

Indira van 't Klooster

# REACTION TINA TE!

Innovators of Dutch Architecture

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# FLOWS AND CYCLES

‘Sometimes  
you need crazy  
people who dare  
to experiment’

Superuse Studios  
Doepel Strijkers  
Aayu Architecten  
Except Integrated Sustainability







They all have difficulty with the term sustainability, and this is understandable, given the way they think and work. The point is not how sustainable a material, a building or an environment is – the term is not specific enough to express what they're concerned with. Their frame of reference is the world, and all the conceivable flows it contains: energy, climatic movements, recycling, social processes, economic considerations and water. Documenting how they progress and how they relate to one another requires data. A lot of data, which is collected within diverse disciplines, such as biology, ecology, agricultural science, climate studies, chemistry and sociology. To improve the world, you have to analyse on a large scale what might happen on the small scale

Around a table in a former office and printing press building of the newspaper *Het Vrije Volk*, which also served as a snooker hall for a while, sit five architects for whom sustainability has nothing to do with BREEAM or a sedum roof. Superuse Studios evolved from recyclers of materials only into recyclers of 15 different flows. Except works with a large team of biologists, ecologists and other scientists around the world. Aayu consists of a Buddhist and a construction biologist. And Doepel Strijkers looks for a new use for everything, from materials to buildings. In their comprehensive approach they form an avant-garde within architecture. It is not common, after all, for an architect to venture so far beyond his discipline. But

developments have been unfolding fast in the last several years. Not just within the field. Books like *Cradle to Cradle*, *An Inconvenient Truth* and *Hungry City* have awakened the consciousness of the public at large. And interest is also growing at the client level. 'The political and economic conditions are ripe,' says Duzan Doepel. Tom Bosschaert (Except) immediately offers a caveat: 'Support has to be created through political pressure. The substantive discussion is simultaneously so basic that it can go the wrong way.' The subject matter is so complex and so difficult to make understandable that the chance for misunderstandings and pointless projects is significant. The banning of incandescent



*SUPERUSE STUDIOS:  
'We started in 1997, but we went to work fulltime in 2003. We work on increasingly complex projects and increasingly large buildings, for example a recycling centre in Maastricht. We investigate how flows behave: water, energy, money – the latter is the most difficult.'*

light bulbs is a good example. Jan Jongert (Superuse Studios): 'Typical example of good intentions, bad result. Symbolic policy that doesn't make the world any better.'

Yet conditions have not been so favourable before. After an age of economic prosperity the urgent necessity of alternatives is good news. 'The wealthy group that determines the flow of money and the large-scale construction is not necessarily compelled to develop ambitions and knowledge for a better future – precisely because they have it so good,' Daniël Höwekamp analyses with a great sense of euphemism. New, smaller clients are looking for more sustainable ways to spend their money. The starchitects follow the easy money and the market, and are now building in China and India. The new generation of architects seeks new earnings and development models.

This is not an ideal, but pure necessity. Pucciano: 'We live in

a time in which a carriage could get across Rome faster 100 years ago than a car can now. There are too many people, too much pollution, too few sources of fossil fuels and a great inequality in incomes and food. And still people are not taking action en masse. It's inconceivable that with all the smarts and machines we have developed, all of this has still not been resolved.' One major problem is that the old, non-sustainable ways of extracting resources and energy still make money, while new forms of energy generation with biomass, photosynthesis, solar panels and wind turbines are expensive and unreliable, unknown or on too small a scale.

However big these architects think, they know that there is no absolute truth, and that environmentally friendly construction requires a series of – always debatable – choices. And so they start somewhere in the middle of the great whole. Jongert: 'Traditionally a research firm first collects the data to generate a complete picture and produce a design according to that. But this provides only apparent certainty, because you never have and can never get all the data. We search and design in a parallel process. Intuitively. In the end that never gets you a perfect result, but still the most optimal design within all the available



data and flows.' Superuse Studios moved from material research into ever greater levels of scale. They have now designed a database of materials and flows: the harvest map. Except also works with large quantities of data, projecting the flows through time and economy in a system design process. In this they look not only at the first-degree effects of their interventions, but also the second- and third-degree effects. Bosschaert:

'Sometimes a very small action, for example changing the menu of the canteen just a little bit, can have a genuine positive effect.' Aayu also experiments with knowledge from various disciplines. In this they constantly test how far they can go with the integration of health and craft, cultural values and nature.

So these architects are frankly saying: 'We don't know everything. "We don't have verifiably right answers. We're just doing whatever." And they do not do this modestly, but with their sights on the world.

*AAYU: "We are restoration architects/culture historians and construction biologists. Urban Bio Logic is our term: a healthy and energy-saving approach to the city and to life. Creating buildings with character, organic in every life phase of the cycle. We hope the crisis will really help us bring about a lasting change."*

They even have clients that are keen to work with them.

