



Prof. Herbert Dreiseitl explaining the process of converting a concrete canal into a naturalised waterway.



INTERVIEW

Herbert Dreiseitl

Cities as Living Systems

German landscape architect and artist **Prof. Herbert Dreiseitl** is known for his groundbreaking urban hydrology projects and research around the world. His design consultancy Atelier Dreiseitl helped implement ABC Waters programmes at Bishan-Ang Mo Kio Park and JTC CleanTech Park, among others. Here, he discusses with CLC Deputy Director for Research Sophianne Araib what building with nature means for cities, and how policymakers can achieve it.

What does building with nature mean to you, and why is it important in urban development?

In the beginning, cities had a very strong connection to the natural environment. They were built in strategic locations with good resources: water, minerals, food. Then, we started having electric lights, air-conditioning systems and so on, and our city has become more independent from nature.

But that's an illusion. In the short run, we might isolate the city from the environment, but to be truly sustainable for future generations, we should be totally connected to the environment. Building with nature is not a new or romantic thing; it's not about being politically green or whatever.

Building with nature is the future. It is a logical consequence of making a city resilient, sustainable and liveable.

We are in a learning process of trying out new systems. Architects are rediscovering more transparent and “breathing” buildings—Singapore has some wonderful examples of green roofs and horizontal green structures. If you think about the Park Royal hotel from WOHA, which has different terraces, we are not at the end of the journey. We are just starting. In the future, we will come up with more environmentally-friendly solutions for the urban fabric, on the building scale, but also in the city context. Our city systems in the future will be much more reconnected to the environment and to nature.

How can cities move from looking at issues from an individual system perspective towards integrating urban systems?

A forward-thinking city has to have a clear understanding of where to go for the future. It's not one particular step, it is bringing different steps together.

For example, Vienna, an old city with a long tradition, has had a lot of challenges, such as flooding from the Danube. In response, the city made a very interesting decision by halting its Master Plan developments. Instead it launched a new project called the "Step Programme", which is based on the idea that we cannot decide today and we don't know what the city for the future will look like. So there is a lot of flexibility and freedom in how a city will develop, and it's a bottom-up approach, not only a top-down one.

Finding consensus and having a common vision needs a very good leadership structure, both top-down and bottom-up. What is the future of the city? Where do we want to see the city in 10 to 20 years? There should be an atmosphere of imagination, of hope.

Cities which have that character—Copenhagen and Singapore, certainly—have a kind of drive and an understanding that certain things have priority. If we say, okay, water has a very high priority or walkability has more priority than big roads—the city

becomes an organism which is very much related to the people living in it, rather than a machine that is only functioning for the infrastructure. That vision is a very, very strong driver to make cities successful for the future.

Most cities struggle when talking about nature in the context of cities, because they see it as a choice: nature or development. How do we find that integration when we talk about "building with nature"?

That's a very good question. It even brings us to a deeper question: What do we mean by "nature"?

The natural environment is so intelligent and resilient that we as humans can only mimic this system artificially. So when we talk about building with nature, we are not talking about wild nature. We are transforming it into an "urban nature", which has a totally different signature. A lot of people have the wrong image of snakes, mosquitoes, and bears or lions in the city. That's a totally wrong picture. Building with nature is about bringing natural systems back into the city—giving flora and fauna space to live. Instead of a mono-functional hard-scape, this urban nature creates a soft-scape that increases habitat, biodiversity and improves human health and human well-being.



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What are some cities that have benefited from such an approach?

I have seen cities completely changed. In New York City or Chicago, for instance, investing in green infrastructure has had an enormous effect on stability because people feel more at home. Restaurants and businesses return; there's better air and a balance of heat and cold. Families move into the city so there's better social mix, less crime and vandalism and more security.

Mayor Bloomberg in New York City was very strong in his vision of bringing green into the city by upgrading old and new parks like Battery Park, the High Line and Brooklyn Park. These help to defend the city against superstorms like 2013's Sandy, which could occur more often in

future as a result of climate change. Copenhagen is another good example where “blue” and “green” infrastructure, called Cloudburst projects, help to make the city more liveable and resilient against heavy downpours.

What can Singapore do better to become even more liveable and vibrant?

Singapore's strength is that it is extremely organised and very quick in making decisions. The decision process is really professional and systematic, which is a good opportunity to make changes and to implement new ideas. Singapore's vision as a city in a garden is a strong driver of programmes like the ABC Waters Programme Guidelines, which are very much copied in other cities.

01 Renderings of the new park at Sankt Jørgens Sø, Copenhagen, during fine weather and flood event, where the lower parts of the park act as a retention basin during heavy rains. This above-ground recreational solution also saves public money in comparison to the construction of an underground stormwater pipe.

