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My architectural philosophy? Bring the community into the process

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English

00:00

If there's any power in design, that's the power of synthesis. The more complex the problem, the more the need for simplicity. So allow me to share three cases where we tried to apply design's power of synthesis.

00:17

Let's start with the global challenge of urbanization. It's a fact that people are moving towards cities. and even if counterintuitive, it's good news. Evidence shows that people are better off in cities. But there's a problem that I would call the "3S" menace: The scale, speed, and scarcity of means with which we will have to respond to this phenomenon has

no precedence in history. For you to have an idea, out of the three billion people living in cities today, one billion are under the line of poverty. By 2030, out of the five billion people that will be living in cities, two billion are going to be under the line of poverty. That means that we will have to build a one million-person city per week with 10,000 dollars per family during the next 15 years. A one million-person city per week with 10,000 dollars per family. If we don't solve this equation, it is not that people will stop coming to cities. They will come anyhow, but they will live in slums, favelas and informal settlements.

01:40

So what to do? Well, an answer may come from favelas and slums themselves. A clue could be in this question we were asked 10 years ago. We were asked to accommodate 100 families that had been occupying illegally half a hectare in the center of the city of Iquique in the north of Chile using a $10,000 subsidy with which we had to buy the land, provide the infrastructure, and build the houses that, in the best of the cases, would be of around 40 square meters. And by the way, they said, the cost of the land, because it's in the center of the city, is three times more than what social housing can normally afford. Due to the difficulty of the question, we decided to include the families in the process of understanding the constraints, and we started a participatory design process, and testing what was available there in the market. Detached houses, 30 families could be accommodated. Row houses, 60 families. ["100 families"] The only way to accommodate all of them was by building in height, and they threatened us to go on a hunger strike if we even dared to offer this as a solution, because they could not make the tiny apartments expand. So the conclusion with the families — and this is important, not our conclusion — with the families, was that we had a problem. We had to innovate.

03:19

So what did we do? Well, a middle-class family lives reasonably well in around 80 square meters, but when there's no money, what the market does is to reduce the size of the house to 40 square meters. What we said was, what if, instead of thinking of 40 square meters as a small house, why don't we consider it half of a good one? When you rephrase the problem as half of a good house instead of a small one, the key question is, which half do we do? And we thought we had to do with public money the half that families won't be able to do individually. We identified five design conditions that belonged to the hard half of a house, and we went back to the families to do two things: join forces and split tasks. Our design was something in between a building and a house. As a building, it could pay for expensive, well-located land, and as a house, it could expand. If, in the process of not being expelled to the periphery while getting a house, families kept their network and their jobs, we knew that the expansion would begin right away. So we went from this initial social housing to a middle-class unit achieved by families themselves within a couple of weeks.

05:08

This was our first project in Iquique 10 years ago. This is our last project in Chile. Different designs, same principle: You provide the frame, and from then on, families take over.

05:24

So the purpose of design, trying to understand and trying to give an answer to the "3S" menace, scale, speed, and scarcity, is to channel people's own building capacity. We won't solve the one million people per week equation unless we use people's own power for building. So, with the right design, slums and favelas may not be the problem but actually the only possible solution. The second case is how design can contribute to sustainability. In 2012, we entered the competition for the Angelini Innovation Center, and the aim was to build the right environment for knowledge creation. It is accepted that for such an aim, knowledge creation, interaction among people, face-to-face contact, it's important, and we agreed on that. But for us, the question of the right environment was a very literal question. We wanted to have a working space with the right light, with the right temperature, with the right air. So we asked ourselves: Does the typical office building help us in that sense? Well, how does that building look, typically? It's a collection of floors, one on top of each other, with a core in the center with elevators, stairs, pipes, wires, everything, and then a glass skin on the outside that, due to direct sun radiation, creates a huge greenhouse effect inside. In addition to that, let's say a guy working on the seventh floor goes every single day through the third floor, but has no idea what the guy on that floor is working on. So we thought, well, maybe we have to turn this scheme inside out. And what we did was, let's have an open atrium, a hollowed core, the same collection of floors, but have the walls and the mass in the perimeter, so that when the sun hits, it's not impacting directly glass, but a wall. When you have an open atrium inside, you are able to see what others are doing from within the building, and you have a better way to control light, and when you place the mass and the walls in the perimeter, then you are preventing direct sun radiation. You may also open those windows and get cross-ventilation. We just made those openings of such a scale that they could work as elevated squares, outdoor spaces throughout the entire height of the building. None of this is rocket science. You don't require sophisticated programming. It's not about technology. This is just archaic, primitive common sense, and by using common sense, we went from 120 kilowatts per square meter per year, which is the typical energy consumption for cooling a glass tower, to 40 kilowatts per square meter per year. So with the right design, sustainability is nothing but the rigorous use of common sense. Last case I would like to share is how design can provide more comprehensive answers against natural disasters. You may know that Chile, in 2010, was hit by an 8.8 Richter scale earthquake and tsunami, and we were called to work in the reconstruction of the Constitución, in the southern part of the country. We were given 100 days, three months, to design almost everything, from public buildings to public space, street grid, transportation, housing, and mainly how to protect the city against future tsunamis. This was new in Chilean urban design, and there were in the air a couple of

