

A Conversation with Sascha Peters

FISH-SCALE EYEGLASS FRAMES AND RECHARGEABLE BATTERIES MADE FROM ALGAE

Fashion from bacterial cellulose, lights made from algae or moulded parts from fungus: the use of natural and recycling materials is continually increasing – also thanks to a new openness towards innovative and resource-saving concepts. A conversation with Dr. Sascha Peters, who, together with his Berlin agency Haute Innovation, is researching at the interface of materials, technology and applications.

Herr Dr. Peters, what is motivating consumers today to choose green products?

In the past ten years, our consciousness has been changed by organic supermarkets. Today, consumers are increasingly demanding natural products that pose no dangers – not only in the food sector, but in all branches of industry. The theme of sustainability has become the slogan for a shift towards a better and cleaner product and design culture. Here, it is becoming increasingly clear that above all, designers can take on a special responsibility in the development of this new culture of resource use.



Johanna Keimeyer, courtesy of Vitra Design Museum | ©

Through their choice of materials to be used, designers can exercise a decisive influence on the sustainability of our product world. One possibility is waste recycling. For instance, the Berlin designer Johanna Keimeyer constructs sculptural chandeliers out of old plastics. Another possibility is using waste materials such as organic waste. The company 3W Tout Bois from Monaco manufactures a flooring veneer out of the rotting fibres of banana plants after the harvest. The

designer Erik de Laurens, who lives in the United Kingdom, has developed a synthetic substitute for the production of eye-glass frames from fish scales and cups. Both are purely waste materials that customarily find no use.

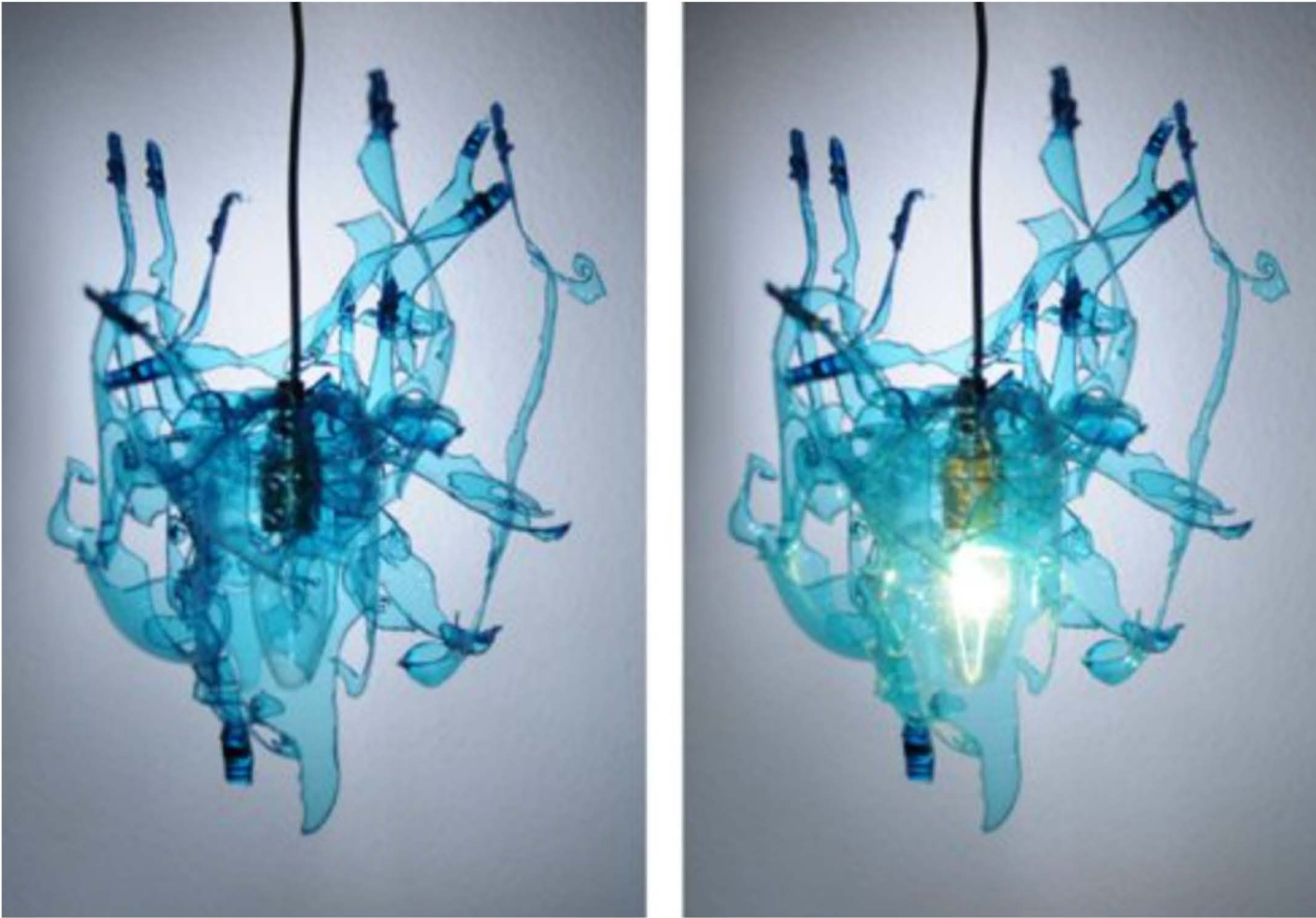
What about algae? The designer Julia Lohmann (Hamburg) has not only made lights from them, but also experimented together with the Werkstatt Hellerau in using the algae's stems as furniture veneer.

