

FRAME



Issue 91

The Great Indoors

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Live Large

**BIG IDEAS FOR HOMES, HOTELS AND SHOPS
FROM THE BOURULLECS, DAVID CHIPPERFIELD, JULIE D'AUBIOL
T H O M A S D E M A N D
FRONT, NOEMIE GOUDAL, ALFREDO HÄBERLI, MOBY, OMA
MARCEL WANDERS, SUZUKO YAMADA AND
L O S A N G E L E S**

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Making



1 The Bouroullecs' initial sketch, which they scanned and sent via mobile phone to Rolf Hay in Copenhagen.

Ronan and Erwan Bouroullec used just three components to produce a wooden chair for the cost of a plastic one.

Words **Chris Scott**
Photos courtesy of **Studio Bouroullec**

Hay



2a Exploded view and prototype showing the possibility of plywood for the legs, a proposal rejected because plywood would not have been strong enough.



2b Exploded view and prototype showing a model in moulded/folded plywood. Although it consisted of only two components, it was rejected on the grounds of cost and strength.



2c Exploded view showing the parts of a model with legs made of solid wood. The prototype features a seat in folded plastic and legs in pine. The split was repositioned later to create a more comfortable seat.

'A' chair, the 'Hay' chair or the 'Copenhagen' chair, as it is now known, is the result of a collaboration among the University of Copenhagen, Danish furniture company Hay and French designers Ronan and Erwan Bouroullec.

The University of Copenhagen wanted its own chair, one that would keep students, who seem to spend less time at school, inside university buildings during and after lectures – and, more generally, to keep them from dropping out of school completely. Perhaps a chair with a domestic character? Discussions and research to find the right kind of chair included serious consideration of Hans J. Wegner's Ypsilon. Ultimately, however, the choice fell on 'something new altogether'. Of the six chairs selected as reference models, three were designed by the Bouroullecs. This prompted Rolf Hay, the owner of Hay furniture, to approach the brothers directly.

Somewhat selective about the companies they work with, preferring long-term alliances and not too many clients, the Bouroullecs are hesitant about accepting offers from new design companies. They had an immediate and positive response, though, to Rolf Hay's email. 'To have the chance to do a chair for a university – for the students – was a marvellous opportunity, something quite

different from a job for a bourgeois customer,' says Ronan. 'We were very happy to design a strong, sensuous chair, especially because normal office-type furniture is so often boring and hard.'

Hay's request came with a caveat: they had only a limited amount of time to complete the job. The Bouroullecs accepted the commission in February 2012, and the deadline for both design and realization was January 2013. The brothers often spend several years researching a design before it's ready to be manufactured.

They had a good synergy with Hay, an open-minded company that gave them free rein – apart from some practicalities – and was ready to be challenged by the duo. The job was in safe hands. At all hours, ideas, sketches and remarks flew from one mobile phone to another, as the passionate French designers and an equally enthusiastic Rolf Hay developed both their relationship and plans for the university chair.

A formal briefing did not take place. Hay provided them with no more than factual requirements. With their expert knowledge – 'We're a couple of old designers now; after 15 years of work, we don't need to be briefed for something like this' – all they needed was Hay's short list of reminders: the chair had to be strong, comfortable, ...

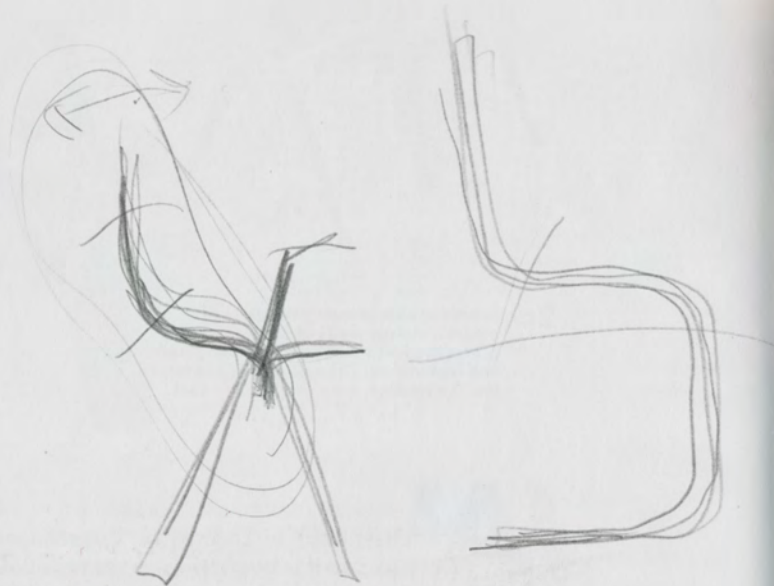
'Normal office-type furniture is so often boring and hard'



