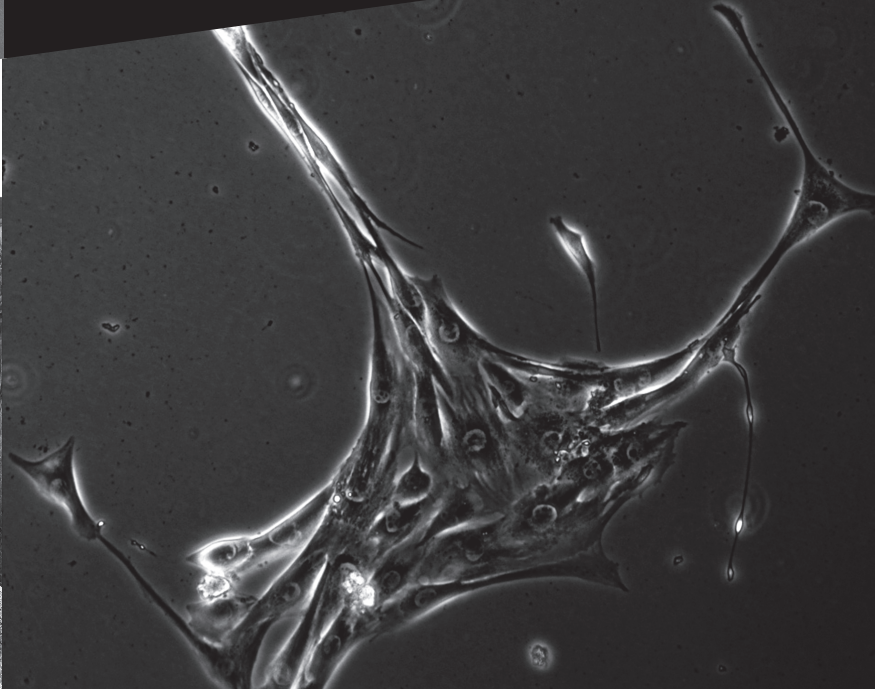




- < Prototype for psychotropic rocking-chair "Lulu" by Orkan Telhan, tested by infamous William J. Mitchell © Orkan Telhan
- ✓ C2C12 Myoblast cell line forming tissue © Orkan Telhan
- ↳ Orkan Telhan © Orkan Telhan



# Orkan Telhan

Orkan Telhan studied media arts at the State University of New York in Buffalo, and theories of media and representation, visual studies and graphic design at Bilkent University, Ankara. Telhan has completed his PhD in Design and Computation at MIT School of Architecture and Planning. He was part of the Sociable Media Group at the MIT Media Laboratory. He is Assistant Professor of Fine Arts—Emerging Design Practices at the University of Pennsylvania, School of Design. His individual and collaborative work has been exhibited in a number of venues including Ars Electronica, ISEA, LABoral, Archilab, Architectural Association, Architectural League/ NYC, and the MIT Museum. Telhan is part of the sparc collective.

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# Living

**Veronika Valk:** *Your work is experimental and hybrid in nature. How do you evolve your ideas? You mentioned 'approximation' in your lecture: What is your method for developing your design concepts?*

**Orkan Telhan:** I design approximations. I have borrowed this term from a well-known synthetic chemical biologist, Luigi Luisi, who considers most research on artificial life—such as human-made equivalents of DNAs, ribozomes, protocells—to be synthetic 'approximations' of life. By calling something an approximation one often assumes that it is about mimicking what living things 'naturally' do. Biological design is about mimicking the 'real' thing—the synthetic cell tries to mimic the real cell and so on. Some branches of science might be focused on replicating nature, but design can be about imagining what lies beyond the natural life if certain realities are suspended or re-interpreted. I think of design as a way of knowing. Design for me is a pathway to knowledge—again not to explain how things are but rather how else they can be considered. Many designers pose the question: "What if?" today. "What if we use this and that in a different way?" I rather prefer the question: "What else?" Looking for a good solution or finding an alternative is not satisfying for me—we must move

beyond the solution, go further and investigate what else could be done or imagined with the outcome. Ironically, this is how nature works. It tries new things without any purpose. Some things relate to one another better and stick around, and others just disappear. You can call this thinking biomimicry too, but I am sure that you understand the difference.