AUTHOR

Katharina Horstmann conducted the interview. She is a design curator, journalist and author.

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What about algae? The designer Julia Lohmann (Hamburg) has not only made lights from them, but also experimented together with the *Werkstätte Hellerau* in using the algae's stems as furniture veneer.



Johanna Keimeyer, Selters Lamp off_on, courtesy of Vitra Design Museum | ©

Algae are a very interesting material. They not only grow on surfaces, but also in water. I can cultivate them anywhere I like, because they need only two nutrients: water and sunlight. I could also set up containers in the desert and fill them with salt water – there are already some experiments going on in this direction.

The algae start growing in the containers and a biomass arises pretty quickly, from which I can make a whole lot of things.

Such as?



Julia Lohmann, Kelp Constructs, 2008 | © Julia Lohmann 2013

I can use algae as reinforcement fibres for synthetic products, or manufacture synthetics from them, such as foams. The Graz Centre for Biogenetic Packaging (Verpackungszentrum Graz) has developed “Alginsulat,” a product that looks like styrofoam but is made of algae. A further possibility is the manufacture of fuels. Alginat,

can also be used as glue for producing rechargeable silicon batteries that can take the place of conventional lithium ion batteries in electric cars. There are a lot of experiments going on using algae.

What’s special about them is that they grow in volume and not on a surface. In this way, cultivating them does not interfere with the food chain as is the case with petroleum substitutes like sugar or maize.



Julia Lohmann, Kelp Constructs, 2008 | © Julia Lohmann 2013

The approach of artificially imitating nature to develop new materials seems to be increasingly catching on. What is particularly striking about this development?



Jannis Hülsen, “Xylinum” | ©

At this time, in the search for alternatives to synthetically produced materials, copying organic growth processes triggered by proteins, bacteria, enzymes or fungi can be observed. One example is PolyNature GmbH from Halle, which produces organic plastics from waste by-products of the live-stock feed industry. By contrast, Ecovative Design of New York makes use of the mycelia of fungi that grow on trees to produce 100 percent organic rigid foams for packaging. They use by-products such as rice husks or nut shells and spray the fungus on it, which then grows around these waste materials. The multi-technology enterprise 3M has bought into the company, which demonstrates just

what the potential of this development is. But cellulose is also enjoying great interest. The Berlin label ett la benn has designed “Kami,” a lighting and vase series consisting 100 percent of organically degradable cellulose. On the other hand, the London designer Suzanne Lee makes fashion out of bacterial cellulose. And the Berlin designer Jannis Hülsen has chosen it for the production of his stool “Xylinum,” whose surface has a leather-like structure. The special thing about bacterial cellulose is that it can grow into pretty much any form, which makes it interesting for a wide range of design purposes.

Keyword “growing into a form:” the Berlin designer Werner Aisslinger has “grown” a chair in which willow grows into a shaping framework. The chair is not manufactured, but grows by itself instead.



ett la benn, “Kami” pots | © ett la benn, 2012

Designers can give a face to new technologies by developing application scenarios that manufacturers, developers, researchers or scientists have not yet thought of at all.

Werner Aisslinger has done this to a certain extent with his project “Chair Farm.” He has established a new principle - a new way of thinking about how furniture production can function. The influence of the materials on the design process has changed tremendously, since unlike the past, designers today are not constricted by the materials available to them, but are being inspired to find new solutions through them.



Werner Aisslinger, Chair-farm, 2012 | ©