

The voice of design in Singapore and Asia.

CUBES



FOR GREATER GOOD | ISSUE #100

With thoughts from: Andra Matin, Asylum, Caroline Burns (Workplace Revolution), Chang Architects, COLOURS, Formwerkz Architects, Freight Architects, g8a, Geyer, Greymatters, Guz Architects, HASSELL, Hibino Sekkei, Humn Wai, ipli Architects, Lekker Architects, MKPL, Nathan Yong, Park + Associates, Ramboll Studio Dreiseitl, SCDA, Serie Architects, SHAU, Studio Jujū, WOHA and more...

Singapore is geographically primed for natural complexity in its ecology, and could greatly benefit from the many offerings of rich ecosystems. But the island is primarily experienced as a preened garden. For our own good, is it time we embraced a messier urban wild?

Curated Garden, Or Curated Wild

Words *Narelle Yabuka* Photography *Various*

Opposite: The multi-award-winning Bishan-Ang Mo Kio Park by Ramboll Studio Dreiseitl, with its meandering naturalised watercourse, has become a place to take your shoes off and get close to nature. Photo: Ramboll Studio Dreiseitl.

My hopes, and those of many others, for a loosening of the mower's grip on urban Singapore were dashed when post-lockdown grass cutters took to the ground around my home in July. Goodbye flowers, butterflies, bees and earthy scent. Hello again de-animated lawn shorn within centimetres of death.

Just a few weeks prior, *The Straits Times* reported on positive public response during lockdown to the "rustic" wilds of Singapore's spontaneous vegetation and unmaintained urban lawns, as well as NParks' latest additions to its Nature Ways initiative.¹ The latter is seeing the implementation of road verges that are purposely less manicured, with more native species of trees and shrubs that in time will mimic the structure of a forest. By 2030, said the article, the current 100-plus-kilometres of Nature Ways will be expanded to 300 kilometres. This is just part of NParks' ambitious plan to propel Singapore from a 'City in a Garden' (previously a 'Garden City') to a 'City in Nature'.

The 'City in Nature' mandate is astonishingly vast in aim and somewhat contrary in spirit to Singapore's well-practised commodification of plants in unnatural tourist attractions. It also seems at odds with the unforgiving mowing and clipping regime that lingers from the internationally enticing 'Garden City' version of Singapore. The 'City in Nature' mandate goes so far as to encompass the notion that nature lovers will precipitate "a more gracious and caring society".² It sounds good, but will we get there if a wilder 'nature' is experienced only at arm's length through the windshield or recreationally in reserves? Furthermore, are we missing out on the potential benefits of a more naturalised urban landscape at a time (hello climate change) when they are greatly needed?

Wildness at arm's length

"We have always separated our wild areas from our manicured areas," says landscape architect Leonard Ng, country market director at Ramboll Studio Dreiseitl's (RSD's) Singapore office. RSD has consistently worked toward more 'naturalised' and biodiverse parks and gardens, for example, Bishan-Ang Mo Kio Park and Lakeside Garden at Jurong Lake Gardens (the latter with CPG Consultants). Ng continues, "It's a very distinct separation, and the public has gotten used to the way things are maintained." So much so, that when plants in RSD's projects have been deliberately allowed to become "a bit overgrown", people have queried why maintenance has fallen away.

Ng happily acknowledges that this attitude is evolving in COVID-19-era Singapore, with more people questioning why

the beautiful and biodiversity-promoting naturalised verges of lockdown can't become more permanent. But there remain differences in opinion, Ng cautions, about just how much wildness is considered to be 'acceptable'.

"Before we did Bishan-Ang Mo Kio Park there was concern about safety. 'What if somebody drowns?'" he recalls. "I think the same uncertainty is confronting us now with regard to how we maintain our streetscapes. In moments of uncertainty, you imagine what could go wrong. Maybe we should use this opportunity to change mindsets – what can go well, and how can we control those things that could go wrong?" he says.

