

“Train your brain, think disruptive, outside the box and follow your visions!”

An unconventional cooperation between art and science gives rise to a new perspective on material innovation and brings a new dimension to the artistic message.

Con-Textures is the first result of a fruitful interaction between the research achievements of Professor Thomas Gries in the area of textile-reinforced concrete and the creative drive of engineering artist Thomas Schönauer.

Two strong personalities who came to a perfect match in their respective genuine mission as catalysts and pioneers for innovation.

They met by chance at a common architect friend's party and talked about their work.

A subsequent visit at the RWTH Aachen University, that inspired Thomas Schönauer to create a first mock-up of the by now finalized sculpture Con-Textures, was the beginning of a strategic cooperation.

The aim of this interdisciplinary convergence is to achieve ground-breaking results via mutual inspiration.

Art and science have always been

regarded as opposing, almost complementary disciplines. The Con-Textures project intends to pursue, of course, the opposite strategy.

A first prototype of Con-Textures, the world's first large-format carbon concrete sculpture, was unveiled in November 2018 at the Aachen-Dresden-Denkendorf International Textile Conference in Aachen.

Two delicate double-curved elements made of textile-reinforced concrete with a height of 2.4 metres and only 20 mm wall thickness are built on a transportable foundation.

A new sandwich process was developed and tested specifically for this purpose.

From a manufacturing and engineering point of view, it was a major challenge. The sculpture will be available for sale in three different sizes. It is marketed by the Engelage & Lieder gallery in Düsseldorf.

The next generation of Con-Textures will be 5 m high and placed in a public space, firmly anchored in the ground.

A JEC Composites Magazine: Your claim: art is only art if a serious enquiry can be perceived to underlie its production.

All the rest is mere decoration or occupational therapy. What was your artistic questioning when you decided to work with carbon concrete?

THOMAS SCHÖNAUER:

Carbon concrete had never been featured this way. The material has been in use for the past 2000 or 3000 years, but has now come to a new era. From a manufacturing and static point of view, we were facing real challenges. Thanks to carbon reinforcements, we were able to perform a curve and counter-curve in a very confined space.

The narrower the curve, the more difficult it gets for the concrete builder. The long-term research at RWTH Aachen with textile-reinforced concrete allows the construction of free-floating curved shapes with a so far unequalled stability. This allows nearly unlimited shaping. In a way, I consider myself as a trainer of untamed material. I like to transcend borders. The insight in science is a core source of my inspiration. I am



Fig. 1: Cultivator III: Turning the curved disc into a sculptural form is a time-consuming procedure and a perfect blend between craftsmanship, manufacturing, creative engineering and the genuine artistic message

driven by a restless pioneering spirit and inquiring mind and I have always been searching to approach the limits of what is physically and technically feasible in partnership with structural and material engineers. The atomic dissolution and the blurring of the micro- and macro-cosmos, the inconceivable dimension of infinity are a constant fascination and my source of inspiration.

JEC: Your art has a socio-critical dimension as you like to turn upside down conventional ways to perceive the world around us. What was your wake-up call with Con-Textures?

T.S.: The free-floating shape in itself is already a statement.

My claim for researchers and innovators is: Train your brain, think disruptive, outside the box and follow your visions. We should constantly question and re-explore what we are doing, thus being ready for change and innovation.

Along with the creative process Thomas Schönauer is driven by a strong societal mission. He is persistently pointing out the mental neglect of our culture. In everything he does, he has the bigger picture in mind. He refers to investment architecture as a sort of environmental pollution, since these buildings do not have a deeper message and are lacking a spiritual context.

“ I consider myself as a trainer of untamed material



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Thomas Schönauer is a German artist who lives in Düsseldorf. After his studies in philosophy and literature, he continued to study Fine Arts in Winnipeg (Canada) and at the Düsseldorf School of Fine Arts. He won several international competitions and enjoys an excellent international reputation as a sculptor and painter. The Association of German Architects (BDA) made him an honorary member in 2012. His sources of inspiration are, among others, literature, architecture, his numerous travels and contacts with other cultures. Schönauer: “I consider myself as man of space and I am happy to bring my contribution to shape this world.”



Fig. 2: The first mock-up that encouraged Professor Thomas Gries to start a partnership with Thomas Schönauer



Fig. 3: Textile-reinforced concrete © (ITA Aachen)

“ We want to make this new material of reinforced concrete socially and publicly acceptable



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Professor Thomas Gries, head of the Institute of Textile Technology at the RWTH Aachen and academic chair of textile machinery, runs various research and development projects related to textile-based materials. His institute has a worldwide reputation and works in close cooperation with a variety of partners. Investigating and working with textile-reinforced concrete is one of the institute’s core research areas. The institute itself has a light-transmitting façade made of translucent concrete and is a mirror that illustrates the aesthetic possibilities of the material. Optical fibres integrated in the cement matrix allow a fascinating play of light at night time and communicate with the environment. In 2012, the Institute received the Best Life Environment Award from the Directorate-General for Environment of the EU Commission.

JEC Composites Magazine: Allowing an unconventional artistic view on scientific research is not a common practice. As a genuine expert in textile-reinforced concrete, what was your main reason and motivation to start this common journey with the engineering artist Thomas Schönauer? According to you, what is the value of this unusual endeavour and what have you discovered?

THOMAS GRIES: I am characterized and driven by my mechanical engineering and scientific background. However, the totally different view on the material from an artist’s point of view is extremely inspiring and leads us to a completely new approach. I already had some projects with artists in the past, but this is the first time I experience this intellectual depth – it is a perfect match. In a similar way that we as scientists look for an interdisciplinary and holistic approach, the engineering artist Thomas Schönauer has a broad philosophical background and a

true disruptive mindset to look upon things in a new way. He strives to always bring new impulses to look upon things differently and in a disruptive manner. Our mutual cooperation brings new perspectives and leads us both to new horizons that we are unable to predict right now. This is precisely what makes this cooperation so exciting and unique. We want to make this new material socially and publicly accepted and thus create a “pull” effect for reinforced concrete by establishing a brand. By going into series production and creating a variety of different configurations of the sculpture, we strive to optimize the range and increase the awareness for the usability and performance of the material. □

More information:
<http://www.ita.rwth-aachen.de/cms/ITA/Die-Organisationseinheit/Aktuelle-Meldungen/-scym/Weltpremiere-CON-TEXTURES-Skulptur-auf-d/?lidx=1>