

EUNJEONG JEON

RIGHT / Eunjeong Jeon's textile designs are intended to meet a specific need. They can be made into garments capable of giving the wearer a sense of security in a threatening situation.



From her base in Western Australia, Korean designer and researcher Eunjeong Jeon engineers wearable fabrics to have sensing, adapting and reacting capabilities. Embedded with sensory technology, Jeon's textiles move and change shape. When made in wearable forms, Jeon's textiles respond to the wearer's actions by changing texture and reconfiguring their position on the body.

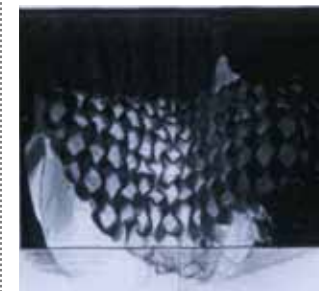
The kinaesthetic experiences that fabrics have when worn make them dynamic and interactive as they flex and bend on the body. Jeon's research is tracking the extent to which fabrics can also reflect the space around them, as they move in response to how the wearer engages with the environments around them. 'My

research investigates the roles that textiles play in women's experiences of their bodies and the spaces around them,' Jeon explains. 'Human actions and perceptions of the spaces they move within evoke different emotions. To create my fabrics, I develop designs based on movement-based interactions that respond to emotions. By using wool as a base material within which I can incorporate technology, I design textiles that interact with the wearer.'

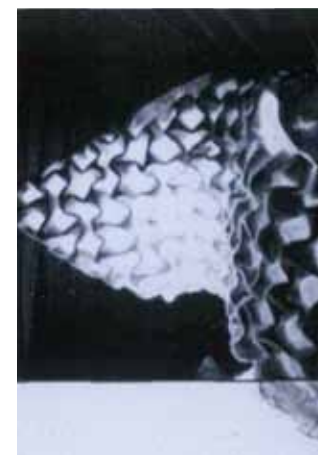
Jeon calls the project 'Trans-For-M-otion', and in the course of her research, has developed prototypes that react to the way the body moves as it travels through transitional spaces, such as airports, roads and the underground. 'I chose places



LEFT / The textiles Jeon designs have complex surfaces and contain reactive technologies. This fabric illuminates in response to the wearer's movements.



ABOVE & RIGHT / Jeon's Trans-For-M-otion project includes textiles that react to the way the body moves. Transitional spaces, such as airports and train stations, cue the textiles to create soft enclosures around the wearer.



where we encounter sudden temperature changes, noise and pollution, as well as stress and even crime,' Jeon says. 'My prototypes are made to respond to these spaces and they have performances capabilities that make the wearer feel more comfortable when inhabiting those spaces.'

The prototypes were developed in conjunction with a group of women who Jeon interviewed about their experiences of transitional spaces. Many of them gave accounts of feeling insecure at times. 'My textiles are designed to detect feelings such as fear and react by closing around the wearer to foster a greater sense of security.' The textile contains small cells that trap air within them. When positioned at the

neck or along the shoulders of a garment, they reinforce the sense of protection the design affords. 'The air unit structures can create a garment that works like a cushion,' Jeon explained. 'It helps the wearer protect their body if they are attacked.'

Embedding the garment with LED light technology enhances its function as a mask to hide, protect, reassure and distort the self when the wearer is in danger of attack. 'The wearer can move the garment themselves to position it in a way that makes them feel protected,' Jeon explains. 'Some of the women I interviewed wanted to be able to disguise themselves or hide their identity, so I designed the garment to also be pulled upwards so that the collar can

conceal part of the face.' Jeon is further experimenting with embedded sensors that monitor the wearer's muscle tension, breathing, heart rate and body temperature to detect when they feel uncomfortable. As the garment is triggered to close around the wearer, the shape of its silhouette relates directly to the wearer's sense of emotional and physical well-being, literally enabling them to wear their heart on their sleeve.

Apart from Trans-For-M-otion's protective function, the textile is also endowed with the means of facilitating personal expression and whimsy. 'The textile is an interactive tool,' Jeon says. 'It can be worn in a playful way. It was interesting to note that the women I interviewed used the question and answer session to describe how garment forms could foster a sense of security in an insecure situation. Yet, when I observed how they wore the textile, I could clearly see how much the women enjoyed manipulating it and interacting with it.'