Wired for wildness?

Associate Professor Yun Hye Hwang, a landscape architect and director of the National University of Singapore's new Bachelor of Landscape Architecture Programme, is a vital authority on the ecological benefits of urban wilds in tropical cities, and the public perception of them here.³ She has spent years studying the potentials of 'intended wildness' in Singapore. The key to its success, she says, is designing for a natural succession of planted and unplanted vegetation, maintaining and promoting floral diversity, and mimicking natural ecosystems – for example by maximising flora and fauna interactions. Providing 'cues to care'⁴ (such as tidy edge conditions, boardwalks, benches and focal points) is one of many actions undertaken in intentional wilding, she says. Another is controlling invasive and aggressive plant species.

A paper co-authored by Hwang, titled 'It's Ok to be Wilder',⁵ documents a study into the acceptance of wildness in Singapore's urban green spaces via perceptions of varying degrees of wild growth. The conclusion was that people were generally not against moderately wilder urban green spaces in the right context (not on a sports field, for obvious reasons), and that the closer people already were to plants and nature in their lives, the more accepting they were. "There's no significant correlation with age, gender or education," explains Hwang. "The most significant link is growing plants at home – connecting with them as living things," she adds.

Among the ecological benefits of more complex and heterogeneous landscapes (that is, natural forest ecosystems rather than heavily maintained gardens), says Hwang, are nutrient accumulation in the soil, the prevention of erosion, heat mitigation, and purification of air and water. The more complex environments that would replace unmowed lawns would in turn attract more wildlife (as we witnessed during lockdown), including mosquito predators.

Opposite, top and bottom: A transitional tidal edge and grassland intertidal habitat at Jurong Lake Gardens by Ramboll Studio Dreiseitl. Photos: Ramboll Studio Dreiseitl. Pages 110-111: Point-cloud model of the Rail Corridor in Tanjong Pagar, scanned from 20 locations. Image from *Future Cities Laboratory Indicia 2*, pp.18-19. Data collected with permission from NParks and Singapore Land Authority under research permit number NP/RP17-039. Data collected and processed and image created by Philipp Urech.

