

Complex *Simplicity*

This house in **IPOH** in **MALAYSIA** is built for a family whose lifestyle is a cross-cultural mix of contemporary and traditional. **PHILIP DREW** explores the way architects **MARRA + YEH** have adapted traditional strategies to respond both to a tropical climate and to a local and family culture. And Law Siak Hong provides some context.

TEXT PHILIP DREW, LAW SIAK HONG PHOTOGRAPHY BRETT BOARDMAN

Few environments are as challenging as the tropics. A scorching overhead sun, drenching precipitation and sticky humidity all conspire to turn daily life into an enervating struggle within a huge sauna bath. Air-conditioning is not acceptable. A much better solution is to capture the wind under a shady umbrella.

The Kubik house at Ipoh, a city with a population of 700,000, 200km north of Kuala Lumpur in Malaysia, illustrates how, from their knowledge of the traditional Malay house, architects Marra + Yeh applied its lessons to a hot, humid, tropical rainforest environment. In the tropics, shade and ventilation are imperatives. In essence, the traditional Malay house consisted of layers of shade – first of all making use of the coconut tree canopies around it, below this, roofs of atap, and a raised floor platform, in-filled with shuttered, carved timber panels assisting in the cross-flow of air. Simple and effective, it was also a culturally rich artefact.

Ipoh has already experienced climate change effects. It is becoming hotter and more humid from highs of 35–37° Celsius to lows of 21–22°C, annual precipitation of 2,340mm, with a November maximum of 320mm.

As humans, we are accustomed to imposing our will on nature. Overriding and denying it, we feel more in control and more secure. In less extravagant times, a feeling of cooperation with nature often informed traditional, anonymous buildings that worked with, instead of against, nature. Two important books in the 1960s – Victor Olgay's *Design with Climate* (1963) and Ian McHarg's *Design with Nature* (1969) – promoted the message of sensitive cooperation, while rejecting the arrogant assumption of superiority and power over nature. Today, design with climate is more honoured in the breach than in compliance.

Much of what both these authors argued has been neglected, to the point where today, we have so radically altered the impacts of human activities on the world that our future wellbeing is threatened by accelerating climate change. Instead of considering the impact of our activities, contemporary architects seem obsessed with bizarre shapes and visually striking novelty solely for its shock effect, that turn architecture into large static advertisements.

Surrounded by limestone hills over the Kinta River valley, Ipoh, until the 1970s, was Malaysia's second city for administrative purposes, it de-



Ken Yeh describes the design as a 'wind instrument'. Such is the absolute importance of achieving air movement across the house in a hot, wet environment.



rived its wealth and importance from tin mining. Many of its craftspeople were trained by Shang-hainese guilds, a factor that has tempered local culture and resulted in the survival of high levels of craftsmanship.

In the Kubik house, the lady of the house is Chinese with numerous relatives, and hence, required a large, open social space for family gatherings. The client is a German engineer and medical instrument manufacturer and consultant. These rather special cultural demands resulted in an interlinking combination of communal and private areas. Furthermore, extreme measures such as security grilles and gated communities are commonplace, such is the widespread fear of domestic crime and burglary. This, in turn, runs counter to the climatic demand for excellent cross-ventilation with the implied need for a large number of openings.

Architect, Ken Yeh describes the design as a 'wind instrument'. Such is the absolute importance of achieving air movement across the house in a hot, wet environment, the external walls that surround the main communal ground floor and face the prevailing south-west wind coming up from the valley are completely opened up.

