

# Fulcrum

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## designed digitally, made locally.

j.mcbennett

**Fulcrum:** Could you describe the concept behind your company Fabsie?

**James McBennett:** When I looked at the AA pavilions I saw downloadable files that could be repeated anywhere in the world.

While other people perhaps saw advanced manufacturing, I was interested in the recent innovations to the music, broadcasting and publishing industries around digital data, believing these pavilions were digital files too. Fabsie, which launches soon, is based on the power of digital information: its ability to be sent anywhere, control local machines and make anything. We aim to host and promote design files for digitally manufactured ready-to-assemble furniture. Another aspect that interested me was about control, and how designers have less and less, at the hand of the middlemen and manufacturers. Inspired by other fields where companies are removing needless middle men (like Airbnb, Print-on-Demand, or other web platforms) and passing the benefits to small users. That user can employ the platform to create new things.

When I look at the designs people have sent in already, they're so much simpler and more innovative than ready-to-assemble furniture. Some of the stuff assembles in ten seconds and is very robust, as opposed to IKEA for example, which assembles slowly, and is generally weak. Equally, people are testing complexity, and where assembly can become much more detailed than existing products. Some of the files are things IKEA could never do... so the new spectrum is to go way simpler than anything before, then way more complicated, and allow designers more control over their work, while instantly being able to find a global marketplace, where the stuff is locally made and fabricated on-demand.

A lot of things are improving all

simultaneously: whether that's the involvement of the designer, or the quality of the design work itself.

**F:** One of the things the idea of fabricate-on-demand services changes radically concerns common material culture. This type of mass-variation, (of the type of products and mode of production) you're advocating reduces further the shared objects of society.

*When I was a child, there was a recognisable, and relatively small, field of commonly designed objects: telephone booths, post boxes, plastic pens... the advent of industrial bespoke threatens to transform that drastically.*

**JM:** Those objects didn't arise from an anonymous design culture, they arrived because the craftsman was closer to the needs of the end-user.

For example, the C18th voyeuse chair was made solely for the casino. It had a padded bar at the back, so when the player was looking forward to the table, the person leaning in behind — there are always people looking over your shoulder at a card table — would rest on the padded bar. That chair is so specific in its use, the form was later turned around to become the English conversation chair, another very specific use. When I think of mass-produced objects, I remember the promise of having more options than ever before. But then I think back to those bespoke casino chairs and I think, no, mass-production can only offer less options, not more. Large production runs don't like variation. The minimum order quantities of 20th century fabrication techniques didn't allow for the bespoke, not in a way that was possible in the 19th or earlier centuries.

**F:** That's very much in line with Mario Carpo's thinking (Fulcrum #47) — he speaks about the 20th century as almost an anomaly in the way in we made objects, in which consumer confidence in an object was transferred from the skill of the artisan to the homogeneity of the company. In a way, our return to this interest in mass-customisable is a return to the historical evolution of objects...

**JM:** Do you believe this mode of production is coming back?

**F:** Oh yes. I would argue that the period of mass-production, of Fordist

techniques, and modularisation, was a necessary deviation in order to develop more sophisticated tools for the production of unique objects.

**JM:** I completely agree. Of course, Chris Anderson, who wrote *Makers* argues that cottage industries are a returning mode of production, with CNC tools as new Spinning Jennys... One of my favourite lines is Marshall McLuhan's "we shape the tools, and thereafter the tools shape us". He was speaking about television and radio mostly, but the line has been applied to the Internet, and so on... from a manufacturing point of view, the tools we created for massproduction, the assembly lines, etc, really did change us into a throw-away consumer culture. We created them, they shaped us, but now we can redeploy the past in creating a future with a different path. Consumers appreciate products more when they play a role in making them, sometimes known as the IKEA effect. One of the softer sides of this process is parametric modelling, which is a giant opportunity to allow consumers customise products. Beyond that is the new ways we communicate. It is now conceivable, thanks to the democratising effect of the Internet, to contact a person who designs for you, without any notion of it being an elitist relationship.