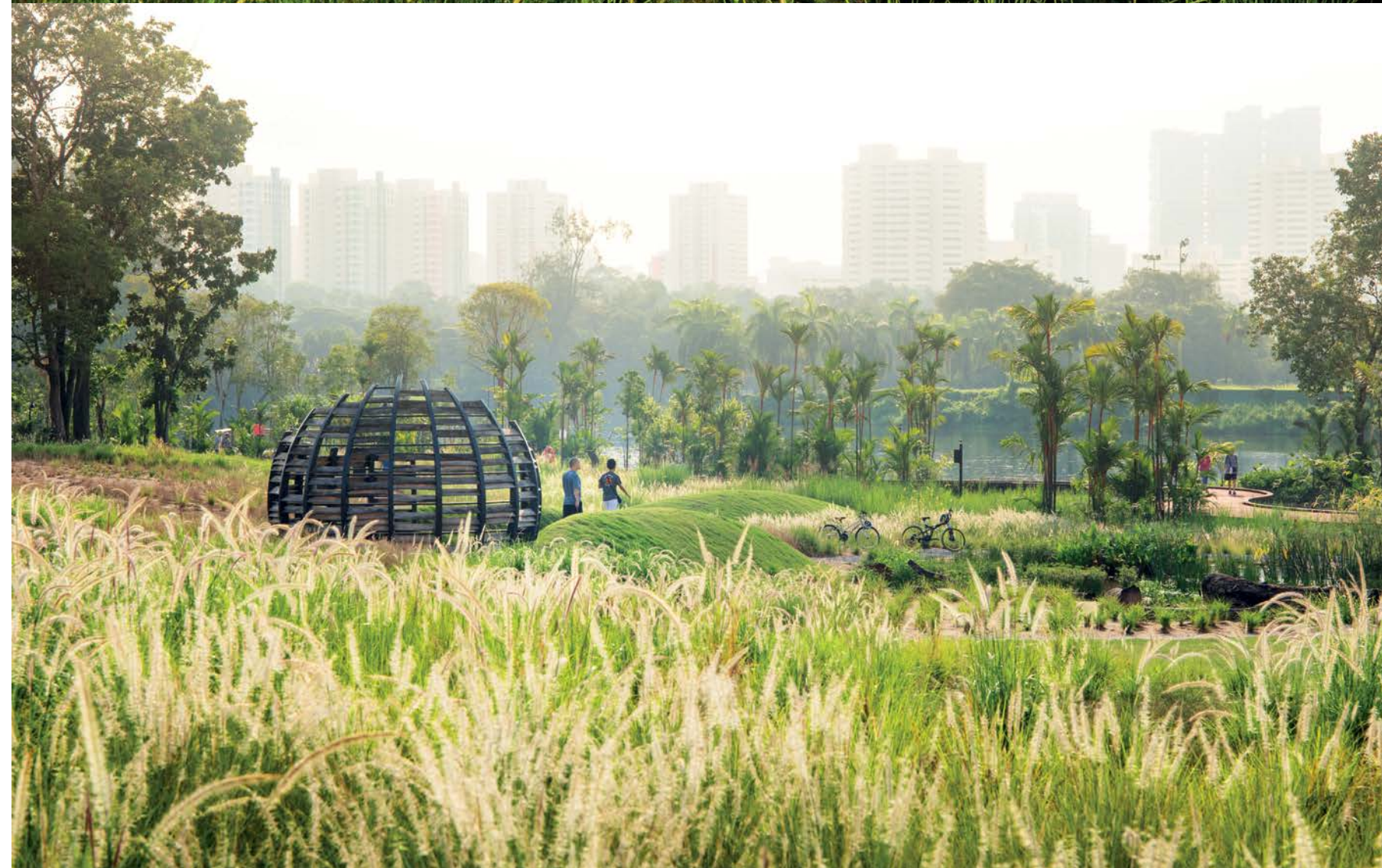
¹ Vanessa Liu, 'More Places to have Wild Greenery Left Untouched', *The Straits Times*, Friday 12 June 2020, p.B1 (Home section)

² NParks, 'City in Nature', 2020, nparks.gov.sg/about-us/city-in-nature

³ Yun Hye Hwang is also the Team Leader of the Urban Wild Lab at NUS. Read about the Lab's projects at blog.nus.edu.sg/urbanwildlab