Trans-For-M-otion's unique sensory abilities enable it to simulate a wide range of responses, making Jeon a leader in the emerging field of sensory textiles. As a new generation of fabric unfolds, the complex surfaces, sophisticated structures and reactive technologies they feature promises to transform how garments are made and worn. In future, fashion textiles may do more than just cover the body. They may even provide the wearer with the means of interacting with the spaces surrounding them.

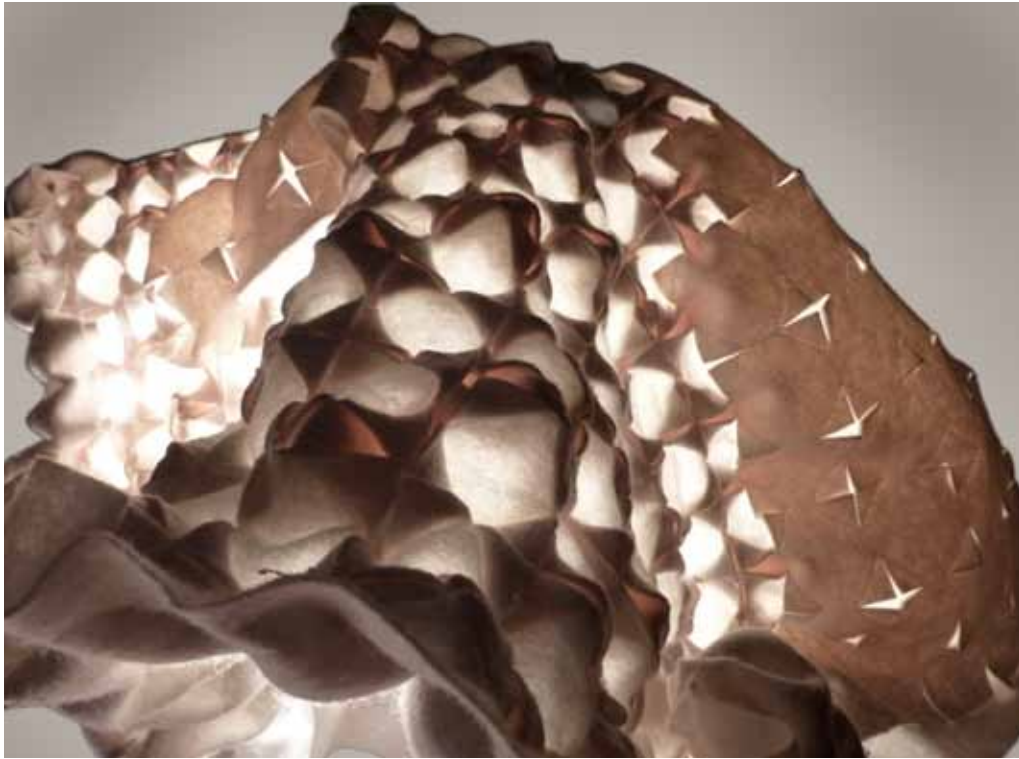


ABOVE & RIGHT / Jeon used wool as a base material for these designs. The wool fabric was structured in innovative ways to create tiny apertures that move in response to technological components integrated in the fabric.

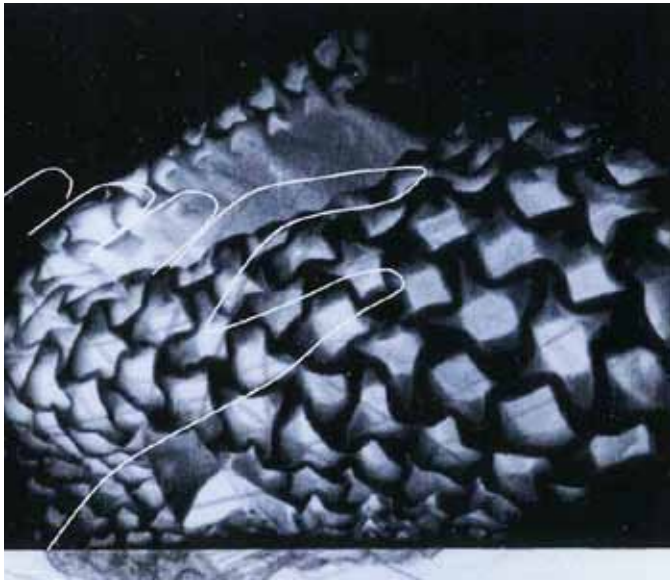
OPPOSITE PAGE, MAIN IMAGE / Jeon's fabrics are based on the study of movement and shaped by textile design. She documents the behaviour of volunteers to identify how the body senses, adapts and reacts under stressful conditions, then designs the textile to make movements that soothe the wearer in those situations.