**The idea of a relationship with a designer, who is making something for you personally, somewhat disappeared from furniture design during the C20th, although it still largely exists in architecture.**

**F:** There's something quite old-fashioned about the personal relationship we have with architects... The tools of digital fabrication exist today largely in schools. Do you envisage these technologies will become ubiquitous enough to arrive in the home?

**JM:** I'm not a big fan of the home idea. If everything was about plastic, with one manufacturing technique, then maybe you could envisage there was going to be some form of plastic 3D printer in every home. That's feasible in that scenario. But the world's not made of one material, and I think what's more likely is that in each local

neighbourhood you will have a set of machines ranging in size.

A CNC wood mill — you don't want that in every home, it's a big machine, it takes up an entire room, it's not necessary or practical to put in every home.

An aluminium mill, a water-jet cutter, these are big, noisy, industrial machines. Even the [digital fabrication] shop *Unto This Last*, on Brick Lane, has a lot of noise problems with their neighbours from having a CNC mill in the centre of London. So I don't think every machine is going to be in every house... and I don't see the Star Trek model of a "replicator" — where you say 'Earl Grey, hot' and it makes you a glass, water, hot tea, all in one instant, by assembling matter... well, I don't see it yet anyway... These machines are largely in schools, yes. The next step up from that are fab labs, which we're beginning to see, there's about a 1000+ in the world, and that's growing rapidly.

Beyond maker spaces, one thing I see with Fabsie is that we can build a network on the spare capacity of existing machines. Any maker space, any furniture manufacturer, any commercial entity, could harness down time in the way black cabs use online apps like Hailo to see a list of placed orders, and then decide whether to take a job or not.

At the scale of furniture production, we're discussing a model as part of a truly distributed economy, as opposed to a hierarchical or nodal system. The combination of global access to digital files, and the local digital manufacturing machines needed to create the object, makes possible a universal distribution that no longer privileges where the design is from, or where the product can go.

The economy that will develop around these machines will also mean a lot of manufacturing can return to developed countries — the economies of scale, labour, and material costs, will no longer heavily impact production location. The change from Made in England to Made in China will then turn to Made Five Miles from your House.

James McBennett studied architecture at the AA, and is co-founder of digital manufacturing company Fabsie. [www.fabsie.com](http://www.fabsie.com)

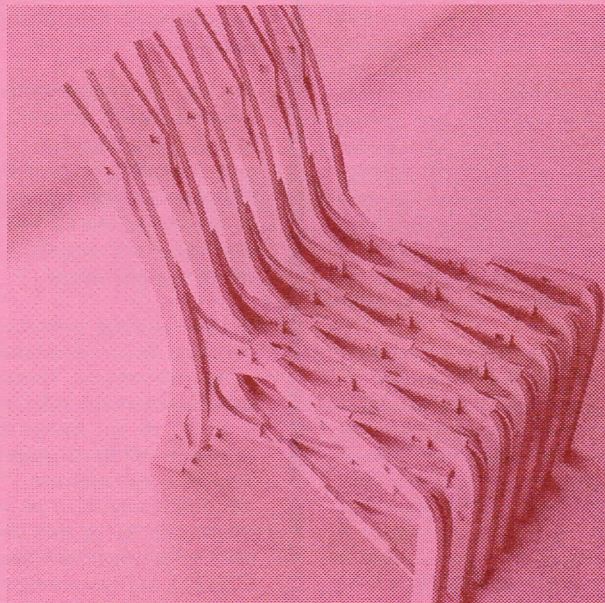
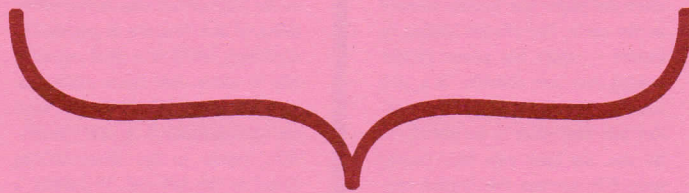




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