tsunamis. This was now in Chilean urban design, and there were in the air a couple of alternatives. First one: Forbid installation on ground zero. Thirty million dollars spent mainly in land expropriation. This is exactly what's being discussed in Japan nowadays, and if you have a disciplined population like the Japanese, this may work, but we know that in Chile, this land is going to be occupied illegally anyhow, so this alternative was unrealistic and undesirable. Second alternative: build a big wall, heavy infrastructure to resist the energy of the waves. This alternative was conveniently lobbied by big building companies, because it meant 42 million dollars in contracts, and was also politically preferred, because it required no land expropriation. But Japan proved that trying to resist the force of nature is useless. So this alternative was irresponsible. As in the housing process, we had to include the community in the way of finding a solution for this, and we started a participatory design process.

10:52

(Video) [In Spanish] Loudspeaker: What kind of city do you want? Vote for Constitución. Go to the Open House and express your options. Participate!

11:00

Fisherman: I am a fisherman. Twenty-five fishermen work for me. Where should I take them? To the forest?

11:06

Man: So why can't we have a concrete defense? Done well, of course.

11:12

Man 2: I am the history of Constitución. And you come here to tell me that I cannot keep on living here? My whole family has lived here, I raised my children here, and my children will also raise their children here. and my grandchildren and everyone else will. But why are you imposing this on me? You! You are imposing this on me! In danger zone I am not authorized to build. He himself is saying that.

11:34

Man 3: No, no, no, Nieves...

11:38

11:55

Alejandro Aravena: I don't know if you were able to read the subtitles, but you can tell from the body language that participatory design is not a hippie, romantic, let's-all-dream-together-about- the-future-of-the-city kind of thing. It is actually — (Applause) It is actually not even with the families trying to find the right answer. It is mainly trying to identify with precision what is the right question. There is nothing worse than answering well the wrong question.

12:12

So it was pretty obvious after this process that, well, we chicken out here and go away because it's too tense, or we go even further in asking, what else is bothering you? What other problems do you have and you want us to take care of now that the city will have to be rethought from scratch? And what they said was, look, fine to protect the city against future tsunamis, we really appreciate, but the next one is going to come in, what, 20 years? But every single year, we have problems of flooding due to rain. In addition, we are in the middle of the forest region of the country, and our public space sucks. It's poor and it's scarce. And the origin of the city, our identity, is not really connected to the buildings that fell, it is connected to the river, but the river cannot be accessed publicly, because its shores are privately owned. So we thought that we had to produce a third alternative, and our approach was against geographical threats, have geographical answers. What if, in between the city and the sea we have a forest, a forest that doesn't try to resist the energy of nature, but dissipates it by introducing friction? A forest that may be able to laminate the water and prevent the flooding? That may pay the historical debt of public space, and that may provide, finally, democratic access to the river. So as a conclusion of the participatory design, the alternative was validated politically and socially, but there was still the problem of the cost: 48 million dollars. So what we did was a survey in the public investment system, and found out that there were three ministries with three projects in the exact same place, not knowing of the existence of the other projects. The sum of them: 52 million dollars. So design's power of synthesis is trying to make a more efficient use of the scarcest resource in cities, which is not money but coordination. By doing so, we were able to save four million dollars, and that is why the forest is today under construction. (Applause)

14:57

So be it the force of self construction, the force of common sense, or the force of nature, all these forces need to be translated into form, and what that form is modeling and shaping is not cement, bricks, or wood. It is life itself. Design's power of synthesis is just an attempt to put at the innermost core of architecture the force of life.

15:30

Thank you so much.

15:32

(Applause)