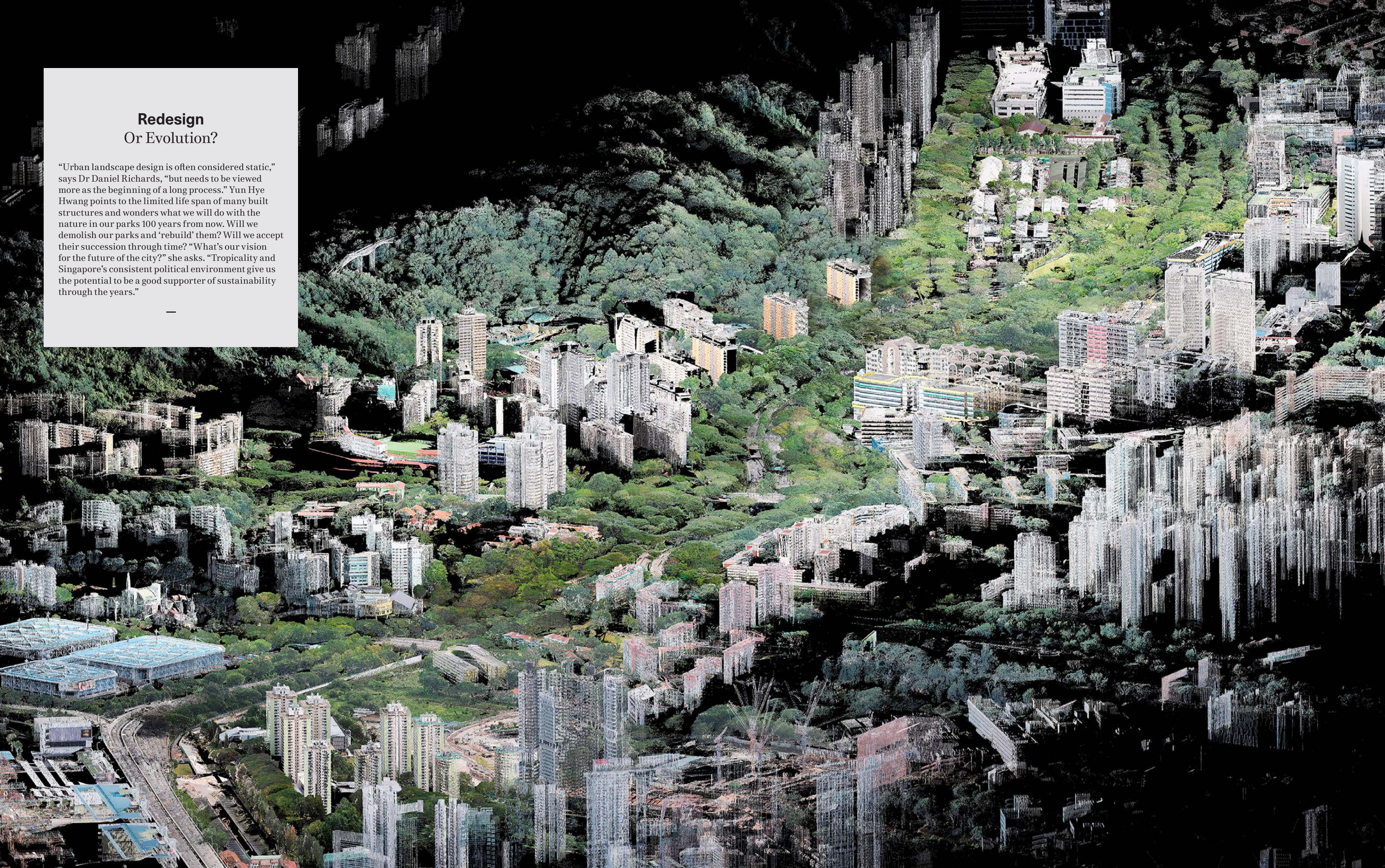
⁴ Hwang points out that the terms 'cues to care' and 'cues to neglect' were first used by Joan I. Nassauer, a professor of landscape architecture at the University of Michigan.

⁵ Yun Hye Hwang, Zi En Jonathan Yue, Seow Kang Ling and Hee Hiong Victor Tan, 'It's Ok to be Wilder: Preference for natural growth in urban green spaces in a tropical city', *Urban Forestry & Urban Greening*, No.38, 2019, pages 165-176.



Redesign Or Evolution?

“Urban landscape design is often considered static,” says Dr Daniel Richards, “but needs to be viewed more as the beginning of a long process.” Yun Hye Hwang points to the limited life span of many built structures and wonders what we will do with the nature in our parks 100 years from now. Will we demolish our parks and ‘rebuild’ them? Will we accept their succession through time? “What’s our vision for the future of the city?” she asks. “Tropicality and Singapore’s consistent political environment give us the potential to be a good supporter of sustainability through the years.”





Optimising the design of ecosystems

The so-called ‘ecosystem services’ provided by vegetation and natural habitats – particularly by complex habitats – are recognised as critical for increasing the resilience of urbanscapes to the challenges of climate change. A team of researchers at the Singapore-ETH Centre’s Future Cities Laboratory expects that in future, architects and planners will increasingly be required to justify their designs in terms of the contribution they make to the urban environment, including mitigating the urban heat island effect. They are working on a conceptual framework that will allow urban designers to assess the ecosystem service impacts of their designs, and then modify their designs for improved outcomes.