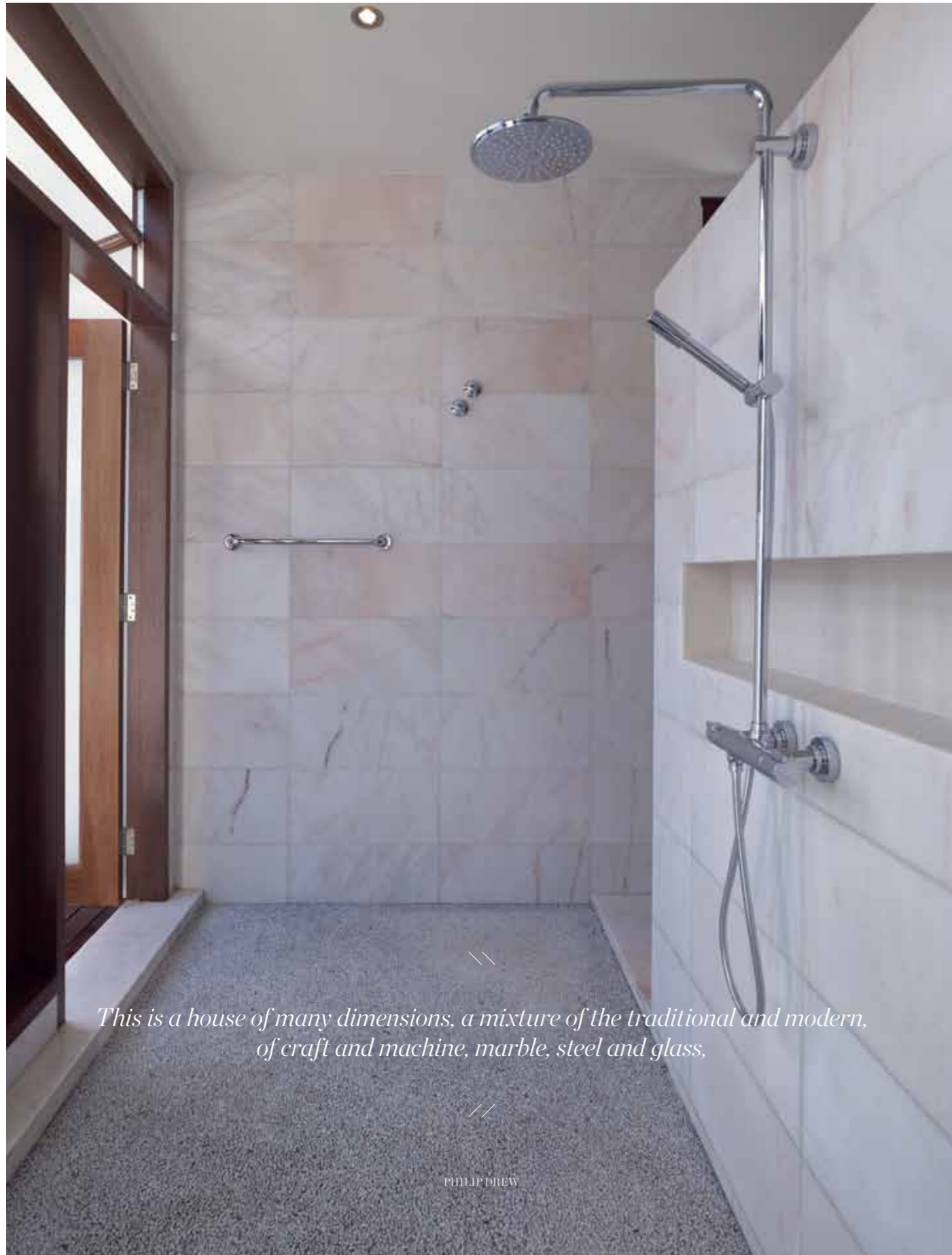
Olgay advocated long, thin, east-west shapes. However, on the Kubik house site, this proved impossible because of its unusual trapezoidal configuration. To further complicate matters, the site had been bulldozed into a small upper entry level at the street access, with a larger flat terrace three metres below it where the dwelling itself could be sited. To accommodate this profile, the section was split into an intermediate entry (where the client also has a private study), a main communal space, kitchen and dining, with maid's flat to one side opening onto a garden. Above the entry level are the master and daughter's bedrooms and guest room. This straightforward layout is both practical and neat.

Ipoh is a little over 4° north of the equator. Hence, the sun moves both north and south and must be addressed by roof overhangs on both sides. The projecting roof keeps the rain off the walls and intercepts the sun, thereby avoiding heating the walls during the daytime and preventing them from re-radiating at night.

The long west elevation is exposed to the late afternoon sun which entailed a large 32m² sunscreen and eyebrows on the smaller window openings to deal with sun penetration.

