Design
Exhibition
Scotland

Design for our Times
Material Innovation & Drinking Fountains

Brompton Design District | London Design Festival
The Garage 15A Cromwell Place Mews SW7 2LA
18 – 26 September 2021
Daily 10am – 6pm

Celebrating fresh ideas & exploration, **Design for our Times** is a showcase of material innovation & drinking fountains. focussing on five diverse design initiatives working across Scotland today.

Graduating last year from Glasgow School of Art / University of Glasgow, **Catriona Brown** has developed on her parents' kitchen table an alternative to the ubiquitous plastic tree shelter: Shroom is a tree shelter made of mycelium which will decompose once the young sapling no longer requires protection. **Aymeric Renoud** moved to Dundee from France in 2013 where a love of whisky lead him to consider a use for 'spent grain' leftover from the distilling process. After much experimentation, Aymeric has made a new & durable material which he fashions into furniture. **Chalk Plaster** is a Fife-based duo Steven & Ffion Blench who have a deep knowledge of historic plastering techniques which has led them to work with gypsum recycled from plasterboard. The Brazilian-born engineer and material researcher, Professor **Gabriela Medero**, who is based at Heriot-Watt University in Edinburgh, has invented a building brick made of construction waste. It's called the K-Briq and next year their production facility on a farm in East Lothian will produce 2 million of these bricks.

Mirrl of Glasgow was founded in 2018 by Glasgow School of Art graduates, Simon Harlow and Lewis Harley. Ever-adventurous explorers of new materials, they developed a new surface material with a beautifully robust resin finish which they called 'mirl'. For London Design Festival they debut their new eye-catching drinking fountain, Dixon on opposite South Ken tube on Thurloe Street.

Design Exhibition Scotland is a pioneering project that **celebrates, supports & showcases** exceptional ideas & designers & their work. Launched in 2018 by Susanna Beaumont, DES nurtures experimentation & exploration, championing design innovation for everyday living. And vitally DES **makes visible to a wide audience** - through exhibitions, events & public advocacy both in the physical & digital sphere - **the energy, brilliance & ingenuity** of these designers working across Scotland today.

Catriona Brown / Shroom

Catriona Brown graduated last year from Glasgow School of Art / University of Glasgow with a First in Product Design Engineering. Brought up in Helensburgh in west Scotland, she has long been familiar with the plastic sleeves used to protect vast acres of young sapling trees from the damaging advances of deer and rabbits. Believing these 'tree shelters' to be anathema to 'save the planet, plant a tree' campaigns – they are made of polypropylene and are frequently left to litter the landscape long after they have served their purpose – Catriona set out to invent an alternative made of a more earth-loving material. She landed on mycelium.

Mycelium is the vegetive part of fungus that forms networks of fine filaments in the soil. It has been described as the underground 'super-highway' that invisibly supports and nourishes trees and plants. What's more, in recent years mycelium's sustainable credentials have seen it be cultivated as a material for lampshades, packaging and insulation.

Employing mycelium grown from a starter kit, Catriona has experimented with ways to create a shelter that is sufficiently robust but will decompose when the young sapling no longer requires protection. Combining the mycelium with a substrate such as recycled dry plant matter, the mixture is then put into a mould and left to 'grow' for five days. During this time, the mycelium 'eats' the substrate, forming a natural glue in the process that creates a solid material. This is then coated with a bio-based liquid to prevent premature decomposure. One real benefit of mycelium is that it does not require high energy for production – essentially the mycelium does all the work. Moreover, for one tonne of mycelium, two tonnes of CO_2 are captured from the atmosphere.

Catriona has named her tree shelter Shroom. It is still in its early prototype stage. She plans to further trial the shelters in Scotland later this year, and with tree planting initiatives such as next year's Plant a Tree for the Jubilee and the Scottish government's annual target of planting 12,000 hectares of trees, time is surely ripe for Shroom.

