The third dimension

Meet Julia Körner: architect, designer, Iris van Herpen collaborator and creator of Sproutphy, the world’s first fashion collection produced entirely by 3-D printing.

Chanel’s haute couture winter 2013 show was a turning point for one of the most talked about, but deconstructed, production methods: 3-D printing. It presented a more wearable approach to the process by eliminating shoulders and waists without the need to sew or sewn. When Karl Lagerfeld says something is on trend, it becomes gospel, but one individual who isn’t new to the idea is Julia Körner, the Iris van Herpen collaborator, fashion designer and architecture lecturer.

“You couldn’t really tell that it was 3-D printing,” says the Chanel show “It was an amazing moment to see 3-D fashion become wearable and not a hard, plastic, sculptural form that doesn’t allow you to sit down or walk.”

3-D printing has gathered a somewhat bad name for its lack of seamlessness and therefore lack of commercial appeal. Körner has been exploring a more wearable approach in her winter 2015 collection with manufacturer Stratasys Ltd, her first solo venture as a designer. "Wearability was exactly what I was focusing on for the collection, [with] materials that are actually flexible and which allow movement," she explains. "I was conscious of how the design of the fashion piece relates to the movement of the body.”

Körner began her love affair with 3-D printing at the crux of its popularity, while she was studying for a Masters in architecture at the University of Applied Arts in Vienna. “I was always the one who was 3-D printing the most and getting really excited about the technology,” she recalls, “but it was on an architectural scale. Once I had a really good understanding of the process, I was contacted by Iris van Herpen directly as she wanted to work with me, which is how I got into 3-D printing for fashion.”

The collaboration with Iris van Herpen spanned several seasons between 2013 and 2014, and included several 3-D printed dresses for the couturier’s Hybrid, Steampunk and Villa Eugenia collections. For the black skeleton dress from Villa Eugenia, Körner employed selective laser sintering, a process that uses a laser to fuse small particles together, resulting in the first 3-D garment in a flexible material to be produced in Europe.

One connection between Herpen’s collection, which is spiral in design, and Körner’s own, is the element of natural form, something that’s quite contradictory to Körner’s high tech method of production. Her two pieces for Schiap – the Lily and Hymeaton jackets – are inspired by natural forms such as seaweed and the unadorned of Porcellino mushrooms. “Taking forms that you can find in nature as inspiration and using a technology driven chemical material is a very interesting concept to me,” she explains.

The full collection of pieces, titled Sproutphy, is the first ready-to-wear collection made entirely with 3-D printing. Körner’s ability to produce different levels of hardness — so that one form can be hard in some parts and soft in others — is something that has not been previously explored in a 3-D printed fashion piece. Although this type of collection may seem out of reach to your average fashion designer, surprisingly, Körner did her initial drawings out on an app on her iPhone called ZBrush 3D Cards.

Although she also works as a lecturer at UCL, teaching architecture students how to utilise new technology, Körner’s personal interest lean more towards the fashion industry. She consults for high profile fashion couture houses and young brands, such as Marta Hofermexer, with whom she collaborated on a 3-D printed vest during July 2015’s Berlin Fashion Week.

“I’m currently looking at how you can digitally optimise a 3-D printing file so that you can use it to create a different size but you can put a few numbers and the piece can actually transform and create a new 3-D printed piece for you,” Körner reveals. The process could revolutionise the way we manufacture clothing, meaning that less clothes would need to be produced and less would find their way to landfills. There’s also something to say for its inclusion in mainstream fashion, as she stresses that even though it’s plastic, it’s also wearable.

As for Körner’s future, she’s excited about what’s to come after founding her design company JK Design GmbH in Stuttgart. With plans to merge the worlds of traditional fabric and 3-D design in collaboration with Paris’ oldest embroidery house, Lesage, and her new fashion collection to continue, she’s set to be very busy.

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