**VV:** *What is 'space' for you?*

**OT:** I see space as an arrangement of relationships—dependencies, nodes, hubs, units, parts, objects; but also as architecture—enclosure, containment, confinement—the context in which life takes place. In that sense, I like to use the word 'biotope', which literally means 'where life lives'. Living things are always confined to a boundary, a semipermeable boundary. It is always an enclosure. There's always the separation between the inside and the outside. We could have the birth of metaphysics there—right there you have the demarcation of the self from the environment—but geometry, the narrator of space, cannot deal with time so well. It is not a very limited vocabulary to discuss things that lie within the bodies of living things, for example, but the living things themselves

rely on spatial relationships as much as they rely on temporal relationships. Life is about when things happen, move, flow, grow, and change. It's more of an event-driven thing. Geometry doesn't know how to deal with that. Geometry also assumes that a very particular description would persist for a long time. It cannot adapt to change over time. Most of the representational methods that we have developed so far are visual—communication has been based on the visual information; but when we talk about the digital, then information theory compresses and translates every representational paradigm into 1s and 0s. This is a method that has been effectively been in use for only the past 50 years. Now we can communicate almost anything very quickly, very efficiently, from one place to another through digital representations. In a way we dropped the supremacy of the visual imperative, but the digital is also missing a lot of other things. It is not capable of dealing with materiality or energy, for example. It's a representational paradigm that can only work if representation is decoupled from physical conditions. But living things are a bit different you know. So in the end we need to come up with different models or representations to be able to deal with living matter in new ways.

***VV: What about scalability and scale-free systems?***

**OT:** The universe has a very particular configuration and that's why even though we can talk about resolution-free or scale-free systems (like fractals) in metaphorical terms, or in terms of knowledge, we cannot talk about scale-free systems when we are bound to physical and material conditions or energy. Finitude of matter is not a problem that can be solved with metaphors, but we need to deal with infinitude to imagine beyond our limits and constraints and so we use abstractions as tools to

turn the unmanagables into a symbol, model, or system—to deal with them, but not because it is the only way to deal with them. This is as good as we have got after so many years of civilization.

I'm allergic to the concept of a 'unit', since things are in constant change. But I still use it. Different systems are more or less flexible towards moving between different abstractions and definitions. We evolve our abstraction methods in our technologies. The same goes for biotech: once we have better design paradigms, we're able to design at different levels, from molecules to genes to proteins etc.

***VV: You seem to believe in technological advancement?***

**OT:** I'm not a positivist.

***VV: So how do you retain your critical stance? When do those moments occur when you would say: "Wait a minute, let's take a step back and look at the bigger picture of where things are going"?***

**OT:** I do 'sanity checks' all the time. I don't believe in absolutes or 'absolutism': absolute criticality, absolute relativity, absolute positivism—all of them happen at the same time. While certain people need to be disobedient, resistive and critical, other people need to be ignorant and keep pushing things forward. Remember nature works that way. You need the engineers to invent cameras so that the photographers take pictures of war crimes [which the politicians manipulate the media with – VV]. If the engineers would become critical of technology then it would limit the possibilities for others to become critical about the content that is created by them. It's a complex set of relationships or dependencies. Criticality depends on the naïve

positivists. I cannot also say that engineering a camera is not a critical process. There, criticality is a very different attitude. The evolution of every product is a critique of the previous one and a critique of the society in which things are accepted, consumed and also forgotten. Criticality has different tactics.