3 The definitive model is a chair with four identical wooden legs that support a moulded-plywood seat and backrest.



4 Exploded view (rendering) of the final version of the chair.



5a Sketch by Ronan Bouroullec comparing the flexibility of the chair with that of a tubular-steel cantilever chair.



5b Sketch by Ronan Bouroullec showing one way in which to assemble the chair using wooden dowels. At one stage they considered an H-shaped construction featuring three dowels, one more than they used for the definitive design.

... stackable and affordable. Four demands that had to be addressed, without compromise.

The first sketch became their starting point: two pieces of bent plywood for a seat, with backrest, supported by four wooden legs. A split in the chair – where seat meets legs – turned out to be a problem. If that cleft wasn't at the right place, the chair would not be comfortable. Plywood is difficult to mould, and the curvature in the seat caused the wood to crack. They sandwiched a sheet of fabric between the layers of plywood, a technique that Arne Jacobsen had used in his Butterfly chair. One problem solved, but they still had to tackle the radius of the bend, which required many tests before achieving the best result.

Then there was the question of material. Ronan preferred pine, but it wasn't sturdy enough. They tried beech as well, but the university favoured oak. Decisions had to be taken with regard to connections. Should they use screws, nuts and bolts, or glued dowels? Drilling through the wood weakened the connection. The best option was glued dowels.

Designing a chair composed of only three parts allowed the brothers to create a wooden chair for the price of a plastic one. There is virtually no manufacturing waste.

6 Here the seat, made up of several layers of veneer interleaved with fabric, is ready to be pressed into the mould and shaped.

See part of the production process of the seat with the Layar app



7 Rolf Hay tests the strength of the chair.



8 A photograph showing the flexibility of the plywood backrest



Four standard lengths of timber used in the furniture industry form the chair's identical legs. The brothers admit to drastically 'changing our way of designing. Normally we spend a lot of time refining the curves. This time, however, we worked in a very direct way and liked the aesthetic' that emerged from this straightforward approach.

To obtain the necessary certification, the chair had to endure a fortnight of tests in the 'torture chamber'. In the meantime, with the tight schedule in mind, Rolf Hay started manufacturing – legs in Slovenia and seats in Denmark – a sure sign of confidence in the designers' product. The all clear was given and the January delivery duly accomplished. Relief and joy all around.

The chair design has been so successful that the Bouroullecs went on to make a series of furniture based on the same principle. Their 20-piece Copenhagen range of stools, tables, desks and benches – in different types of wood and a variety of finishes and colours – will soon be available on the retail market, permitting the general public to enjoy their practical, comfortable and very good-looking 'university' designs. —

bouroullec.com

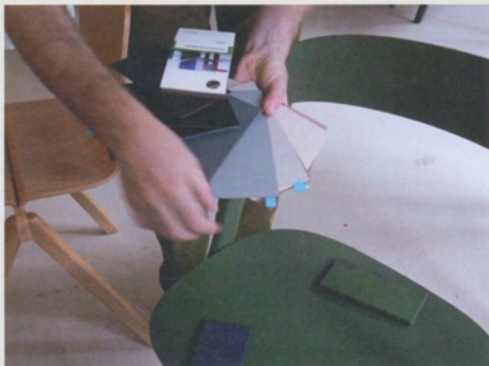
9 A selection of furniture – chairs, stools and tables – from the Bouroullec's' 20-piece Copenhagen collection for Hay.

The university wanted a chair that would keep students inside the building

Copenhagen Chair

Process

200



10 The chair and all other items in the series are available in natural wood and in different colours. Tabletops also come finished in Forbo linoleum.



Copenhagen Chair

Process

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