Draff / Aymeric Renoud

Originally from Marboz in France, where he initially trained as a cabinetmaker, Aymeric Renoud moved to Dundee in 2013 to study Interior & Environmental Design at Duncan of Jordanstone College of Art & Design. He graduated in 2015, going on to become DJCAD's Designer in Residence for two years. In 2017 he established Draff Studio.

Aymeric is a long-time fan of whisky, and it was while touring Scotland's distilleries that he became curious about 'spent grain' or 'draff' the names given to the organic matter leftover after the distilling or brewing process has taken place. Draff predominately consists of barley – and in gin distilling, a range of botanicals such a juniper berries, citrus leaves, cardamon and lemongrass. Spent barley grain occasionally ends up as animal feed, while spent botanicals usually head to landfill. Driven by his desire to explore the possibility of creating a material made out of waste, Aymeric began exploring how to most effectively repurpose this matter into a durable and unique material.

Sourcing unwanted draff from distilleries and breweries local to Dundee, and in particular the independent brewery, 71 Brewery Company who operate below Aymeric's warehouse workshop, he began to experiment with a range of methods, exploring how to transform the spent wet grains into a solid material. The now tried-and-tested process involves drying as quickly as possible the spent grains, which are then mashed into a pulp. A natural binder is then added. The result is a mixture somewhat reminiscent of unbaked flapjack. This is then transferred into a mould and placed into a vast press for a minimum of three hours. Heat and pressure are then applied – the longer the mould is in the press, the darker the finished material will be – which is critical to turning what was 'spent grain' into a material which can be transformed into tables & chairs. In addition to draff Aymeric works with FSC certified plywood. Aymeric recently completed a commission to design a suite of children's furniture for Dundee Science Centre's new Culture Lab. He is a V&A Dundee Scottish Design Icon. Aymeric exhibited at DES 2018 and 2019.

Ffion & Steven Blench / Chalk Plaster

Ffion & Steven Blench met at the University of Brighton in 1999, where they studied sculpture and critical fine art practice respectively. Ffion went on to take an apprenticeship in plastering at Telford College in Edinburgh, while Steven became a decorative arts cataloguer at the Palace of Holyroodhouse. In 2016 they established their collaborative practice Chalk Plaster. They work on contemporary commissions and restoration projects – they are currently restoring the plasterwork in Edinburgh's General Register House, designed by the celebrated architect Robert Adam in the 1770s – and they also restored the Charles Rennie Mackintosh plaster frieze in Glasgow's Willow Tea Rooms. Based in Fife, Chalk Plaster are passionate about exploring and understanding materials. They recreate historic plaster recipes such as Mrs Marshall's intonaco, which was patented in 1843 by the Port Glasgow-born Margaret Marshall, and they make their own natural pigments from stones as well as producing lime from oyster shells gathered along the Fife coast. Chalk Plaster are now exploring the possibilities of using gypsum from plasterboard demolition waste to create new, recyclable products and plasters.

Since its invention in the late 19th century, plasterboard has become a key product within the construction industry, and it is estimated that around three million tonnes of plasterboard are used in the UK every year. Gypsum, a key component of plasterboard, is a naturally occurring mineral that is currently mined in just four UK locations in Leicestershire, Lincolnshire, Sussex and Yorkshire. It is also imported from abroad. In theory, gypsum is infinitely recyclable, yet of the 500,000 to 1,000,000 tonnes of gypsum plasterboard waste generated by demolition in the UK every year, only around one per cent is currently thought to be recycled.

This is the first time Chalk Plaster have made an object out of gypsum, but it is not entirely a new idea. They have named their new bench Theo, after Theophrastus (c.371 –c.287 BC), the Greek writer who first described how gypsum could be taken off walls and burnt so that it could be used again and again.