***VV: Is speculation also a form of criticality?***

**OT:** Speculations can be opinionated—negative or positive. Thus, we should also think of value judgments embedded with speculations. Some speculations could be evangelist or indoctrinating, they might not be self-reflective. But when one talks about design, there is always an agenda, an ideology. Criticality has its own agenda, progressivism its own. They all necessarily serve egos—the taste of the dominant class, the educated, or the underserved.

***VV: Or positivists?***

**OT:** Science already embraces post-positivism and critiques the positivist model in itself. It is not starry-eyed as many may think. It is quite known in the scientific circles that the 'truth' is always approximate, contingent, limited by our ways of dealing with knowledge, and it is shaped by our instruments, value judgments, expectations and agendas. I believe in advancement. Yet this 'advancement' doesn't mean that all is turning towards the 'better', but simply that everything changes. Time passes, things happen on different levels. I don't see a reason why we should be pessimistic about things. Evolution does not come with a pre-packaged value system—it tries whatever comes its way. Relentlessly.

***VV: What might be the impact of biotechnology on architecture and urban design tomorrow?—From an anthropocentric point of view, since we know no other? What is desirable? Possible? Achievable? What would we want to integrate from biotechnology?***

**OT:** The shift in the way people have started to think about living and the non-living things continues. People have started to think about the agency of the living things and therefore materials and to see certain abstract processes. The anthropomorphic thinking has advanced, but if architecture and urbanism is disrespectful to the living world then we're not able to go very far. We're now 7 billion people, soon 10 billion people, and we consume resources. If we're not smart enough then the equilibrium will collapse. Maybe we need to disappear for this not to happen. I think architecture and urbanism don't really have a way to deal with this. Acknowledgement of the living systems would allow us to be more aware of ourselves and our relationships with other living things in a larger system around us. That would have a profound impact on the way we construct buildings and relationships. Cities are more about relationships than architecture—they are the highest level of achievement we have in terms of social, economic and political infrastructure. In that respect biology—not just biotechnology, but knowledge about biology—has a role. Our notion of nature has changed, our notion of the environment has changed, and our comprehensive knowledge of ourselves is radically changing as we can also store more information. The major impact will not originate from a single technology. No technology will come to the rescue unless we start to solve the same problems. Trying to engineer organisms to make biofuels is not getting us anywhere. It's a

waste of time and energy. It won't make too much difference if we keep being so greedy about exploiting resources. If we want architecture to be relevant in the 21st Century we should demand new things from it. Perhaps not by building enclosures and homes. What else may architecture mean? That is more interesting for me. Looking at biochemical space, is it possible to build within the human body? Think of architecture not only from the exterior as a containment, but as something that can really use the space 'within' to think about other spatial conditions. Urbanisms with microbes in the gut could spawn new fields.

This inside space doesn't even have a representation yet. We might have maps of organs or body parts, but we don't really know what's going on in there in the way that we know the surface of the globe.

Even our agency over our own body is very limited. You cannot control your kidney or at what rate your heart is beating. We need to build a new literacy to understand our interior—for us and for other living things. That's an interesting architectural problem that I would demand of architecture and not of biology, because the field has such a history and the experience to deal with space.

**VV: *Do the scientists understand what you're after?***

**OT:** Sometimes. I try to speak the language of science. I don't believe in the distinction between the different fields. I'm interested in building an organism that is capable of answering the question: "What is the meaning of life?" I'm not optimistic about the current interests of science. They are tied too much with corporate or academic agendas, whereas I have more freedom to think about hard problems while being an outsider. Yet I need to know

more about science's current problems to be able to ask even harder questions. If you can ask the hard questions, then you can advance your thinking. That's the best way to learn about one's limits. We need to invent new fields, since I don't think that the current distinction between mathematics, physics, medicine etc. helps us to find a cure for cancer, or free energy, or help us look beyond what we have already. We need huge paradigm shifts. The neo-liberal system destroyed our imagination, but I think one can train oneself to be imaginative, though it takes courage to take risks, and confidence. I'm not a believer in failures, but we must take big risks to take big bites.

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