02 Prof. Dreiseitl at the Mainstreaming the ABC Waters workshop organised by the Centre for Liveable Cities, where private and public stakeholders came together to brainstorm the next chapter of the programme.

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But there are also some challenges. Singapore tends to adopt others’ models, so it’s not always innovative. It would be good for Singapore to be at the forefront of research. That means having a bit more courage and taking controlled risks. That would be where Singapore could actually do better.

It’s not only a problem for Singapore, but Singapore is in danger of going off the road by being too bureaucratic. Regulations are okay, but when they are too complicated and abstract, they can kill green, resilient and liveable cities. We cannot plan liveability; we cannot say what the next generation will like and what is most liveable for them. We can only provide the conditions to support liveability—we have no idea what the next generation might come up with.

For instance, it’s not the fault of older generations that they built monsoon canals that disrupt natural hydrological processes. They tried to do the best at that time but we have different needs now. We have to be able to make mistakes and learn from them; to experiment and to improve. That is a very important driver for making cities really vibrant and liveable.

Singapore could involve people more in the decision-making or planning processes—perhaps in the Asian way of seeking consensus and getting different stakeholders on the same page. This is important because people are standing up for their rights more and starting to articulate their different needs and wishes. Singapore could learn from cities like Vienna on integrating

different groups and opinions, and having participatory planning in an intelligent way. This needs to be very professional otherwise you only hear what people dislike: “We don’t like this, we don’t like that, we want to have that.” Instead, you have to get the best voices of the society, which are often the silent ones, to get really the common sense of a society.

Singapore has great responsibility as a leader in Asia. It has a stronger voice on urban solutions than many other cities in Asia so its solutions are not only Singapore solutions but are examples that give hope to many other cities. For example, there are still some covered storm canals leading into the Kallang River at the Bishan-Ang Mo Kio Park—the third phase of the ABC Waters Programme should include the opening up of these canals.



What are some of your current projects that develop this sense of biophilia and make it relevant for cities?

My current research at the Liveable Cities Lab [part of Danish planning consultancy Ramboll] is to understand how cities change their policies and politics to be successful—what are the drivers of change? How can I help future generations to better handle climate change and environmental risk? Together with four universities, we studied the value of different forms of capital. For example, when we talk about money, we often think only about real estate values, the price of buildings and so on. But that’s actually very, very short-term in terms of value thinking. There is not only the physical capital of money, or of resources in a city, but also symbolic or human capital.

Symbolic capital is the image the city has, for companies to say “this is the right location where I will invest, where I will have my headquarters” and for people to look for jobs, a good environment to raise a family, and a good place to grow old. “Do I have good water, air and mobility systems where we don’t have to spend many hours per week sitting in a traffic jam?” This capital has an enormous value. We presented a report of the first outcome in Paris at the COP21 United Nations climate meeting this past December. Mayors were really interested with the report, and found it a good argument for blue-green infrastructure. The key is convincing politicians and private companies of the added value of such infrastructure.

Urban solutions include not only resilience to climate change, but also making cities vibrant for lifestyle and economy—in terms of these different forms of capital. We are trying to convince city leaders, mayors and organisations that it is important to invest in

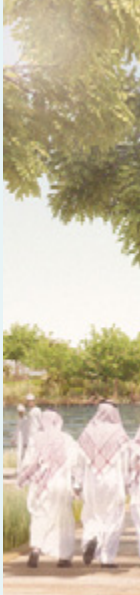
the right direction because not doing so will be much more expensive in the future. We are currently working for cities like Helsinki, San Francisco, Jeddah, and Stockholm.

Projects of the sort you work on, like the Kallang River at the Bishan-Ang Mo Kio Park, often require different government agencies to work across silos. How do agencies overcome the inclination towards silo thinking?

Getting out of silo thinking requires strong leadership combined with a powerful and inspiring vision. This has to be supported by new structural and cultural capacity that can integrate, guide and unify different stakeholders.

Almost all cities have problems of a fragmented administrative structure, including Singapore. When I was working on first design ideas to reconnect and naturalise Rochor Canal, we had a vision, the technology, and the toolset. We would have had enough space to treat the water, improve water quality, increase biodiversity and make the cityscape more attractive. The barriers were the different silos of administration, responsibilities, funding, maintenance, and so on.

This is a problem everywhere. We have to integrate many disciplines and working fields, but vision and leadership are needed. This includes not only the CEOs but the next level of directors who implement the work. If their focus is too narrow, or if the responsibility is high and no one wants to take a risk, we cannot move forward. Fear is never a good teacher. It is better to create courage and give hope. ●



01 Ramboll is developing an Environment and Social Master Plan for Jeddah, Saudi Arabia.

02 In Singapore, Rochor Canal has been transformed from a smelly eyesore into a vibrant waterway that draws people with its rain gardens, lookout decks and benches.

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