



## Circularity for Educators

### BLOCK III Circularity in Architecture and the Built Sciences

#### Practitioners Interview Series

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My name is Esther Stevelink and I am partner at GAAGA architects in Delft. We focus on circular design and especially on residential buildings.

#### *What drew you to circularity?*

What drew us to circularity was a very specific moment in time I would say, it was a competition we did in Amsterdam a couple of years ago and we really experimented with circular building at the first time in that building, in that project. So we really used this project to develop our ideas on circular building but before that we also had this ideas about how to make buildings that last for a long time, in terms of that building could be adaptable.

And that was something I really learned from Dr Bernard Leupen from TU Delft, who really had this as his topic. And it really inspired me also to use his ideas and his book on generic space. That was a more theoretical background, I must say, so that came a bit together in that project at that time.

#### *Can you discuss one of your projects in terms of circularity?*

The project we have been working on for a couple of years now is called 'Het Bosbad' in Eindhoven. What makes it circular is on several levels

actually. Most of all, we try to make a building that lasts, I think that's very important when thinking about circularity. So, a building that is being loved by the users I feel is very important.

But when we zoom into the technical details of that building, it's a building that is demountable. It's made out of a concrete structure, but the connections are all demountable. So you can reuse all the concrete components in the future for different purposes.

When you use a material, especially when you use a material like concrete, then you should focus on using less of it. That's why we use a hollow core concrete, so it's really a light structure. And that is not very common to use that. The whole grid system of the building is based on that system, on the size of that hollow core slab. So that is an important feature.

And the other aspect in the project that makes it circular is that we used also used products. For example in the facade cladding, we used wood that is used in riverbanks. So it was, on one hand, a circular approach, but also very much an aesthetic approach to it. What I really like in Japanese architecture, for example, and their aesthetics is this Wabi-sabi idea. So that materials are not really clean and crisp, but that you see them being weathered in a way. And

when you use used products, they were already weathered and we really like that idea of showing this aging of materials in the project.

And then on the level of water management, we also had these ideas of circular design in mind and that we don't waste the water. The water goes into the park and then it feeds the plants eventually. So that's the idea.

I think the most challenging was using the tree trunks as load-bearing elements for the balconies. So each tree trunk was individually scanned and has its individual position in the building. And that was something the contractor and also the advisors did not expect in advance. And it really meant a long delay in the building.

I think what was really important was that there were a lot of ambitions set by the community council. And they really wanted a building that would stand out in terms of circular design, sustainable design, but also would stand out in terms of aesthetic appeal. So the ambitions were very high. Everyone was really focused to get it done.

One thing we learned, I think, is that it felt in this project that it was, maybe, a bit also not that difficult, in a way, to do it like this. And that if you want and if everyone wants it, then it's really doable. So it was a very optimistic process, in a way. And that also surprised us, maybe, because we thought that it might be much harder to do. But I think it is very important that everyone at the table has the same ambition and really wants this building to happen and then it can happen.

### *How does the transition towards a circular built environment challenge the role of the architect?*

As an architect it's very important that you are aware of all the other parties and their interests, because we have to do it together you cannot do it as an architect on your own. That's a no-go.

I mean, you can, of course, think about a lot of things, you can design a very good building. You can design of very circular, but if the contractor doesn't want it like that, then it's not going to happen. So you have to convince other people that this is a good way of doing it. I think it's very important for architects to take that role on the table.

Because I noticed that the last decades, were really trained as architects to be very conceptual. In terms of circular design, I think it's also important that you focus on technical aspects of your building. But that's more something for younger architects to really be enthusiastic as an engineer as well. You are also an engineer, not only a conceptual person, but really be proud also of being an engineer.

What I really like about Stewart Brand is that he says that architects are of course masters of space but maybe also masters of time. And I really like this idea of thinking about how a building evolves during its lifetime and that as a designer you should be aware of that time aspect. That it's not just the moment when you realize a building but what happens next and how people use it and how people use it over time. So thinking about adaptability of a building, so making flexible buildings I feel like it's very important when it comes down to circular buildings. Me personally, I find that a very interesting theme also.