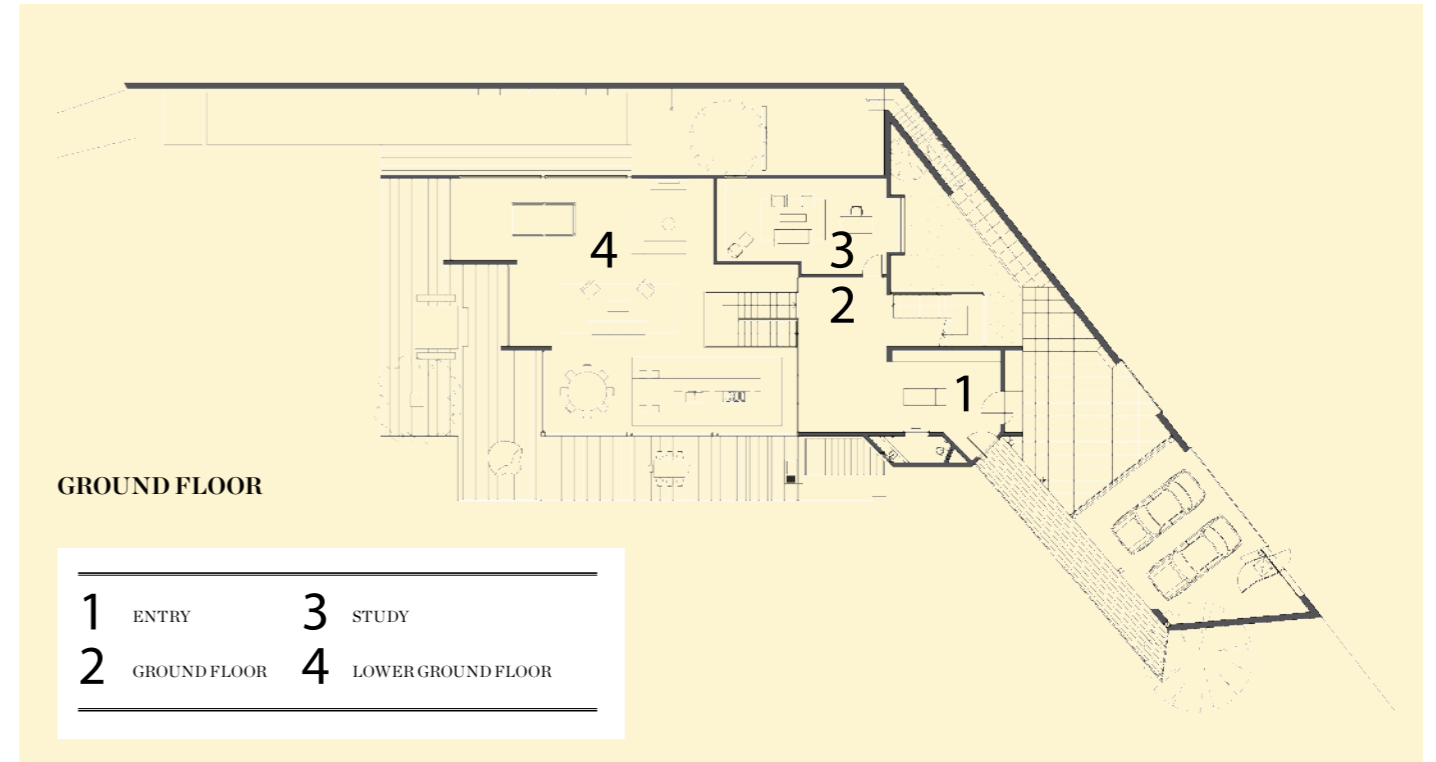
The plan is subdivided into three, four-metre modules that give much-needed flexibility in accommodating the awkward trapezoidal site. This has resulted in a stepped street front and at the rear opposite elevation, which breaks up what might otherwise have been a bulky cubic form. This has an additional advantage in that it breaks down the form into rhythmic steps that appear to stream the airflow. Thus, the expres-

ABOVE | THE KITCHEN, LOOKING TOWARDS THE LIVING/DINING SPACE WITH A LARGE, CUSTOM-DESIGNED SCULPTURAL LIGHT. OPPOSITE, TOP | THE MAIN STAIR CONNECTS THE LIVING/DINING AREA WITH UPPER GROUND FLOOR ENTRY. OPPOSITE, BELOW | ENTRY IS ON THE GROUND FLOOR, OVERLOOKING THE DOUBLE-HEIGHT LIVING/DINING SPACE BELOW.



