

AN INTERVIEW WITH...

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How do new technologies influence architecture/design?

One of the fundamental roles of a designer is to translate technical and intellectual revolutions into tools able to change people's life (from little things, to big things), inbetween research and production. Said so, a designer should sponge on from different knowledge and use them in the design process as active principles. Of course it is a circle, we must be aware of that, as said by McLuhan, "We shape the tools, and they in turn shape us". It is not possible to have a language without a medium, so technology is the medium that shapes the language of architecture and design. New technologies lead to new languages, in many ways: imagine the impact of digitalization of cameras, the technology could re-define the formal archetype of this object (that was defined by the analog technology itself), or the impact of material systems like fiber composites in "ordinary" design or architecture, defining a shell aesthetics and construction logic.

We have to re-define every time the boundary between the disciplines and find the balance between the infiltration of outer knowledge and the inner language of the discipline, design and architecture in this case. Today different knowledge is opening more and more to the outside, and informations can flow more rapidly (you can attend on-line classes of your favourite subject), you can take from this basin the ideas to inform design and architecture.

What influence the researches in architecture/design has on our life in general?

There are two levels in which we can use research in architecture or design field. The first is at the project level, where the project is an idea that defines a way to challenge narrow preconceptions about our way to live. You can make a single prototype, or even just drawings, expose them in museums or publish, the

important thing is to reach people and to be clear. The second level is when these ideas become a tangible product, in this case, architecture is a slower tool of innovation, because it is expensive and needs more verifications and guarantees. In this way people are reached because the object is a mass product object or because is a building that could be expertised.

In any case, virtual or real, it is about to give a stimuli to think differently, one is purely mental and activate our sensitiveness in simulating the use of our physicity, the other uses directly our senses, and allows to set a ground to start the interpretation. Researches in the field of architecture and design help us to re-define our relationships with the context, and so re-defining our culture, it is a gate to different futures.

In your opinion can we use definition "science" according to contemporary architecture/design? Why?

This is a big question. In this secularized period, where science is the dominant tool that we have to describe the world, everything should be "science" if you want to give it a value. In this way we have seen the transformation of architecture in a scientific subject (where the technical part prevails: I remember when I was a student in Venice, at the beginning of this new change in terms, not in the content, from architecture to science of architecture).

Science refers to the body of reliable knowledge, logically explained, in a specific topic, if so yes, architecture uses different sciences to reshape or environment (physical and cultural) but "science" is also about a way to pursuit knowledge (the scientific method), in other words, a disciplined way to study the natural world. I prefer to consider science, the knowledge about nature, different from the knowledge on other disciplines.

I like this distinction because put designers and architects in the way of dealing with these "other" disciplines, "human" disciplines, we have to read the world, the physical environment, and science help us to do that, but then we translate it into architecture and products to create our environment.

For sure now we are not only observers of nature, but we start to have the consciousness of being actors on the forces of nature, and as Barry Bergdoll said, "Design and science must deal with the consequences of our ability to engineer natural phenomena". We have to establish a dialog with scientists, we have to ground our researches on science, but i don't think we can talk only about science to define our work as designers and architects, because we have to deal also with cultural aspects.

I just want to put myself outside, because from outside I am allowed to speculate with more freedom.

What do you think about 3D-printing?

Today there is a lot of attention to 3D-printing, maybe because it is something that could be communicated directly to people. It has that kind of magic that fascinate many people, but it is not the solution for everything, it has its peculiarities and it means many things, or better is growing in different ways in different fields, from industry to medicine.

For sure it is an important design tool and there are many ways to evaluate it: as a designer, it is a valid help to have precise prototypes or models from digital data. Making a precise physical model, from your digital model is important to verify ideas, to have control over the design, it is the tool to move out from the virtuality of the screen with the same precision.

In some cases 3d-printing will change the profession, because it will change the production. If we think about having a domestic printer for small objects and maybe a bigger one in the neigh-

borhood (look at the diffusion of fab-labs), we are defining a new economy where the production is delocalized, where you can buy a design on-line and print it at home, this already happens for small gadgets, but imagine using this approach with the entire set of objects that surrounds us, to make them, to repair them, to personalize them.

3D-printing now is able to replicate mechanisms, this means just doing the same things made with other technologies, what is interesting is that many researchers are developing new 3d-printing systems where you can control, not only the color, but even the material and its density, So lets imagine to have, in a single piece, harder zones, and softer ones, to guarantee a degree of flexibility where needed. This will change our perception regarding the idea of building our designs: before you asked how new technology influence design, lets use this as a reference. While traditional design is often about cutting existing materials to shape or adapting them, describing assembly processes, this technology is about integration, difference and hyper customization. These ideas, are design concepts, so technology is a great component to define a strategy, a design goal, and a language.

In architecture 3D-printing is one of the building technology for tomorrow, known as contour crafting, and developed in many different ways. This integration of robotics and fabrication is the next natural step in the field, but the future of design is more exciting then 3d-printing, computational design and nano design are about generating objects, we will learn how to program directly the material or to invite organisms to behave in a certain way to build our surroundings.

What kind of discovery have you made for yourself being an architect/a designer?

Being a designer pushes me to define my intentions as a human being, I think that makes me more responsible.

Which of your projects required the most interesting researches? Tell us about it, please.

I think that we are proud when we can combine different levels of comprehension of the project. This is not easy at all, because the project could become complicated, so one of the goals is to deal with complexity and to make it readable to the people. The project that I have in mind it is "parasitise the void", we still consider it a kind of first step on this direction, where many forces contributed to define the architecture.

It is a roof, an extension and actualization of the historical porch, able to generate a urban room. It is also an infrastructure that can be populated by plants and animals to establish a new order, a new ecology, to re-set fruitful relationship between the artificial environment and the natural one, to mention some of them simply things like natural refreshment in summer and protection in winter. It is a

urban depurator because of its covering slime, that converts pollutants into nourishment for the plants. Each layer of understanding is defined by the context and analyzed within the specific discipline and the global vision of the whole, defining new cycles and balances: the urban corridor took in consideration needs to be revitalized, commerce is crushed by bigger shopping malls, they need a kind of new common image and infrastructure, a motivation to invest in the city center and this is where architecture intervene giving value to the place and technically studies the structure in terms of material system and "shape growth". The high levels of pollution gave reason to deal with something to depurate the air naturally, and so the collaboration with chemists was fundamental to verify the intuition of a sprayed material that defines an aesthetic and a purpose. The disconnection with green areas inside the town was the excuse to recreate some lost connection, to contaminate the purity of the urban environment with a vertical forest and so we get in touch with zoologists and botanists to understand possible implications of symbiosis between species (even humans).