Sometimes actual practice is recalcitrant and ecological ideals vanish in one round of cutbacks after the other. They need time and patience.

Höwekamp: 'Sheep's wool, valued by the carpenter, still has no comprehensive certification, even though it is an insulation method that has been tested for centuries.' Doepel: 'We are translating scientific knowledge for the construction world.' One of the biggest practical problems is that clients often pose the wrong question at the beginning. So they want an 'energy- and climate-neutral Cradle to Cradle building', without understanding the implications. Bosschaert: 'As if you were to go to the bicycle shop and ask for a 52-inch wheel and ball-bearing gears, when you actually just want a nice sports bike.' Architects themselves, he feels, have to understand what they are doing, but tell the public the broad outlines instead of the technical details. 'When you ask a printer for a print-out, he's not going to tell you how it's technically done, right? It's part of the profession and we have a difficult profession.'

Just as in urbanism they benefit from a performative approach, in which the client does not say how he wants to achieve something, but what he wants to



*DOEPEL STRIJKERS:  
'I try to use cycles, flows  
and climate to create  
buildings that are a logical  
translation of the local  
climate. And if it has to be  
labelled sustainability:  
social sustainability is often  
forgotten, but in our view it  
is the starting point.'*

achieve. Formulating objectives and leaving room for creative solutions. So: 'Asking for a building that generates energy instead of for BREEAM and Cradle to Cradle,' says Bosschaert. Bosschaert's wish list for the government is three-fold: first remove blocking legislation; then provide tools for society that make it possible to discover what needs to be done. Release the tools so that a proper Life Cycle Assessment (LCA) can be drawn up. And finally: do nothing itself, but support parties that have proven that they can solve something. Open source is naturally the guiding principle here. They are following the development of the new environmental legislation with great interest – it can address the first problem. And when the relevant data are released, they can start designing with their design software. Doepel: 'In the future, the combination of design software and BPD (Building Performance Simulation) will make it possible to determine the effects of design choices directly, which will enable you, as a designer,

to arrive at a smart solution faster.'

The question is why, in this worldwide, scientific network, it is the architect who starts a practice based on this information. Where is the industrial ecologist working on the built environment? Or the climate expert who includes an architect in his practice? Jongert: 'Architects have the ability to think through a process from a theoretical, abstract starting point to the screwing in of the last screw. Because of this you have to be able to communicate and make connections with

*EXCEPT INTEGRATED  
SUSTAINABILITY:  
'We seek sustainable  
innovations for problems in  
society, with new  
techniques and diverse  
disciplines. Polydome is an  
agriculture system that uses  
no energy, artificial fertilizer  
or pesticides. We are  
working on this with 30  
people, including industrial  
ecologists, biologists,  
economists, tech experts  
and designers.'*

multiple disciplines. This is a role that the architect has traditionally had, and so maybe this is easier.' Pucciano adds ironically: 'The architect is the better fungus. He can digest a lot more than others, he is more resistant, and he has a high adaptive capacity. He will survive, as long as he changes his role.'

But there is another reason it is specifically the architect who can play an important role in the translation of system into practice. He can translate global flows and abstract cycles into nice, tangible things.

Höwekamp: 'Within the great systems there remains the fascination for the small. We make furniture with our own hands. I want to be connected with the small and the great.' Doepel wants to innovate and build. 'I want to inject complex things into a process. Simplify complex ideas into a built result.' Jongert feels the same double love: 'Two things make me happy. Diving deep into a system and finding beauty in it. But I also occasionally want to stand on the building site myself.' And this is how global systems are connected to architectural details. Holism par excellence.