This is a house of many dimensions, a mixture of the traditional and modern, of craft and machine, marble, steel and glass,

PHILIP DREW



sion of each projecting wall blade slices the wind into separate air streams and reduces the apparent architectural scale.

The dichotomy between handcraft and machine production has long been an uneasy one. In the 1920s, modern architects relied heavily on skilled craftsmen to create the impression of a machine architecture. Now that industrial technology has caught up with the building process, craft is frequently resorted to in order to fill the gaps. In Ipoh, skilled metalwork survivors from the era of tin, and Chinese craftspeople provide a wealth of skills to complete individual design pieces. Marra + Yeh have incorporated large, locally made sculptural lights, grilles and shade hoods that lend a touch of individuality to the interior, but would be prohibitively expensive elsewhere. These elements, along with the use of marble contribute to an impression of quality and precision.

Plants on the south and west block the sun, just as the coconut palm canopy once shaded the traditional Malay house. At ground level, the doors to the outside terrace remain open, each opening paired with another opposite for through ventilation. The main stair is enclosed in glass to trap heat and natural convection is reinforced by wind workers on top to draw air

through. Rainwater from the roof is captured and stored in tanks to supply the indirect evaporative coolers in the ceiling of the living room. These are simple processes that have been reinforced and assisted to make them more efficient by adding new, innovative low-energy technology.

In the TV area of the main living room, an exposed steel column accentuates the division of the space in an act of homage to Mies van der Rohe's Barcelona Pavilion that seemingly acknowledges the German heritage of the client.

This is a house of many dimensions, a mixture of the traditional and modern, of craft and machine, marble, steel and glass, Chinese and German, and Christian and Islamic cultures, that, despite its apparent simplicity, evokes and underlines a defining complexity and richness.

South-East Asia is rushing headlong towards what it conceives as modernity and progress. In its rush to catch up, it is destroying much that is of value while imitating the most trite and shallow aspects of the West. The Kubik house's benign combination of the subtly old with smart green technology indicates the way to a more successful, sensible future.

LEFT | THE MASTER SHOWER IN MARBLE, WHICH ADJOINS THE MASTER BATHROOM WITH SLANTED WINDOW OPENINGS TO SHADE AGAINST THE SUN. ABOVE | PLAN SHOWING GROUND AND LOWER GROUND LEVELS.



DROP BOX

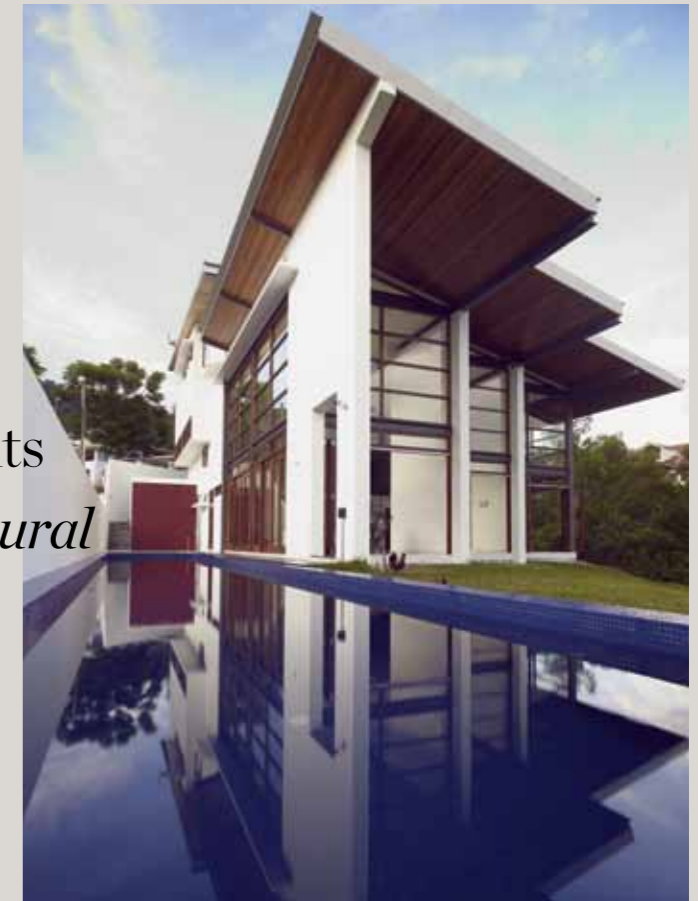
ARCHITECT *Marra + Yeh Architects*
 PROJECT TEAM *Ken Yeh, Carol Marra, Goldie Peligrino, Chee Wai Kheong, Julie Cheah*
 STRUCTURAL ENGINEER *SL Chan*
 CONTRACTOR/BUILDER *FirstCon*

