



Circularity for Educators

BLOCK III Circularity in Architecture and the Built Sciences

Practitioners Interview Series

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Hello, I'm Tsilil Strauss. I'm an architect at Superuse and we sit now in our office in *Blue City*. *Blue City* used to be a swimming pool and it's been the last few years transformed into a circularity hub. And we were a part of the team, so we're very glad to be sitting here today.

What drew you to circularity?

What drew me to circularity, I believe it was the first year of my master during a presentation, that was the first time I saw the butterfly diagram of the MacArthur Foundation, and something just clicked. Something about the closing loops just made sense. I must say that before this year, so during my bachelor, I still had these terms like circularity, or circularity I didn't know, but sustainability and climate crisis, more as hollow terms I heard, but I wasn't really delving into it.

It was an aha-moment when I actually understood this holistic solution to a problem that I didn't quite yet formulate to myself. I'm still trying to define these terms and put them into practice in my life and as architects.

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

I will talk about a project today that I've been working on the past year. It's a project called

ProRail, the train company. It was a tender, and we were requested to come up with three different designs for the facade of technical buildings along the train rails.

Our approach here was to choose three materials and design each variant with one dominant material and as little as possible extra materials. The first material was a Thermally modified wood, which was also dead stock or disqualified material that otherwise will go to waste. And another variant was steel plates. The steel plates are from very high quality in terms of strength, but it's the leftovers from production processes, so it's what we call *production waste stream*. And you need to imagine it's the steel plates after the pieces that are needed are cut out, so you are staying with what we call *de contourplat*. The third variant was HPL plates, and they are often used in social housing. And we offered a design that gives them second life.

The entire approach was circular because we made sure it's a system that has a long lifespan. So the building will stay for 50 years and if they need to be repaired, it's easy to repair them. We were asked to do three different designs and with two of them we won, so the steel plates and the wood and these two are being now prototyped.

For the production itself, all the materials are sourced in the Netherlands. But also for the production of the panels that are prefabricated, we collaborate with institutions that bring people with distance to the labor market back to work. So for me, that's quite an important aspect of circularity.

I think that with this project, the challenges and opportunities were related to the scale of the project because it needed to be repeated in potential 1,500 times. The challenge was the tension between harvesting the materials, which is usually an open end process, but on the other hand, guarantee to the client and to the contractor that this is an ongoing stream that they can trust. How we solved it in the end is choosing to harvest a material that is an ongoing stream. So it's not materials that were reclaimed, for example, from buildings that we can't anticipate how much it will yield in a year. We chose for secondary materials that are dead stock or production waste, that we know are continuously being produced.

So besides the great opportunity to make a big impact, it was also for me a personal opportunity to collaborate with an ecologist. We made together the design more nature-inclusive, so within the design restrictions, we also managed to make some space for Flora and Fauna. I learned how much you can actually achieve by just collaborating with more experts, because we at Superuse usually focus on the material use.

The major lesson that I learned with this project and what I often notice is that it's important to keep it simple. So the design process and the construction process, it has a lot of complexities, but it's very important that we manage to create clarity. I feel it's similar to a good design, that displays itself as simple, but it actually hides a lot of complexities.

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

I think this transition towards circularity challenges the role of the architect in an obvious way that we now need to work with the existing. We always do site analysis, but also taking into account the materials that are on the site and even a building that is already standing on the site. How can you use it instead of demolishing it and build it?

I think it requires some flexibility and open mindedness from the architect because the collaboration is a bit different than a conventional design and construction process.

Maybe that's a different way to understand the question, but I think the architect is not only challenged by the transition, but it's also his role to lead this transition. I notice also with a lot of projects that as the architect, I'm the one to protect these values. And it takes sometimes some persuasive work to take all the parties together towards this transition, because it's sometimes seen as luxury or not necessary; something for the show and not inherent to the project.