret of your practice's success?

I am not sure, but I believe there are three factors. The first is that I greatly believe in 'focus' in that we cannot be too many things for too many people. The second is that having business acumen is absolutely vital. We are never taught how to run a practice as a business at architectural school, so in the early years of my practice, in the 1970s, I took night classes in business management. This does not guarantee success, but it provides a systematic basis for operating a practice as a business. Today the application of what I learnt is different in the digital world, but the principles remain the same. The third factor is in developing effective human relationships, not just externally to the business but internally within the company.

Looking back on your work over the years, who have been your biggest influences?

There are a few: Professor Ian McHarg, the landscape architect and planner who invented the ecological land use planning technique; the philosopher Alfred North Whitehead who advanced the philosophy of the organism; and Ludwig von Bertalanffy, a systems scientist who developed the general systems theory.

Is there anything you wish you'd done differently?

If I were to live my professional life again, I'd do an MBA before starting practice as this would give me an edge on others already

in the field who did business intuitively. It was not until the early 2000s that I attended a short course at Harvard Business School. It was only a week, but it radically changed my thinking about practice and my outlook on the world.

Do you think the profession has taken too long to get to grips with the need to design sustainably?

It is not the profession per se that is at fault but the way architects have been taught – schools are taking too long to adapt their curriculums. It is crucially vital that architects learn ecology so that they become conversant with the processes of the natural environment's systems that take place in the ecosystems and in the planet's bio-geochemical cycles. Ecology needs to be taught at all schools of architecture; it affects all building site planning, the choice of built and energy systems, the selection of materials and handling of waste, water conservation and hydrology etc.

Architects' Declare is a very good movement and is expanding internationally. But human social, economic and political systems need to change radically if we are to live more sustainably.

Do you have a dream project you'd still like to achieve?

No specific project, but before I start pushing up daisies, my dream is to achieve as much as I can in my ecological agenda of ecomimesis (the emulating, replicating and augmenting of ecosystem attributes) to remake our built environment into constructed (human-made) ecosystems. I'm also interested in cybernetic building – applying smart systems to ecological design.

What is your most treasured possession?

Life itself is my most treasured possession; to be able to live, to discover, to invent and to advance the field of ecological design for the benefit of humanity, and of all the species and their environments in the planet.