Marra + Yeh Architects
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| <p>LIGHTING All lighting is Louis Poulsen and Artemide from Lightcraft.</p> <p>FINISHES Local marble and timber, granite, pebble wash and Colorbond roof.</p> | <p>FIXED & FITTED Fixtures are custom designed by Marra + Yeh. Taps and showerheads from Roca and Grohe. WCs from Roca. Basins from Roca and Caroma. Appliances by Gaggenau from Kitchen Culture. Hardware from Häfele.</p> |
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ABOVE LEFT | THE KUBIK HOUSE LOOKS OUT ON TO THE LIMESTONE HILLS OF THE KINTA RIVER VALLEY. ABOVE RIGHT | A SKYLIGHT OPENING ON THE ROOF.

LAW SIAK HONG is an *architectural historian* based in **Ipoh**. Here, he puts the **Kubik House** in a *cultural and historical context*.



Prosperity came to Ipoh by way of rich tin deposits, making it the richest and most important town in the Kinta Valley by the early 20th Century. From a small village along the Kinta River, it became the state capital with beautiful buildings, wide streets, cinemas, and dance halls. Ipoh was once the biggest consumer of Mercedes Benzes and Hennessy XO Cognac outside Europe, *de rigueur* symbols of wealth in this far flung outpost of the British Empire. Intense economic activity due to the extraction of natural resources led to building booms (and busts) and it was here that a young Danish architect by the name of Berthel Michael Iversen came to make a name for himself. Trained in the Modernist genre with enthusiasm for an exciting world in which architecture was free from stylistic conformity, Iversen arrived in Malaya in 1928. He found work in Singapore and came to supervise works on-site in Kuala Lumpur and Ipoh, “trying to get the Chinese contractors to find pride and pleasure in producing good work”. He set up his own Ipoh office in 1934, with branches in Kuala Lumpur and Penang, eventually becoming one of the most notable architects in town.

By the 1950s, his office was receiving many public commissions – the National Geological Department and the Veterinary Research Institute, numerous private residences, commercial developments and nearly every local cinema. Iversen’s architecture, though grounded in Modernist ideals, incorporated keen observations of the vernacular. His buildings show an awareness of the tropical climate, such as the need for constant unimpeded ventilation and for tempering the harsh tropical sun. It is here that Iversen’s ideas intersect with those of the husband and wife team at Marra + Yeh Architects. Carol Marra explains, “Iversen struggled with the difficulties of his time – war and its consequences, shortages of labour and materials, political instability at the end of the colonial era, and the natural resistance to his ideas and methods in a foreign land. Today, we struggle with a different set of circumstances, the homogeneity of globalisation, the acute scarcity of craft and, still, the resistance to new ideas. Where we find resonance with Iversen is in his resourcefulness, not relying on imported British components, but using readily available local materials in inventive ways. He was

sensitive to the climate and devised an entire vocabulary of ventilation elements that we see repeated and refined throughout his work.” Marra + Yeh have taken a similar approach at the Kubik house, making use of local materials and craft while working within the legacy of the modern movement and its ideals. They apply their international knowledge and experience, yet are conscious of their own cultural backgrounds. Carol is a native of Buenos Aires, and Ken is from Ipoh. They met at university in Texas and now call Sydney home. This may seem a potent mix, but it was just the ticket for the client who wanted “something different from the common Malaysian architecture”, a place that would bring the family closer to the lush tropical environment. In practice, the house has changed the family routine from one where much time was spent in front of the TV to “now having a garden and pool and many more outdoor and social activities”. For Marra +Yeh, they can design for the climate, and also entice people to live with it.

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ABOVE | POOL ADJOINING THE LOWER GROUND FLOOR LIVING AND DINING SPACE WITH A VIEW TO THE NORTH. AIR MOVEMENT IS ENCOURAGED ACROSS THE HOUSE.