K – Briq / Professor Gabriela Medero

Long concerned about the world's dwindling resources, for the last ten years Professor Gabriela Medero has been exploring the possibility of making a building brick out of recycled material. Born in Brazil, Professor Medero is an engineer by training who moved to Glasgow in 2003. She is currently Professor at the School of Energy, Geoscience, Infrastructure and Society at Heriot-Watt University in Edinburgh.

Globally the construction industry accounts for over a third of the world's total CO2 emissions, so putting sustainability literally into construction's building blocks would significantly contribute towards zero net targets. As for traditional clay-fired bricks, last year alone the UK used 2.6 billion of which over 25% where imported, and as they are predominately made of freshly sourced virgin materials and require firing, they have a high carbon footprint. What concerns Gabriela is how we continue to 'consume' without being aware of the fact that we are fast running low on what many of us see as ever-available natural resources such as clay, gravel and sand. These materials are in fact finite. This reality gave Gabriela the impetus to research the making of a more sustainable brick.

She partnered with a fellow colleague, Dr Sam Chapman, to establish Kenoteq to explore the possibility of transforming construction waste in particular – essentially concrete, plasterboard, and cement, which usually heads to landfill or low-grade uses – into a viable brick. After repeated tests and trials supported by public bodies like Zero Waste Scotland and Scottish Enterprise, the K-Briq was developed, which is made of 90% construction waste. It was selected for the Design Museum's Beazley Products of the Year, 2020.

And thanks to further support from Zero Waste Scotland, Kenoteq is now increasing production of the K-Briq. Located on a farm in East Lothian just 20 miles east of Edinburgh, the production facility is sited next to Hamilton Waste and Recycling, who recycle construction materials, so raw materials are extremely close to hand. What's more, Gabriela has developed a K-Briq comes in various colours, from olive green to terracotta, yellows and blues. The plan now is to produce two million K-Briqs next year.

Mirrl

Dixon, 2021
Drinking fountain and top-up tap 143 x 80 x 40 cm
Located on Thurloe Street SW7 2LQ, opposite the north exit of South Kensington tube.

Mirrl of Glasgow was founded in 2018 by Glasgow School of Art graduates, Simon Harlow and Lewis Harley. Ever-adventurous explorers of new materials, they developed a new surface material with a beautifully robust resin finish which they called 'mirl', after the old Scot's word meaning a speckled, marbled or variegated appearance. Designers and furniture makers, Simon and Lewis have crafted mirrl into furniture, bar tops and kitchen units over the last few years. They made their debut at Design Exhibition Scotland in 2018, and in 2019 they collaborated with the designer Adam Nathaniel Furman on a suite of furniture, the HK (Hitotsume-kozo) Collection, which was exhibited at DES 2019.

In early 2020 DES invited Mirrl to develop a drinking fountain – the third DES drinking fountain commission – and they leapt at the opportunity to become fountaineers. We teamed up with Neptune Fabrications, metalworkers based in Ibrox in Glasgow, and over a period of months batted ideas back and forth. We wanted to prototype a fountain that could be installed temporarily for, say, festivals – or permanently outdoors or inside. We carefully considered accessibility, form and function and the importance of catching the eye and adding a well-designed object to our everyday landscape.

As to the actual design, Simon describes it as 'staring me in the face, a tap is a universal visual symbol that is understood to mean a water supply and its shape is no accident. A curved tap is the most effective way of pushing water upwards from its supply, downwards into, say a sink or a water bottle. A curve is much simpler to produce than three jointed components.' Simon's design was also influenced by what he describes as the 'pragmatism of the Dutch de Stijl movement, an early-20th-century design movement that advocated simplicity over the decorative'.

The first Dixon prototype was trialled earlier this year in Queen's Park, Glasgow, thanks to Inhouse events. The fountain is named after William Dixon who founded the Govanhill ironworks in the early 19th century and who gave his name to Dixon Avenue, where Mirrl have their workshop. DES will be taking Dixon into wider production later this year.

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