# PROJECTS

Superuse Studios

Doepel Strijkers

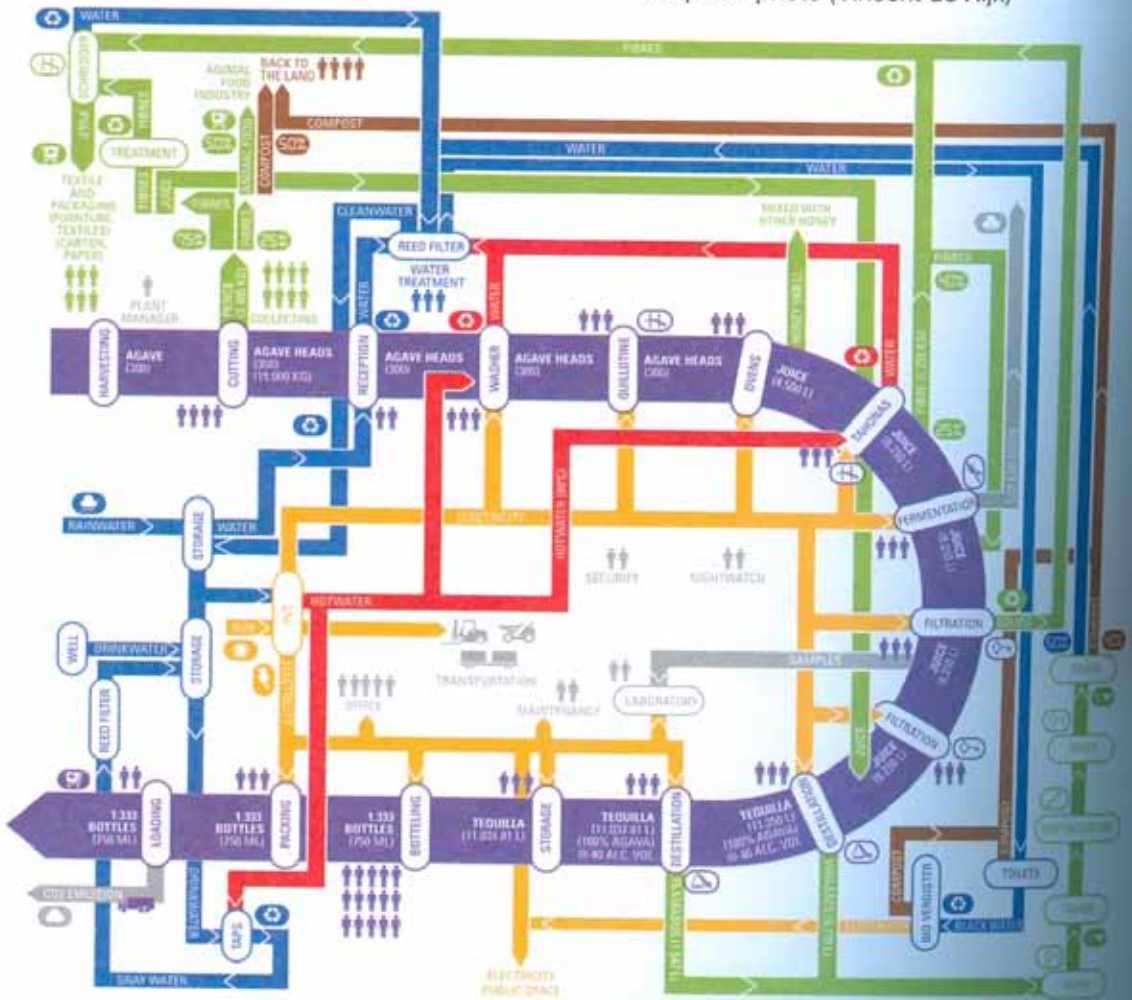
Aayu Architecten

Except Integrated Sustainability

# DOEPEL STRIJKERS Macuil Tochtli, tequila factory



Maquette photo (Vincent de Rijk)



Zero-waste production process





Photo montage of factory on site

LOCATON Jalisco, Mexico  
YEAR completion 2015  
CLIENT Victor Basurto  
IN COLLABORATION WITH Victor Barsuto

Based on a traditional hacienda, the factory is being built with local materials and construction methods, in which the position of the sun determined the form. The production cycle has been devised so as to generate no waste. Products left over from the production process are used, for example, in textiles and biogas. Solar panels provide all necessary energy. The

building also houses nine nuns who teach the children of the factory workers. In addition to a factory the complex therefore also includes living accommodations, a classroom and a chapel. As a result, the project is imbedded in the local community not only economically and climatologically, but also socially and culturally.

Although the volume of business for Dutch architecture firms is dropping dramatically, the number of firms is growing. Out of necessity, but also out of conviction, young architects are starting their own practices. How do they deal with the financial and societal challenges? The post-starchitect generation, at any rate, is not working on iconic concepts or on mass-produced façades in the suburbs. They are working on *economic engineering, Lofthome, civic urbanism, open-source urbanism, urban bio logic, Freemium, performative design, crowdfunding* and *the Ideal Day method*. These are the instruments for financial constructs, product development for do-it-yourself builders, energy flows and closed cycles, soil decontamination and social regeneration in vacant properties.

From dozens of interviews with firms started in the twenty-first century, there emerges a picture of pragmatic *and* committed designers who are pushing the boundaries of architecture in all directions. They are (also) becoming developers, producers or process coordinators; they are (also) creating their own commissions or forming cooperatives. The result is a self-aware recalibration of the profession, in which young architects are formulating answers to the needs of new users and clients in a different reality.

Indira van 't Klooster is editor in chief of *A10 new European Architecture* and the author of various architecture publications in the Netherlands and beyond. In addition, she works with Architectuur Lokaal and as a visiting lecturer at the Academy of Architecture in Amsterdam.

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the public domain