OPPOSITE PAGE, INSET / When triggered to protect the shoulders and head, Jeon's fabric creates a personal enclosure that moves with the body.

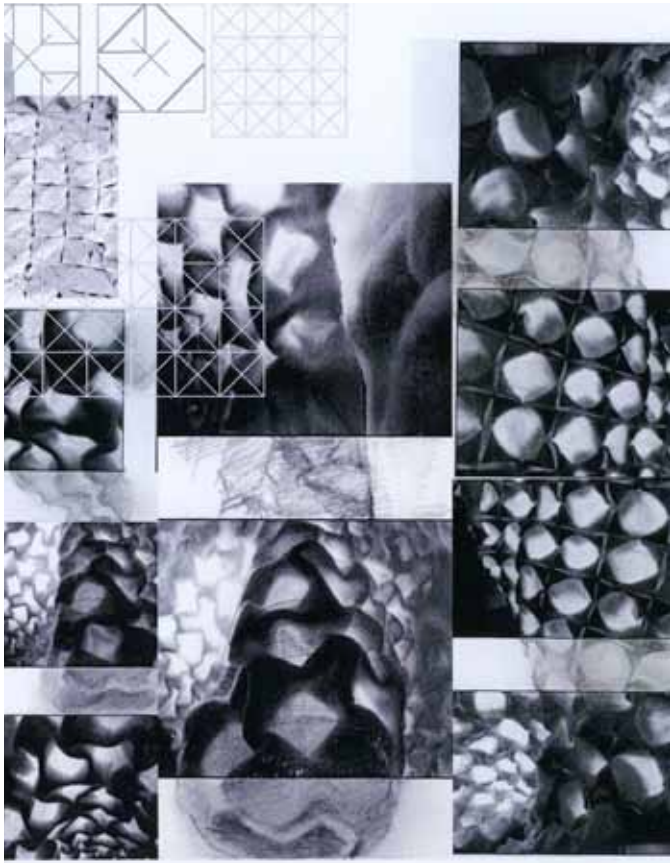




LEFT / This textile is designed with a unique structure that adds volume without additional weight. Small cells in the fabric trap air within them, enabling it to appear more voluminous.



ABOVE & RIGHT / Jeon engineers her fabrics to have sensing, adapting and reacting capabilities. She calculates precisely where the embedded technology should be placed in order to make the textiles move and change shape.



LEFT / Protection and security are themes that Jeon explores in her textile designs. By using dense fabrics or creating intricately structured textiles, Jeon creates protective enclosures for wear on the body.

BELOW / Interaction is the essence of Jeon's work. Her designs are created with the wearers in mind, who enjoy manipulating and interacting with the fabrics they wear.

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are based on
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RIGHT / Although Jeon's textiles are richly-structured and embedded with technology, they are soft to the touch and comfortable to wear.

BELOW / Unique surface textures and custom-fits characterize Jeon's designs, giving them an edgy fashion aesthetic.



THIS PAGE / The textile's air cells can be positioned at the garment's neck or along the shoulders to reinforce the sense of protection it offers. The air cells work like a cushion to absorb and diffuse impacts and blows.





TOP LEFT & TOP RIGHT / Jeon embeds garments with LED light technology to give additional functionality. The LEDs can highlight the structure to create dramatic contrasts, as shown here.

RIGHT / Integrated LEDs give the wearer scope to create temporary changes in the textile's surface. They can trigger certain colours to appear, or create a kaleidoscope effect.



TOP / Illuminating garments can enhance the wearer's sense of protection. If facing danger or threatened, the LEDs could be triggered to pulsate to attract attention or signal for help.

ABOVE / Jeon's designs remain at prototype stage while she fine-tunes their performances and functionalities.

RIGHT / In addition to integrating LEDs into her fabrics, Jeon is experimenting with embedded sensors that monitor the wearer's muscle tension, breathing, heart rate and body temperature to detect when they feel uncomfortable.