Their ‘Ecosystem Services Design Loop’ allows designs “to be continuously tested for their environmental performance, using models, data and expert opinion,”⁶ explains Dr Daniel Richards, principal investigator of the Natural Capital Singapore project at the Singapore-ETH Centre. The team’s research has shown that in general, complex and unmanaged vegetation provides higher levels of most ecosystem services than heavily managed vegetation. The complexity of natural vegetation provides “the gold standard,” explains Dr Richards, “but we can design managed vegetation to come close, through incorporating structural complexity” – precisely what is advocated by Hwang.

As rightly pointed out by Dr Thomas Schröpfer (principal investigator of Dense and Green Building Typologies at the Singapore-ETH Centre’s Future Cities Laboratory and Professor

at the Singapore University of Technology and Design) in his new book *Dense+Green Cities*,⁷ the city is a multi-dimensional ecosystem and “the idea that greenery in the urban environment is an amenity is increasingly seen as both reductive and false.” Rather, he observes, ecologically designed buildings and cities with green and blue networks can produce more liveable and sustainable urban environments. Kampung Admiralty by WOHA Architects and RSD is a prime example of this (read about the project in Cubes issue 89).

Despite its reversion to post-lockdown mowing (for widespread public placation as much as safety, perhaps), NParks’ recently launched ‘Gardening with Edibles’ scheme⁸ suggests that there are official steps being taken toward a cultural shift to empathy for and connection with plants. A broader taste for ‘intended wildness’ would be the logical next step. Far from ‘rustic’ and simple, the innate intelligence of natural and naturalised systems is to be revered and embraced – straggly branches and all – and the time to embrace it is now. As Ng suggests: “If we ever want to break through into a new paradigm for landscape, this is the time to do it.”

blog.nus.edu.sg/urbanwildlab
dreiseitl.com
fcl.ethz.ch
naturalcapital.sg

Above: The CUGE Backyard Garden is a spontaneous nature garden at the Singapore Botanic Gardens. Yun Hye Hwang was one of a team of researchers from NUS and NParks studying its evolution over two years. Photos by Yun Hye Hwang. Opposite: A survey by BioSEA has found that Kampung Admiralty by WOHA and Ramboll Studio Dreiseitl has a higher level of species diversity (across wildlife types, except birds) than nearby neighbourhood parks. Photo: Ramboll Studio Dreiseitl.

⁶ The research team has developed several models for testing environmental performance – for example, for estimating carbon storage, cooling effects and runoff retention. The team recently released the booklet ‘Ecosystem Services in Urban Landscapes: Benefits of tropical urban vegetation’ (available online) and will release a Natural Capital Singapore report by early 2021. The report will provide the first national assessment of Singapore’s nature and the ecosystem services it provides. A suite of data sets (including maps) and models for projecting future design scenarios will be released at the same time.

⁷ Thomas Schröpfer, ‘Dense and Green: An alternative history of the city’ in *Dense+Green Cities: Architecture as Urban Ecosystem*, Birkhäuser, Basel, page 26

⁸ NParks launched the ‘Gardening with Edibles’ scheme in June 2020. Free vegetable seed packets are being distributed to interested members of the public, and community gardening programs are being expanded. nparks.gov.sg/gardening/gardening-with-edibles



The Nature We Need

“Landscape has emerged as the critical element in the post-COVID-19 urban fabric,” says Leonard Ng. “It was interesting to note that the [Singapore] government put landscape in the same category as critical amenities – leaving it open throughout the lockdown.” But he laments that we still don’t see nature as being critical for survival. Twenty years from now, his ideal would be that we live in balance with nature, right within the city. That will mean “being out there as a community, protecting nature in all its forms – not just the nature you can accept, but the nature that is necessary.”